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MADHYA PRADESH SOCIAL FORESTRY PROJECT (386-0475)

SECOND MID-TERM EVALUATION

December, 1985

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I. EXECUTIVE SUMMARY

The evaluation of Madhya Pradesh Social Forestry Program (MPSF) operates at two levels. At one level it addresses broad programmatic questions such as the soundness of the social forestry concept and at another, details of Social Forestry Directorate (SFD) implementation of the MPSF.

The basic programmatic conclusion is that social forestry as it has been implemented in Madhya Pradesh is fundamentally flawed. The principal purpose of the MPSF -- building institutional capacity to motivate participation of villagers in the establishment of community plantations -- has fallen by the wayside. Fodder, fuelwood and small timber plantations cannot be managed on a long term, self sustaining basis by Panchayats because the existing political economy of the Panchayats militates against it. The combination of short term political motivation of Panchayat leaders and the tremendous pressures for grazing land for cattle owned by villagers are far too great to allow community managed plantations to exist for very long under Panchayat management. Recognizing that the preceding statements are not based on definitive evidence, but at the same time are not without some foundation in reality, before proceeding to establish many more plantations, the best course would be for SFD to concentrate its resources on demonstrating that the community plantations that have been established can be managed by Panchayats and can become financially self sustaining enterprises when wholly managed by the Panchayats.

In light of the above, the evaluation team strongly recommends that SFD undergo a period of program reconceptualization, restructuring and consolidation. This period of program reorientation would involve (1) exploring the soundness of the concept of social forestry and SFD's implementation of that concept and (2) formulation and implementation of specific actions that follow from the exploration.

The following are high priority areas for program exploration and reformulation:

Land Availability

-- development of estimates of amount of land potentially available for social forestry and its quality. These estimates would take into account encroachment, the likelihood of the Panchayats allocating land for social forestry and competing claims of other government programs on revenue lands. Enough evidence turned up during the evaluation to suggest that the availability of revenue land and its quality is a serious constraint on MPSF.

Economic and Financial Analysis

-- exploration of the feasibility of establishing community plantations as financially viable self-sustaining enterprises. The team found that none of the plantations visited, as they are presently managed, will be financially self sustaining. However, the team's very rough estimates indicate it is technically feasible for some plantations to be financially self sustaining. For this to happen major changes would be required in the behavior and attitudes of both SFD and the Panchayats.

Community Participation

-- formulation of an approach to engage Panchayats in the management of community plantations from the outset and in the case of established plantations for turning over full management responsibility to Panchayats as soon as feasible. The team found that much work remains to be done in engaging village level authorities in the management of community woodlots. To the extent villagers are engaged as managers in forestry by SFD it is through the nursery and seedling distribution programs.

Institutional Arrangements

-- examination of arrangements with other institutions such as the Forestry Department, Revenue Department, Panchayat Department, Rural Development Department, Horticulture Directorate and various non governmental organizations to determine effectiveness of existing arrangements and alternative structural arrangements that would improve program content and implementation.

The team found that the present institutional arrangements, including staff assignment and transfer procedures, within the parent Forest Department are an important constraint on the development of MPSF. Additionally, the traditional functioning of the Forest Department, from which all of SFD top management is drawn, may constrain development of an extension oriented program. By contrast, although their reach is decidedly smaller, the Horticulture Directorate and some non governmental organizations are extension oriented and accordingly their resources could be drawn upon to help execute MPSF. Radical alternatives such as splitting off SFD from the Forest Department or merging Horticulture Directorate and SFD and separating both organizations from their parent Departments should not be excluded from consideration.

Social Forestry Directorate Management

-- determine means to improve continuity and strength of the top SFD leadership and hire personnel with background and interest in extension. The top position in SFD has been both a revolving door and "port of last call" for senior Forest Department officials on the verge of retirement. Over the past one year the virtual absence of top

leadership has had a devastating affect on SFD morale and program direction. At lower levels in SFD many personnel have been transferred from the Forest Department to SFD with limited qualifications for their jobs and interest in them. Actions such as closing off transfer to SFD from the Forestry Department except by request, allowing staff interested in social forestry to remain with the SFD, and recruitment of qualified personnel from other agencies and the open market could help to rectify this situation:

-- examine SFD program content and procedures with a view to emphasizing SFD extension services and private farm and agroforestry. At present the areas in which extension services are being provided are for private nurseries and in a few cases, private farm and agroforestry. SFD may want to give further emphasis to programs in these areas. Similarly targets could be reformulated to reflect program emphasis on extension as well as numbers of hectares of new community plantation established and numbers of seedlings distributed.

Note

The above summary covers only the major points in each of the sections of the paper. There are numerous other recommendations in the report and also in the first mid term evaluation of November 1983 (see Annex I for these recommendations and follow up action taken by SFD) that SFD could follow up on to the benefit of the State's social forestry and wasteland development program.

Concluding Comment

The main issues for MPSF as presently constituted are to demonstrate that community plantations wholly managed by Panchayats can be established on a self sustaining basis and to determine whether the quantity and quality of land actually available is sufficient to support expansion of the community woodlot program. Other subsidiary issues that need to be pursued simultaneously relate to the SFD approach to social forestry, SFD management of resources and the institutional structure of MPSF.

It may be that a major overhaul of SFD might help to establish community plantations that will have a life beyond SFD management. In the absence of a major overhaul, the conclusion is that the plantations will continue only so long as SFD or some other government agency is directly involved in their management. Even then successful management of hundreds of small and scattered plantations (see Annex II) will be no small feat and may very well not be an efficient use of scarce Government of Madhya Pradesh (GOMP) resources.

Following from the above, the main issue may be how to adopt and institute alternative approaches to forestry in Madhya Pradesh. There very well may be better investment programs than the establishment of community woodlots on Revenue wastelands. For example, to start with one might consider whether it might be more appropriate to introduce lower cost pasture/grazing development interventions to improve the productivity of Revenue Wastelands rather than higher cost models which involve the planting of trees. Secondly, the introduction of tree tenure or tree "patta" schemes on government wastelands might be an effective way to meet both productivity as well as equity objectives. Third, where existing root stock exists in degraded reserved and protected forest areas, cost effectiveness consideration may lead one to consider whether a better use of scarce GOMP resources may be to improve the initial protection and subsequent management of existing forest lands. Fourth, as a basis for improved overall planning and program coordination an investment in a major land mapping activity to determine land ownership, quality or grade and availability may be worthwhile. Finally, the team found knowledge of markets for wood products among the persons we met very limited. How strong is the market? What is the medium term outlook? Are there investments in wood processing that might have a high return and encourage private farm and agroforestry or leaseholding on Revenue lands or Forestry Department lands? The preceding are only illustrations and by no means a definitive listing of possible areas of investment other than MPSF that may be worth exploring as one considers the future of MPSF.

GOMP/USAID Follow On Project

In considering any GOMP/USAID follow on activity to MPSF, the scope of work should be broad enough to permit the kinds of important changes in the MPSF approach and structure that have been discussed in this report. In addition, it would be important to consider investments as described in the preceding paragraph that are related to, but outside the framework of the MPSF.

Finally as regards the present GOMP/USAID MPSF project, the team recommends USAID not commit to exploration of a follow on activity without prior agreement on the far reaching type of scope suggested above. In the absence of such an agreement, the team recommends an extension of the project completion date by two years to March 28, 1989 with no additional funding. In late 1987, if in the judgement of the GOMP and USAID it would serve a useful purpose, another evaluation of MPSF would be undertaken to determine whether changes and progress that has occurred in the intervening two years would warrant commitment to develop a follow on project.

II. RECOMMENDATIONS

Land Availability

1. The Revenue Department under the auspices of the State Land Use and Wasteland Development Council and the State Wasteland Development Committee should begin detailed inventorying of the quantity and quality of unencroached revenue lands aggregated to the district level. This is essential for a picture of the potential for social forestry.
2. SFD through the State Wasteland Development Committee should work with the State Revenue Department to improve the process through which land is designated and released by the District Collectors to District SFD staff for social forestry activities.
3. Based upon the principle that land should be placed under the most appropriate use, land unable to sustain economic levels of tree growth should not be planted as woodlots, but rather developed under lower cost improved grassland or grazing models.

Economic and Financial Analysis

1. Inject an approach into the panchvan development program that is based on establishing financially self sustaining enterprises. The details are secondary to a fundamental decision by SFD and the Panchayats to manage community plantations as financially self-sustaining enterprises. Failure to do so will result in the plantations reverting to the condition they were in prior to the MPSF.
2. Full responsibility for the management of the plantation should be turned over to the Panchayat only when it is generating a cash flow which can meet panchvan management cost, in part or in whole (generally after a period of 3 to 5 years). Until that time, SFD should jointly manage the plantation with the Panchayat.
3. Costs of plantation operations and replanting i.e. protection, harvesting, replanting and expansion, should be met from income generated from the plantation.
4. SFD should compare cost effectiveness of obtaining seedlings from private sources and from Departmental nurseries. If the former are potentially more cost effective, SFD should consider obtaining more of their seedlings requirements from private sources for farm forestry/seedling distribution.

5. As proposed to begin in IFY 86-87, the SFD should begin charging for seedlings. Charging will help rationalize the seedling distribution program and limit the likelihood of waste.

Community Participation

1. SFD should make an intensive effort prior to the 1986 planting season to jointly develop management plans with all of the Panchayats that are willing to set up new community plantations. Top management should engage themselves in this effort along with field staff in order that they develop an appreciation for the problems involved and can provide guidance to the field on the process.

2. In the process of preparing Panchayats to manage the panchvans, consideration should be given to alternative approaches for managing the woodlots. The critical element would be in one way or another to shift management responsibility from SFD to the community or individuals designated by it at the very outset.

3. SFD should undertake a study to explore options for benefits distribution taking into account that community plantation must become financially self sustaining and policy be equity oriented.

4. When management responsibility is passed over to the Panchayat or their designees, physical growth of produce and mechanisms through which funds for woodlot protection and management would be generated should be closely monitored.

5. Initiative should be taken to recruit or promote women to higher levels of SFD and to increase their numbers within the organization.

6. Accommodation should be made in recruiting women for village extension work at the Van Sewika level to allow them to work in the area of their home villages.

Institutional Structure

1. Radical alternatives to the present structure should be considered. For example, consideration might be given to the creation of a new, independent department responsible for social forestry activities.

2. Further illustrative of the kind of changes that should be considered in the absence of the merger suggested above would be a division of responsibilities for private farm and agro forestry and community plantations between the Horticulture Directorate and the SFD respectively.

3. Preferably a cadre of SFD staff should be developed apart from the Forestry Department. At a minimum, procedures should be developed which allow these forest officers with an interest and aptitude for social forestry to be recruited and retained by the SFD.

4. SFD should continue and expand on an experimental basis the involvement of NGOs in MPSF.

Social Forestry Directorate Management

1. The evaluation team strongly urges that the Social Forestry Directorate undergo a period of program reconceptualization, restructuring and consolidation:

2. Every effort must be made to improve the continuity and strength of top leadership at SFD.

3. Changes in the personnel system would potentially increase the SFD's extension effectiveness. For example, a separate cadre of SFD officers with career opportunities in social forestry could be established. Implicit in this would be its closing off transfer from Forest Department to SFD except by request and recruitment of qualified extension staff from other agencies and the open market.

4. SFD should examine feasibility of radically altering faculty composition at Shivpuri Training Institute. If no plan can be developed to provide competent and interested faculty, the school should be closed and training provided at other institutions such as Jabalpur Agricultural University and Kasturba Gandhi Institute of Indore. The Training Institute cannot function effectively with faculty who view their assignment to Shivpuri as a form of punishment.

5. The publicity function needs to be activated.

6. The program targets should be reformulated to give greater weight to extension services.

7. SFD should develop a system for resource allocation that takes into account program potential and performance by district.

8. The first mid term evaluation team recommended greater emphasis on private farm and agro forestry. This shift has occurred to a degree. The second mid term evaluation team recommends that the emphasis on private farm and agro forestry be further intensified.

9. SFD should improve technology and enforce standards as follows:

- a. Each officer with responsibility for determination of suitability of an area for planting should have and use a

portable field soil testing kit to test nutrient status. Cadre should also determine soil depth and overall site suitability. Every site should receive treatment appropriate to its productive capacity. Sites where conditions are judged too severe for economic tree production should not be planted under social forestry schemes, but can be recommended for soil conservation work which probably should include some tree planting.

- b. SFD should reissue the paper on proper nursery techniques. These guidelines should be distributed at seedling distribution points, and extension agents should carry them on their rounds for reference and distribution. Additional effort is needed to ensure uniform high quality seed acquisition and distribution.
 - c. All field staff should promote improved forage production in plantations through planting of good species of grass and legumes.
 - d. A search should be made for statistics on the quantitative and qualitative increase in fodder production which occurs under different grazing regimes. In the absence of India based results, a study should be made by an agriculture organization, e.g. the Grassland and Fodder Research Institute at Jhansi, to furnish such information.
 - e. The utilization of water harvesting and other water conservation and storage structures should be standard practice in soil working on all sites where inadequate moisture and/or seasonal fluctuation is a problem.
10. The staff responsible for the monitoring and evaluation function need to be strengthened. The activities needs direction from top management on the kind of information required by it for decision making. In particular, monitoring of field operations needs to be increased.

III. INTRODUCTION

A. Problem and Overview

The problem as described in the summary of the First Mid-Term Evaluation of November 1983 remains in essence unchanged -- "India faces severe shortages of wood and fodder due to over use of land by people and livestock. In Madhya Pradesh, India's largest and one of its poorest states, 20 out of 45 districts have wood/fodder shortages; it is estimated that 39 districts will be deficient by the year 2000. A central aspect of the problem, which is addressed by this project, is the "tragedy of the commons," the deforestation of community and government land which formerly supplied fuel, fodder and small timbers for villages. There is need for an effective management system to establish and maintain tree and fodder plantations on common land near villages and to enlist popular participation in, and responsibility for, that effort. Similarly, there is need for more tree planting on private lands to meet overall wood demand".

B. Project Particulars

The major features of the project remain as they were described in the First Mid-Term Evaluation, "The goal of Madhya Pradesh Social Forestry program (MPSF) is to increase the supply of firewood, fodder, fruit and small timbers at the village level on a sustained basis. Other goals are to increase rural employment and to reduce deforestation in Madhya Pradesh. The project's purpose is to create the institutional capacity within government and in the community to enable villagers to manage both community and private lands for increased production of wood and fodder. To achieve this, the project is developing a Social Forestry Directorate (SFD) within the M.P. Forestry Department. The Directorate will ultimately consist of about 3,000 persons, including more than 1,500 extension agents. It will contain units for extension, training, research, and monitoring and evaluation. The SFD's principal program is to establish community plantations, averaging 50-70 hectares each, on 63,450 hectares of common land in 29 districts over the project's life from September 1981 to March 1987. A key aim of this program is to help the Panchayats --generally local bodies representing 2-5 villages-- develop the long-term capacity to manage the community plantations for sustained yields and distribute the produce equitably among their constituents with particular concern for the needs of the poor. The SFD plans to turn over responsibility for management of the plantations to the panchayats after five years. The project's authorized cost is \$50 million of which USAID's contribution is a \$24 million loan and a \$1.0 million grant."

C. Evaluation Purpose and Issues

The MPSF Project Agreement required a second evaluation in 1985 to assess project accomplishments and determine desirability and timing for a follow-on project of AID assistance. The critical question for the Second Mid-Term Evaluation (SM-TE), was defined in the Project Paper (PP) as the extent of village participation. Ultimate success of the project, it was stated, depends on villagers being more than passive participants in the program.

Two months before the evaluation, four USAID staff -- the Mission Director, Chief of the Resources Management Office (RM), the Project Officer for MPSF and Program Economist (evaluation team leader) -- held two days of discussions in Bhopal with key forestry officials to sharpen the focus of the evaluation.

The main issues that emerged from the discussions were as follows:

-- Land Availability and Quality: Difficulties in identification and timely availability of revenue lands for MPSF were underestimated. Land made available by Panchayats has been in many cases in degraded and refractory condition, i.e. poor quality for planting trees. What is the actual quantity and quality of revenue lands that could be used for community plantations? How can obstacles affecting availability of land for MPSF be overcome?

-- Economic and Financial Feasibility: The project was not conceived as a commercial venture and the project goal focused on meeting in-kind requirements of local villagers. However, economic analyses were performed at the time of project to investigate the sustainability of the community woodlot "panchvan" model: Three years have passed since the project began in earnest and a reinvestigation of the model's likely returns was felt appropriate, particularly in view of the need to now relate panchvan productivity to foreseen maintenance costs. At the same time, expectation about returns to private farm forestry have risen and should be reviewed.

-- Community Participation: Panchayat participation in MPSF has consisted of allowing SFD to invest in and manage community plantation: on marginal revenue lands, provision of wage labor, and distribution of grass and other early produce from the plantation. As SFD plans call for turning over the woodlots, panchayats only when minor protection is required (generally 3 to 5 years after establishment), Panchayat participation in terms of "hands-on" management of the woodlots has been limited. What are the essential steps that need to be taken to prepare Panchayats for their role in longer term woodlot management?

-- Institutional Structure: Coordination and cooperation among the several agencies and organizations whose activities have a direct bearing on the success of the MPSF, or could contribute to its success, have been fashioned, as needed in the field and not as effective as they need to be. Are there alternative institutional arrangements that could improve program performance?

-- Social Forestry Department Management: Due largely to the initial one-year delay in initiating project activities, creation of institutional capacity to carry out extension, research, monitoring and evaluation and training has lagged behind that foreseen in the Project Paper. Another key issue has been frequent change in the leadership at the top of SFD. What basic changes in SFD management are required to achieve the purpose of SFD?

-- Options for Program Development: Recognizing that any new, ground breaking program such as MPSF will have start up problems, what changes could be made that will improve MPSF performance and further program development?

D. Evaluation Team and Method

The disciplines on the evaluation team and institutional affiliation were as follow: economist (team leader), USDH; economist/statistician, FSN; sociologist, PSC (on leave from Giri Institute of Development Studies, Lucknow); forester, USDH; and management expert, consultant (Indian Institute of Forest Management, Bhopal).

The team assembled in New Delhi on November 19 for meetings with the Inspector General of Forests of the GOI Ministry of Environment and Forests. Subsequently the team flew to Bhopal and split into two groups. Three members covered eight MPSF districts north of Bhopal and two members covered eight districts south of Bhopal over a period of six days. The team reassembled in Bhopal on November 26. Between November 27th and 29th one member of the team flew to Raipur and covered two of the three MPSF districts in eastern M.P.

The field program structured by SFD covered the complete range of MPSF activities and 18 of the twenty one districts presently in the program. Team members interviewed SFD headquarters and field staff at all levels, Districts Collectors, Patwaris (land title registrars), Sarpanchs, Panchayat members, villagers, community plantation chaukidars, faculty and students at Shipuri Training Institute, private nursery owners and farmers engaged in farm forestry. The team inspected community plantations, public and private nurseries, private farm and agro forestry and other plantings of trees.

Between November 27th and December 6, the team had continuing discussions with SFD staff and met with senior officials of the Forestry Department, Commissioner of Panchayats, Department of Rural Development, Department of Horticulture and the Indian Institute of Forest Management. Also, three members of the team went to the field for one day to collect additional data for the economic and financial analysis. A first draft of the evaluation report was prepared during this period.

IV: LAND AVAILABILITY

A major problem cited by some SFD officials in executing the program to this stage has been (a) difficulty of obtaining revenue lands for community plantations and (b) the low quality of the land. Several districts by the third year of the program were unable to meet the annual target of 750 hectares and land that was obtained was in many cases highly degraded. An additional problem noted by the team was (c) the lack of systematically collected information on land availability and quality -- information which is critical to assessing potential of MPSEF and for allocating resources to and within the program.

A. Availability of Land for Community Woodlots

Much time was spent by the team trying to ascertain the extent and source of problems in obtaining land for the community plantation.

In enquiring about reasons for land not being readily available to the program one set of responses involved singly or in combination the mention of encroachment and patwaris. For example, one District Forest Officer (DFO) indicated he no longer had much taste for trying to persuade Panchayats to provide land for MPSEF because doing so invariably put SFD in the middle of an encroachment dispute. Another facet of the encroachment issue was the elusiveness of the patwari, the person whose job it is to record land transactions and verify that the revenue land identified for community plantations was in fact available for the MPSEF. Transfer of land was at times subject to long, indefinite, delays. Also, lack of cooperation from the patwari, it was said, hampered identification of revenue lands potentially available with the Panchayat for MPSEF.

Another reason given for unavailability of land was other government programs competing for revenue land. For example, one point of the "20 Point Program", authorizes and promotes regularizing title on encroached land for landless and scheduled caste. Similarly, a large quantity of revenue land -- between 40,000 and 50,000 hectares -- will be taken up by the Forestry Department for afforestation as required by law to replace the equivalent quantity of hectares of prime forest land that will be inundated by the Narmada valley irrigation scheme. The impact of competing programs on availability of revenue lands is extremely important in estimating overall availability of land for MPSEF community plantations.

Another major reason given for land not being made available was the Panchayats view that communal lands were more valuable in present uses, usually as grazing land than for community plantation. Panchayats that committed land to MPSEF held some back for grazing. A District Collector

expressed the Panchayat's view from a different perspective. He suggested that more important than pressing for more hectares of land, SFD should demonstrate the value of the program on lands already in the program. If it could be demonstrated that the program really worked to the benefit of villagers, other Panchayats would come forward on their own. A related suggestion from the SFD itself is to refrain from planting trees on Revenue wastelands and instead concentrate on establishing improved pasture and grazing management practices in the villages. This approach would be lower cost, be based on the land use currently accorded most Revenue lands, and be more responsive to the villagers' principal concern with fodder availability.

Yet another reason given for not committing lands was friction within the Panchayat among villages, castes, rich and poor and in this context distrust of the role government officials would play, perhaps, by favoring one faction over another or by capturing rents for themselves. For example, in one of the Panchayats we visited, a smaller village had both extensive revenue land and their own private fuelwood supplies. The village was reluctant to give up any revenue land because the fear was that when the land became productive, the dominant village in the Panchayat would deny them access to the plantation fuelwood on the grounds that the village already had a fuelwood supply. As a general rule the MPSF has a built in inhibiting factor in that it normally requires one village or group in the Panchayat that has traditionally held a plot of land to pass along that resource to be shared by all villages of the Panchayat.

The five case studies by CENDIT corroborate the finding of the team that persuading Panchayats to release land for the program is not an easy or straight forward matter.^{1/} Of the five Gram Panchayats studied, two participated primarily to bring the force of government to bear on encroachment problems; a third, to prevent the theft of fruit from an orchard included in the area of the community plantation; and a fourth, because the deeply ravined land allocated to MPSF was considered to be without value.

In sum, competing claims on revenue lands, perception by Panchayat members that the return to the communal land will be higher in its present use than in MPSF and heterogeneity of Panchayat interests as well as distrust of Government are principal reasons why land may not be made available.

^{1/} CENDIT, "Social Forestry in Madhya Pradesh: Five case Studies of Gram Panchayats of Salvai (Shivpuri), Lalgah (Gwalior), Selki (Dewas), Nalcha (Dhar)", and Chikhlya (Dhar).

B. SFD and Land Availability Issue

While in some districts, the land availability problem without doubt has a basis in reality the team was unable to ascertain from SFD either basic physical parameters of the problem or a measure of how hard SFD has worked against the problem. Because Revenue lands are the purview of the Revenue Department, SFD keeps no records of the amount of land in the districts or villages available for community woodlots.

Given the potential physical availability of land, how effective has SFD been in bringing some part of it into the program? Data, from the four circles that have been in the program for three years suggest SFD has found it increasingly difficult to find Panchayat's willing to allocate land for the program. In 1983-84 the targetted number of hectares was exceeded by 103%; in 1984-85, the number of hectares slipped to 94% of the target; and in 1985-86 the hectares allocated slipped further to 83% of the target. Budget shortfall may also have played a role in the decline in meeting targets.

Within SFD as well as within the evaluation team there were differing views on the difficulty of obtaining revenue land from Panchayats for MPSF. Some thought it was not a problem in most districts; others believed it was becoming a major problem in most districts.

Anecdotal evidence turned up in the course of the evaluation suggests that in certain instances the difficulty in obtaining land may rest with the initiative of individual DFO's. For example, in one district in which a DFO insisted land was not available, an energetic replacement came along and exceeded the targeted hectares by a factor of two. Similarly recognizing that recording land agreements is a slow bureaucratic process, we found two specific instances in which it appeared more active DFOs would have been able to obtain more land. Two DFOs, who had complained to us about negative role of patwaris, and the District Collectors, who are responsible for the patwaris, were brought together. It turned out that the DFOs had never raised problems they were having with the patwari with the District Collector. Further, the District Collectors stated in vigorous terms that they were prepared to be cooperative in requiring action from patwaris.

C. Quality of Land

SFD is unequivocal that much of the land acquired for MPSF is very low quality. The point is emphasized in the SFD Status Report prepared for the Second Mid Term Review as follows: "In many areas land made available is highly degraded, refractory and unsuitable for planting." Other observers concur with SFD's view. For example, an M.P. forester

has written, "wastelands with even the slightest agricultural possibility have been distributed through the 20 Point Program committees or encroached upon by the people even for the grass, if not for agriculture."^{1/}

The team on the whole concurs with the judgement that land quality is poor. The degree of degradation of course, varies among community plantations. For example, in Gwalior district the team saw a total of three plantations -- one large tract of highly degraded, deep ravines; a second tract that was well along the road towards developing deep ravines and a third tract that had about one foot of top soil on top of solid rock. In the first two cases soil conservation -- sowing grasses to stabilize the land and check dams for water catchment -- were the initial steps required to bring the land back into production; in the third case, tree growth will be severely stunted when the roots hit the rock underneath the top soil. The two tracts with ravines were soil conservation or reclamation projects first and forestry projects second. Costs of working the two tracts were considerably higher than for the third tract because of substantial investment required in trenching and check dams and their maintenance. In all three cases financial viability of the plantations can be questioned.

D. Recommendations

1. The Revenue Department under the auspices of the State Land Use and Wasteland Development Council and the State Wasteland Development Committee should begin detailed inventorying of the quantity and quality of unencroached revenue lands aggregated to the district level. This is essential for a picture of the potential for social forestry.

2. SFD through the State Wasteland Development Committee should work with the State Revenue Department to improve the process through which land is designated and released by the District Collectors to District SFD staff for social forestry activities:

3. Based upon the principle that land should be placed under the most appropriate use, land unable to sustain economic levels of tree growth should not be planted as woodlots, but rather developed under lower cost improved grassland or grazing models:

^{1/} A note "Raising of Tree Plantations on the Revenue Wastelands in Madhya Pradesh" prepared by R.S. Mishra, Additional Chief Conservator of Forest, Narmada Valley Development Authority, Bhopal.

V: ECONOMIC AND FINANCIAL ANALYSIS

The Project was not conceived as a commercial venture, and the project goal focused on meeting in-kind requirements of local villagers. However, economic analyses were performed at the time of project design to investigate the sustainability of the community woodlot "panchvan" model. Three years have passed since the project began in earnest, and a reinvestigation of the model's likely returns was felt appropriate, particularly in view of the need to now relate panchvan productivity to foreseen protection and management costs.

Having said this, it must be noted that the empirical data necessary for definitive and rigorous analyses is still not available. This is primarily because the oldest panchvans established under the project are only two and one half years old and actual yield/production estimates are available only for intermediate products such as grass. Therefore, the method of analysis adopted by the evaluation and presented below focused initially on estimating cost and production figures for farm forestry. As farm forestry takes place on much better sites with more intensive management than is possible for panchvans, the yield from panchvans is expected to be less. The tables of Internal Rates of Return (pp 24-25) generated by the analysis assume yields on panchvans will only be 20 to 50 percent of those from private farm forestry. A range 30 to 100 percent of market prices was assumed in estimating prices for products from the plantations. These wide ranges in estimates of productivity and price are indicators of the tentative nature of the analysis.

A. Key Variables

Financial returns to investment in tree plantations at given prices is a function mainly of quality of land including water availability and management.

1. Land: As noted in the previous section, while no definitive information is available about the quality of land available for community plantations, SFD emphasizes that the land is highly degraded and refractory. By contrast, land available for farm and agroforestry is generally of much better quality.

Water availability on the land is critical to survival of seedlings which are generally planted during the monsoon. The survival rates for plantings on unirrigated land varied from 50 percent to 75 percent depending upon the extent and timing of rain; survival rates on irrigated land were over 90 percent. As might be expected community plantations were on unirrigated land and farm and agroforestry plantations visited by the team were in the majority of cases on irrigated land.

Based in part on important differences in the quality of land including water availability, the returns to community plantations are expected to be lower than for farm and agroforestry.

2. Management: SFD management and private management of plantations are driven by different objectives. This is very much reflected in the way the plantations are run as, for example, in choice of species and protection of plants.

a. Species mix: The team observed major differences in species mix on community plantations and privately held plantations. On the private plantations fast growing species with rotations of up to ten years and fruit trees were being raised. Principal species being grown were eucalyptus; we also saw some quantities of subabool and bamboo. The team found a wide variety of species being grown on community plantations. Among these were slow growing species which are often more adapted to the harsh sites available for community plantations. Taking into account land quality and species selection, the maturation time for community plantation trees was estimated to be twice what it would be for private farm and agroforestry plantations.

Differences in estimated commercial value and maturation time of species, it was anticipated, will result in higher returns for private plantations than for community plantations.

b. Protection: The protection of grass and seedlings from livestock grazing in the first few years is critical to financial viability of forestry. Later as the plants begin to mature protection from premature appropriation of all or part of the trees by villagers from the surrounding areas becomes another problem.

The generally prevailing perception of villagers is that the produce from community plantations belongs to everyone and there is nothing immoral or wrong with appropriating it for ones own use. The political and social structure of village and community management, is such that serious managerial efforts are not made and probably cannot be made to protect the forest produce. Tremendous pressure for grazing pastures for cattle lie at the heart of the problem.

To the present, taking into account that private farm and agro forestry in the MPSF areas is relatively new, the team found that private individuals generally are able to protect their plantations, even in some cases without any fencing and or trenching. Given the substantially lower costs for protection of private plantations than for community plantations, it is anticipated will result in higher returns to investments in private plantations.

B. Economic Behavior

1. SFD and Panchayats: The team found that SFD has given to date little explicit consideration to the concept of financial return in managing community plantations. For example, the team found that the early or intermediate products now available from the plantations are, in most cases, given away. (Based on the team's observation of distribution of grass.) There are very few plantations where some of the product was being sold.

An attitude has developed among villagers that MPSF is another government give away scheme^{1/}: Economic behavior of participants in government schemes, officials as well as villagers, is complex and a field of study in itself. In overly simplistic terms, from the Panchayat viewpoint it would appear that far and away the most sensible approach is to allow the SFD to continue to invest State resources in the plantation and for the Panchayat to collect all the benefits, as they now do, until such time as better uses of the land turn up. Indeed, from the Panchayat perspective it would be the most irrational kind of behavior to come forward with an offer to assume responsibility for the plantation given SFD's willingness to do it all and at the same time pass all benefits along to the Panchayat^{2/}.

2. Private farmers: By contrast, when talking to farmers, who were doing farm and agro forestry on their own lands, the team found an overwhelming concern with the expected financial return. The continued use of land for farm and agro forestry was dependent on the financial return from the land: The private plantations are being carefully managed and raised with the likely financial return in mind. It is still too early to judge whether the plantations will in fact be more profitable than alternative uses of the land and hence be replanted with trees after the first crop is cut. However, based on our discussions with farmers and data collected from them the prospects are promising.

^{1/} The GOMP has under consideration SFD proposal for a pricing policy for all produce from community plantations. The policy calls for prices ranging from 50 - 80% of market prices on the produce harvested from the plantations.

^{2/} On January 1, 1986 the State Wasteland Development Committee directed the formation of commission (SFD with Panchayat and Social Welfare Department) to carry out a sample survey of panchvans and determine the conditions under which panchvans in general can be turned over to the panchayats for management. This includes detailed consideration of the physical status of the panchvans and the appropriate financial arrangements for future panchvan management.

C. Financial Rates of Return to Social Forestry

1. Community Plantations: The estimates of financial returns to community plantations are based on very tenuous data^{1/}, especially on the benefit side, and hence should be viewed with caution. The internal rates of return (IRRs) are at best very rough orders of magnitude.

The team had no direct basis for assessing the benefit stream from community plantations established by SFD, as most of them are three years of age or less. The most valuable produce, timber and fuelwood has not yet reached maturity. The team in a very rudimentary way in the time available attempted to estimate benefit streams by using norms prepared by SFD for private forestry. In the absence of output data for community plantations, the team asked SFD staff and other forestry experts for estimates of output as a percentage of private tree plantations. The highest estimate was 50 percent and the lowest about 20 percent; some suggested community plantation output would run between 20 and 30 percent of private farm forestry plantations. Accordingly, Table 1 shows IRRs for physical output levels ranging from 20 to 50 percent of farm and agro forestry plantations:

The team was able to obtain reasonably reliable data on the costs incurred in establishing, protecting and managing the community plantations.

If the SFD and Panchayats charged market prices for produce from the community plantations, the plantations might well earn a profit that could be used to meet not only costs of plantation protection and management but also replanting and expansion. The team was told, however, that charging market prices was politically infeasible; indeed as already noted most plantations visited were giving produce away. In the analysis we have estimated IRRs from market prices of produce down to 30 percent of the market price for fodder and fuelwood and 50% for timber. It also bears noting that the team's estimates of market values were on the conservative side. Thus, for example, the 1984-85 price of grass, which was assumed at RS. 50 per quintal, fluctuated widely between Rs. 30 and Rs. 100 depending on the geographic area; Rs. 50 was the SFD norm and the price adopted for this analysis.

^{1/} Estimation of economic rates of return was not undertaken because, in addition to problems already cited, it presented additional sets of problems on the benefit side which the team was not able to tackle in the time available. For example, cutting, distribution and sale of timber is controlled by the GOMP; sale of some fuelwood is undertaken through state outlets at subsidized prices. The impact of GOMP administration on prices would require a thorough investigation as part of an economic analysis of returns to MPSF.

Scenarios for financial returns to community plantations were worked out under two assumptions that (a) physical output levels ranged between 20 percent to 50 percent of norms assumed by SFD for private farm forestry and (b) output pricing ranged between 30 to 100 percent of the market prices for community plantation produce.

As can be seen in Table 1 when grass, fuelwood and timber are valued at 100 percent of market prices (column 3), the financial IRR ranged between +35 percent and +41 percent (columns 4 - 7) depending on output efficiency levels that range between 20 percent and 50 percent (columns 4 - 7). At the lower extreme when grass is valued at 30 percent of market prices (column 1), the financial IRR ranged between -13 percent and +6 percent (columns 4 - 7) again depending on output efficiency levels and pricing by the Panchayat of fuelwood at between 30 percent and 90% of market value (Column 2) and timber at between 50 percent and 90 percent of market value (column 3).

Table 1

Illustrative Financial Analysis for Community Plantation

Internal Rates of Return (IRR) at various Output Levels and Prices
(IRRs: % per annum)

Output Price Policy Options i.e., Prices of C.P. Outputs as a % of Prices of Farm Forestry Outputs.			Internal Rates of Return (IRR) for Various Output Efficiency Levels i.e. C:P. Output as a % of Farm Forestry Output per HA				
Grass	Fuel	Timber	20%	30%	40%	50%	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
(All figures are IRRs in % per annum terms)							
100%	100%	100%	34.7	36.8	38.7	40.5	
90%	90%	90%	27.1	29.3	31.4	33.2	
		70%	26.3	28.4	30.2	31.9	
		50%	25.6	27.2	29.0	30.5	
	70%	90%	26.8	29.1	31.0	32.8	
		70%	26.1	28.1	29.9	31.5	
		50%	25.4	27.1	28.7	30.1	
	50%	90%	26.6	28.8	30.7	32.4	
		70%	25.9	27.9	29.6	31.1	
		50%	25.2	26.9	28.3	29.7	
	70%	90%	90%	14.6	17.6	20.2	22.4
			70%	13.9	16.7	19.0	21.0
			50%	13.1	15.6	17.8	19.6
70%		90%	14.4	17.4	19.9	22.0	
		70%	13.6	16.4	18.6	20.6	
		50%	12.9	15.4	17.4	19.2	
50%		90%	14.2	17.1	19.5	21.6	
		70%	13.4	16.1	18.3	20.2	
		50%	12.7	15.1	17.1	18.8	

Output Price Policy Options i.e., Prices of C.P. Outputs as a % of Prices of Farm Forestry Outputs.			Internal Rates of Return (IRR) for Various Output Efficiency Levels i.e. C.P. Output as a % of Farm Forestry Output per HA			
Grass	Fuel	Timber	20%	30%	40%	50%
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(All figures are IRRs in % per annum terms)						
50%	90%	90%	3.2	7.6	10.9	13.6
		70%	2.4	6.6	9.7	12.2
		50%	1.7	5.7	8.6	10.9
	70%	90%	3.0	7.3	10.6	13.2
		70%	2.2	6.3	9.4	11.9
		50%	1.5	5.4	8.2	10.5
	50%	90%	2.7	7.0	10.2	12.8
		70%	2.0	6.1	9.1	11.5
		50%	1.3	5.1	7.9	10.1
30%	90%	90%	-11.6	-2.7	2.2	5.7
		70%	-12.2	-3.6	1.1	4.5
		50%	-12.7	-4.4	0.1	3.3
	70%	90%	-11.8	-3.0	1.9	5.4
		70%	-12.3	-3.8	0.9	4.2
		50%	-12.8	-4.6	-0.1	3.0
	50%	90%	-11.9	-3.2	1.6	5.0
		70%	-12.5	-4.0	0.6	3.8
		50%	-12.9	-4.8	-0.4	2.7
	30%	90%	-12.1	-3.5	1.3	4.7
		70%	-12.6	-4.3	0.3	3.5
		50%	-13.0	-5.0	-0.7	2.4

The estimated IRRs indicate that pricing policy of community plantation produce is critical to the financial success of MPSF. To the extent that produce from the community plantations is sold at or near market prices, it should be possible to cover protection and management costs and generate a surplus for replanting and plantation expansion. The panchayats are not expected to amortize or payback the cost of plantation establishment, but they are expected to restock or reestablish the plantation to keep it a productive asset. This too could be covered, provided produce is sold at or near market prices. That is, although the community plantations would not be as profitable as private farm and agroforestry plantations, they have the potential to become self-sustaining enterprises. On the other hand, to the extent produce is given away free of charge, the GOMP will need to continue subsidizing protection, management and reestablishment costs.

The community plantations might well be deemed financially successful when they become eligible for and obtain institutional commercial finance at prevailing interest rates, albeit administered ones. In this regard, the public sector Forest Corporations and individual farmers have access to and obtain institutional finance at prevailing rates for farm and agro forestry. Proposals approved for finance are generally only for fast growing species with rotations of up to 15 years.

In sum, if the community plantations are to become self-sustaining enterprises, careful review of the necessary financial arrangements is needed. This review should begin with a thorough analysis of plantation protection and management cost requirements and the likely levels of production from the plantations. The next step would be to determine to what level and through what means revenues should be generated. A collateral step would be the determination of what types and how much produce should be distributed (and through what means) free of charge to meet the in-kind requirements of village households.

2. Private farm and agroforestry: The financial returns to farm and agro forestry appeared to be quite high. Below we briefly present estimated IRRs based on data collected from two farmers.

Case one was an agro forestry plantation with water available for irrigation in the first year but not in the second. Eucalyptus trees were intercropped with gram which the farmer had grown earlier on the land. Under the spacing arrangement of one by three meters approximately one third of the land was utilized for trees. This farmer did not consider it necessary to provide fencing, cattleproof trenches or a guard for protecting plantations. As protection costs were minimal, the estimated financial IRR worked out to over 190 percent for a term of three rotations. This IRR will drop to 42 percent if a monthly remuneration of Rs.1,000 is provided to a manager and to 13 percent if

this remuneration is raised to Rs.2,000 per month. The respective IRRs with no intercropping of gram were 128 percent with no managerial remuneration and 33 percent and 7 percent respectively with remuneration of Rs:1,000 and 2,000 per month to a manager.

Case two was an enterprising farmer who undertook planting of eucalyptus under conditions similar to case 1 but with closer spacing of trees and no intercropping. The financial IRR worked out to 72 percent per annum. This IRR would drop to between 50 percent to 60 percent depending upon the remuneration allocated for the manager of the plantation ranging from a minimum of Rs. 375 per month up to Rs. 2,000.

In brief, the returns to farm and agro forestry appear to be quite attractive. This conclusion is supported by the increasing interest shown by farmers in planting trees on some part of their land. At this stage, the plantations the team visited were largely experimental; the farmers anticipated a high rate of return and were willing to invest land and their time in learning how to grow and harvest trees. The test for farm and agro forestry will come in a few years when the first tree crops are harvested and farmers decide whether to continue to tie up land in farm and agro forestry.

D. Nursery and Seedling Distribution Programs

1. Nurseries: Seedlings for planting on community plantations and distribution to private individuals for farm and agro forestry are grown in Departmental and private nurseries. The number of private nurseries increased substantially from 366 in 1984 to 668 in 1985. The private nurseries were limited by SFD to producing 10,000 seedlings each. The nursery owners, many of whom were first time producers, were provided seed and small plastic sacks in which the seedlings were grown and given technical advice by SFD staff on how to prepare the seedling beds and care for the seedlings. SFD bought the seedlings from the nursery owners at Rs.0.50 for seedlings older than six months and Rs. 1 for seedlings one year or more old less the costs of materials provided by SFD which was approximately Rs.0.15 - 0.20 per seedling.

Financially the owners/managers of nurseries, mostly small farmers and in a few cases landless using community land near a well, were assured a positive return for their labor and allocation of a small parcel of land to the nursery. In several cases farmers asked that the ceiling of 10,000 seedlings per nursery be increased and also that price paid by SFD be raised.

The private nursery program is useful as a training tool and in increasing awareness of the social forestry program; however, it does not appear to be sustainable at its present scale without SFD buy back of seedlings. District Forest Officers (DFOs) indicated that there was only a very limited market for forest tree seedlings; fruit tree seedlings could be raised and sold at a profit. Due to the current lack of demand

for forest species, the appearance of commercial/independent nurseries in rural areas is not likely. The SFD buy back and free distribution scheme is therefore appropriate at this point in time. Over the next several years, once the demonstration effect has made some impact, the demand for seedlings is expected to grow. At that time the SFD can promote the appearance of truly private nurseries by beginning to charge for the seedlings it makes available. In fact, in IFY 86-87 the SFD intends to begin charging 10 paise for each seedling to the number now provided free of cost. Anything above the number will be priced at the cost of production.

The above said, SFD and the Forest Department may find it cost effective to have seedlings raised in private nurseries rather than in Departmental nurseries for the distribution program. This may be possible as eventually private nursery management skills become more sophisticated. Private nursery cost effectiveness might be improved if ceilings on the number of seedlings raised by any one farmer were increased substantially above the present limit of 10,000. On the other hand, by maintaining the limit and encouraging a large number of nurseries, the project's extension and income distribution objectives are encouraged.

2. Seedling Distribution Program: The SFD has a major program of distributing seedlings to farmers free of charge in order to encourage them to plant trees on their land. The limit on the number of seedlings to be given to any one farmer is one thousand. Most of the seedlings are handed out in lots of less than one hundred and are mostly used for planting around the perimeters of fields and around houses and wells. In 1984, 9.3 million seedlings were distributed through this program; in 1985, 13.3 million.

The distribution is executed either directly from the nurseries or on market days by SFD staff who advertise availability of free seedlings which they have transported from nurseries to the market. The team found excellent records of quantities and species of trees distributed to individual farmers. The size of each farmer's land holding is also indicated. These records make systematic monitoring of survival rates of seedlings distributed through the program possible. In fact, in May/June of 1985 the SFD field staff, under the direction of its Monitoring and Evaluation Unit did a 10 percent in-field confirmation of survival rates for seedlings distributed in the 1984 monsoon. Generally survival ranged from 25 to 73 percent across districts with an overall average of about 60 percent.

E. Recommendations

1: Inject an approach into the panchvan development program that is based on establishing financially self sustaining enterprises. The objective should be to earn enough income to keep the plantation alive without continuing government subsidies and distribute benefits to villagers and the Panchayat. The key elements of this approach are

(a) selection of crops (tree species and grasses) that takes into account potential market value, (b) product pricing at or close to market rates and (c) a manager or management team conscious of the requirement to generate sufficient revenues to meet plantation maintenance and management costs.

Under items (a), (b) and (c) above numerous types of actions and arrangements are possible. SFD is already aware of many of these such as undertaking market research or sowing high value grasses. The details are secondary to a fundamental decision by SFD and the Panchayats to manage community plantations as financially self-sustaining enterprises. Failure to do so will result in the plantations reverting to the condition they were in prior to the MPSF.

2. Responsibility for the management of the plantation should be turned over to the Panchayat when it is generating a cash flow which can meet panchvan management cost, in part or in whole (generally after a period of 3 to 5 years). Until that time, the panchayat should gradually assume management in a phased process from SFD. Existing panchayat resources are limited if not non-existent. Furthermore, the team found that villagers by and large were not willing to invest their own resources, except for their paid labor and the initial allocation of land, in the plantation. Turning the plantations over to the Panchayats before a cash flow is achieved will likely lead to their dissolution in the medium term, if not immediately.

3. Costs of plantation operation and replanting, i.e. protection, harvesting, replanting and expansion should be met from income generated from the plantation. In practice something less than this may have to be negotiated. Whatever is worked out, the present system under which SFD bears all the costs and the panchayat collects all the benefits from the plantation is inimical to the panchayats ever wanting to take over management or putting the plantations on a more solid financial footing.

4. SFD should compare cost effectiveness of obtaining seedlings from private sources and from Departmental nurseries. If the former are potentially more cost effective, SFD should consider obtaining more of their seedlings requirements from private sources for farm forestry/seedling distribution. The private nursery program appeared to generate enthusiasm for the social forestry program in the community; reached small farmers and in some cases landless laborers; and diffused some technical knowledge about growing trees. If in addition, the private nurseries can produce seedlings at lower cost, they have a great deal to commend them as a source of seedlings for the distribution program.

5. As proposed to begin in IFY 86-87, the SFD should begin charging for seedlings. Charging will help rationalize the seedling distribution program and limit the likelihood of waste. Even a nominal charge (SFD pays private nursery owners Rs.0.50 per six month old plant) would lead farmers to consider whether they wanted to carry the plant from the market to their farm (rather than dropping them along the roadside) before signing up and taking the plants from the SFD official and also provide some additional incentive to care for it. While a rationale exists for giving way seedlings at the start of a program, the need for continuing to do so requires reexamination. The time has come to see whether farmers perceive the seedlings to have enough value to pay even a nominal price for them.

VI: COMMUNITY PARTICIPATION

A. SFD and Villager Interaction

The basic objective of the project's panchvan component is development of forest resources at the local level by and for villagers. The vehicle through which rural communities are to be mobilized for the effective management of woodlots and equitable distribution of benefits accruing from them is the Gram Panchayat. SFD was established to couple extension with technical forest expertise to promote for village based self help programs.

As noted in the introduction, the program envisaged establishment of community plantations covering 63,450 hectares of revenue land in approximately 4,700 villages. The SFD was to turn over the management of the plantations to the panchayats after five years.

Based on the team's field observations, the five case studies conducted by CENDIT and the data and documents provided by the SFD the following picture of community participation emerged:

1. Procedure: The general procedure was SFD staff came to the village, talked with perceived village leaders, identified some comparatively poor quality revenue land, and persuaded the Panchayat to establish a plantation on the land. Local labor was then recruited at prevailing rates to dig protective trenches around the plantation, dig pits for seedlings, and plant seedlings. A guard for the protection of the plantation was hired from one of the villages of the Panchayat.
2. Management Development Plan: A key ingredient of the community plantation program was supposed to be the development and implementation of a panchayat level management plan. The management plan was intended to be formulated jointly by SFD personnel, villagers in general and panchayat members in particular. The preparation of the plan was expected to precede the actual establishment of the plantation. The plan was to be endorsed through a resolution passed by the panchayat and was

to specify the plantation site, species to be planted, the rights and responsibilities of the village Panchayat and SFD, and the manner of distribution of the produce. The process of preparing the plan was envisaged as an important initial step toward engaging the Panchayat in management of the plantation:

The selection of plants, planting of sapplings and their maintenance was almost exclusively the domain of the SFD. The involvement of villagers in the preparation and maintenance of community plantations has been limited mainly to selection of site, preferred species, provision of labor, and distribution of grass. Although extensive discussion with the subject panchayats may have taken place, in 1985 approximately 148 new community plantations were established without management plans having been drawn up.

3. Panchayat Management: The community plantation program was perceived by villagers as a SFD activity. Panchayats did not show enthusiasm for taking over the management of woodlots in the future. In interviews, village leaders and villagers gave every indication that they saw the MPSF program as a government activity and not as their own program.

4. Distribution of Benefits: During the interviews villagers did talk about the benefits of the plantation in terms of fuel, fodder and timber, but the benefit which aroused most interest was grass because it was immediately available (usually in the first year after the establishment of a plantation) and valued as animal fodder.

It is very currently very difficult to discern any set pattern to grass distribution. In some villages grass is rationed to every household, in others to those only with cattle, in others to only landless and backward classes. In a few cases chaukidars had been beaten and politically powerful villagers had grazed their cattle on the community plantation. The benefits which the landless derived from the distribution of grass was to earn daily wages by collecting it for farmers with cattle.

Villagers recognized in theory the benefits of trees for timber. However, they did not appear to be especially motivated by these more distant benefits. They were unsure, how the benefits would be distributed within the panchayat. Typically when the team asked about distribution of benefits from trees the Sarpanch indicated that the issue would be dealt with when the trees were marketable. In several cases where the team explained to villagers in detail the potential cash flow from a plantation using estimated market prices, substantial interest was aroused in managing the plantation.

Villagers' perceptions of raising trees as fuelwood were mixed. While it was recognized that the plantations could ease the arduous burden women face each day in collecting fuelwood, the preference expressed by the males who dominate decision making was for a cash crop. Fuelwood for own consumption, because it has been collected traditionally without a cash outlay, was not a high priority use of trees from the plantation.

Enthusiasm for community plantations was also dampened in some panchayats to an extent by the loss of traditional grazing land, albeit of poor quality. The drought prone area of Western Madhya Pradesh, especially in the northwest, is highly dependent on cattle as a source of livelihood. The pressures for grazing land for cattle raised in the villages, as well as those driven into the State each year by migrating graziers from neighboring Rajasthan, are tremendous. The opportunity cost of giving up revenue land for a community plantation, even if it is of little more use than as an exercising ground for cattle, is widely recognized within the village. Some Panchayats were prepared to give up some land of the poorest quality, but almost none will release all of it.

Finally, the most critical issue in this discussion of benefits is the behavior of the Panchayat when it takes over responsibility for management of the asset developed by SFD. At this stage, because the program is by and large at least two years away from that point, evidence is not available.

B. Women's Participation

1. SFD Staff: Materials provided by the SFD show the importance of women's involvement in the social forestry program. It was also agreed that the use of female extension workers is necessary for greater involvement of women in the MPSF. Progress has been made in this regard, though the percentage of women staff remains low. At the time of first evaluation in 1983, there were 2 women out of 162 (1.2%) forest extension assistants and 26 Van Sewikas (forest guard level) out of 567 (4.6%) Van Sewaks and Van Sewikas. The present position (October 1985) in this regard is that there are 9 women female Extension Assistants out of a total of 273 (3.3%) and 49 Van Sewikas out of a total of 882 Van Sewakas and Van Sewikas (5.5%). The districtwise distribution is as follows:

Table 2

Number of Female Forestry Staff

	<u>District</u>	<u>Forest Extension Assts.</u>	<u>Van Sewakas</u>
1.	Dewas	-	3
2.	Dhar	-	2
3.	Khargone	-	3
4.	Durg	2	6
5.	Shivapur	--	1
6.	Bilaspur	-	-
7.	Raipur	2	7
8.	Mandsour	--	2
9.	Ratlam	1	1
10.	Datia	-	-
11.	Bhind	-	2
12.	Rajgarh	-	1
13.	Segore	-	4
14.	Ujjain	-	2
15.	Bhopal	1	2
16.	Vidisha	-	2
17.	Gwalior	-	-
18.	Morena	-	1
19.	Guna	-	2
20.	Indore	2	6
21.	Shajapur	1	2
	Total	9	49

At the level of Forest Extension Officer, who works at the Block (Janpad) level, and higher there are no women.

Some of those responsible for the recruitment of women staff were skeptical about the effectiveness of female staff in discharging their responsibilities. It was stated that most of the female staff were more educated than the required educational qualifications. They were generally living in towns with their families and were less willing to go out to reside in other villages. On the other hand, SFD leadership believes that those recruited from villages do a better job than those recruited from towns.

In interviews at Shivpuri Training Institute and in the field one female worker who was living with her parents and worked at a nearby town stated she did not have any problems in discharging her work; others expressed the view they were at a disadvantage on account of gender differences.

2. Women Villagers: The women villagers interviewed knew about the general issues addressed under the social forestry program. They talked about the positive aspects of the tree plantation program and also took interest in the program because they found they could earn substantial amount of money by raising nurseries. For example, in Sirsod in Shivpuri district, the team found considerable enthusiasm among women for the community plantation and raising of nurseries. We came across a small plantation which had been raised by a group of women around a well. The women of the area had also prevailed upon Rajiv Gandhi to plant a tree on the road side when he was a member of Parliament and was passing through the area. The women folks in this place had raised a number of nurseries and had composed songs elucidating the virtues of planting trees on field bunds. Women's involvement in social forestry program, the team was told, was on account of active role played by a Van Sewika, the lone female staff working in Shivpuri district.

During the course of the team's visit, we found women working in nurseries preparing seedlings and transferring them into plastic bags. We were also informed that women worked at digging pits for seedlings, watering plants, cutting grass and digging trenches.

A study in Dhar district conducted by an SFD staff person indicated that women were more efficient than male counterparts at different tasks involved in establishing a plantation.^{1/} The SFD study also found that women forestry worker's first choice was nursery work followed in order of preference by watering plants, weeding, planting and casualty replacements. Women workers also participated in digging of trenches and pit holes though the staff generally tended to utilize their services more for lighter work such as nurseries, watering of plants and weeding of grass around the plants.

^{1/} It was found that cost per plant in nurseries, where female component of labour was more than 75%, was 60 paise per plant compared to 65 paise per plant in nurseries where female component of labour was less than 50%; (ii) success of plant germination was 60% in nurseries where female component of labour was more than 50% compared to 50% germination where female labour was less than 50%; (iii) women planted 55-60 plants per day under daily wages and 60-65 plants under piece rate wages compared to male labour who planted 50-55 plants per day under daily wages and 55-60 plants under piece rate wages; and (iv) area weeded by female labour per day under daily wages, was 250 sq. mt. and under piece rate wages it was 300 sq.mt. compared to 200 sq. mt. under piece rate wages area weeded by their male counterparts per day.

Aside from management of a few nurseries, the managerial role of village women in MPSF was quite limited, but then the role of all villagers was also very limited: In principle, at least two members of the Gram Panchayat must be women and to the extent such representation is a reality women may have a voice in management of plantation, if, of course, Panchayat management of the plantations becomes reality: Horticulture Directorate with support from Rural Development Department has proposed to undertake a major women's social forestry project that would substantially expand the number of nurseries managed by women and also hand over management of community plantations to women's groups.

C. Recommendations

In November 1983, the first evaluation team made a series of recommendations that if implemented would have enhanced the community participation aspects of the project. Those recommendations remain valid and the following recommendations should be added to that list.

1. SFD should make an intensive effort prior to the 1986 planting season to jointly develop management plans with all of the Panchayats that are willing to set up new community plantations. Top management should engage themselves in this effort along with field staff in order that they develop an appreciation for the problems involved and can provide guidance to the field on the process.
2. In the process of preparing Panchayats to manage the panchvans, consideration should be given to alternative approaches for managing the woodlots. For example, the Panchayat may want to consider paying a nominal monthly income to a retired person from the Panchayat to act as manager. Another approach would be to allocate areas within the plantations to poor persons along the lines of the State's hitgrahi "beneficiary" scheme or promoted by private voluntary organizations in other states. The critical element would be in one way or another to shift management responsibility from SFD to the community or individuals designated by it at the very outset.
3. SFD should undertake a study to explore options for benefits distribution taking into account that community plantation must become financially self sustaining and policy be equity oriented. The findings of such a study could be helpful to Panchayats and SFD in management of the community plantations.
4. When management responsibility is passed over to the Panchayat or their designees, physical growth of produce and mechanisms through which funds for woodlot protection and management would be generated should be closely monitored. An on-going program of analysis that assesses the condition and output of the plantation, financial status and the attitudes and opinions of villagers about the program is required to determine future directions for social forestry in Madhya Pradesh. Data collection and analysis should also include information on villager

participation such as number of plantations established by SFD which are managed by Panchayats or their designees, Panchayat resources committed to the plantation and number of Panchayats offering more than one lot for community plantations.

5. Initiative should be taken to recruit or promote women to higher levels of SFD and to increase their numbers within the organization. Although SFD has agreed to place women above the level of assistant extension officer, none have been appointed yet.

6. Accommodation should be made in recruiting women for village extension work at the Van Sewaka level to allow them to work in the area of their home villages. Problems faced by women in working outside the area of their village are sufficiently real to warrant this special consideration.

VII. INSTITUTIONAL STRUCTURE

The SFD cannot manage the social forestry program effectively without cooperation from other institutions, organizations and agencies. The purpose of this section is first, to explore the existing arrangements between SFD and the institutions it works with; second, to indicate changes that are underway; and third, to suggest alternative institutional arrangements for more effective program implementation.

A. Existing Structure

The MPSF institutional structure is an outcome of functions to be discharged. The main activity of the SFD has been defined by it as covering 63,450 hectares of land with community plantations. To establish, protect, nurture and develop community plantations, SFD has developed working relationships with other institutions including the departments of Forest (of which SFD is a wing), Revenue, Rural Development, the DRDAs and the Gram Panchayats.

1. Committees: The design of MPSF anticipated the need for cooperation and support from other institutions and to this end an Interdepartmental Policy Committee was established at the State level; it was also envisaged that advisory committees would be established at the District, Block and Panchayat levels. These committees have not had an important influence on the direction of the program.

The Interdepartmental Policy Committee, which recently has been superseded by a new State Wastelands Development Committee, has met twice after the start of the project to discuss project implementation issues: Subsequently, the State Wasteland Development Committee has met once: The District, Block and Panchayat level committees, which were to ensure effective cooperation and participation between Government departments and local bodies, have not been formed to date.

2. Forest Department: SFD is an integral part i.e. a wing of the Forest Department. All of SFDs top staff are drawn from the Forestry Department. While forest officers are in the habit of doing what they are assigned to do, there are certainly some that have more interest or aptitude for social forestry than others. To the extent these individuals are recruited or retained for the SFD, the capability of the institution as a whole to meet its extension mandate is strengthened. The relationship of the SFD to the parent Forest Department is discussed in more detail later in this report.

3. Revenue Department: The Revenue Department plays a critical role in identifying revenue lands and, once identified, confirming land availability for community plantations. As noted in earlier sections of this paper, this process has been time consuming and has impinged on SFD planning and planting operations. The evaluation team met with District Collectors, patwaris and numerous SFD officials to explore this issue. Some members of the team believed the problem was exaggerated, others that it was important.

4. Rural Development Department: The Rural Development Department provided through the National Rural Employment Program (NREP) advance financing for a portion of MPSF activities through September 1985. NREP funds were passed to the DRDAs, which are chaired by the District Collectors, and then in turn allocated by the DRDAs to SFD for community plantations. SFD claims that the nature of this budget allocation process created management problems for them. Whereas planting has to be done on a fixed timetable with specified quantities of inputs, NREP resources were provided with neither timing nor quantity of allocations fixed to coincide with SFDs critical planning path.

A proposal to engage Horticulture Directorate and NGOs has been prepared and is now under consideration.

5. Agriculture Department: The first mid term review team recommended a trial program of cooperation with Agriculture Department in a district with a view to linking farm forestry with T&V system of extension. According to the status report prepared for the second mid-term review by SFD "agriculture extension cadre has not so far participated in project execution."

Significant potential for cooperation also exists with the Horticulture and Soil Conservation wings of the Agriculture Department.

6. Non Governmental Organizations (NGOs): SFD has utilized NGOs for training its personnel. To the present time NGOs have not been used to assist Panchayats in assuming management responsibility for community plantations.

An NGO whose services have been utilized for staff orientation training is Kasturba Gandhi Rashtriya Smarak - Krishi Vigyan Kendra, Indore. Before trainees are sent for long term training at SFD's Shivpuri Training Institute, they attend a short one week preliminary training course in extension methodology. It is worth noting that the State Agricultural University at Jabalpur has also been used by SFD for extension training. The University has provided orientation training in extension to supervisory level officers at the District level and above.

B. Changing Environment

The institutional arrangements with SFD briefly described above are rapidly evolving into new forms. Major impetus for change has come from Prime Minister Rajiv Gandhi. In January 1985, in one of his first major political addresses, the PM stressed his concern about the state of India's environment and forests and announced a new mandate under which India would increase tree planting activities five-fold to meet the target of reforesting 5 million hectares of wastelands every year.

1. Ministry of Environment and Forests: The PM subsequent to his January speech created a new Ministry of Environment and Forests of which he holds the portfolio. As a result of the PM's action, the primary GOI office responsible for forestry was elevated from a division within the Ministry of Agriculture to a full fledged department with its own Secretary directly responsible to the PM.

2. National Wastelands Development Board: Recognizing that the massive and complex problems of the degraded lands require a concerted and cooperative effort among several ministries the PM also created a high powered Wastelands Development Board with its Chairperson having the status of GOI Minister of State. Responsibility for social forestry as a subject has been transferred to the Board.

3. State Land Use and Wasteland Development Committee: The emphasis at the all-India level is reflected in Madhya Pradesh in changes that are presently underway. The first state level change is reconstituting and renaming of the Interdepartmental Policy Committee. The COMP has formed a State Wastelands Development Committee under the chairmanship of the Minister for Forests and including the Ministers in charge of Revenue, Panchayat and Rural Development, and secretaries in the Departments of Revenue, Panchayat and Rural Development, Tribal, Harijan and Backward Classes and the Development Commissioner, Agriculture. The others who are members of this Committee are Agricultural Development Commissioner, the Principal Chief Conservator of Forests, the Chief Conservator of Forests, (Development), Director Agriculture, Director of Veterinary Services, Director Panchayats and Social Welfare and Director, M.P. Dairy Development Corporation. The Chief Conservator of Forest (Social Forestry) is the member secretary of the committee. The first meeting will be held during the month of December.

The Committee is responsible for handling day-to-day implementation and coordination responsibilities. Policy issues are referred to the newly created State Land Use and Wasteland Development Council presided over by the Chief Minister and composed of Ministerial officials and representatives of the State Planning Board.

4. Rural Development Department: Rural Development is playing an increasingly important role in social forestry through the resources it allocates for this purpose. Rural Development has decided to utilize other organizations besides SFD to execute these programs. Among options under consideration by the Rural Development Department are working with the Horticulture Directorate, Sericulture Directorate, NGOs and Panchayats directly. Rural Development has also proposed that some staff be deputed to it from organizations such as SFD and Horticulture to assist with technical aspects of the social forestry program. Rural Development has recently been allocated Rs. 19 crore for execution of social forestry programs (viz the Rs. 10.77 crore earmarked over the same period from regular state plan funds for the AID-assisted MPSF project).

5. Horticulture Directorate: This wing of the Agriculture Department has as its primary task provided extension services on fruit trees to farmers. In addition to traditional extension services, it offers various subsidized schemes to entice farmers into establishing orchards on their lands. The Department is also distributing free of charge small quantities of forest trees for planting around wells and near houses. Under one experimental scheme Horticulture is planting orchards on a minimum of 10 hectares of government land. At the end of a five year period the orchard will be turned over to landless tribals at the rate of one hectare per family who will then have management responsibility and the right to its produce.

In addition to the above, a formal proposal has been made by Rural Development to engage Horticulture more broadly in the state social forestry program. The three year program would require setting up nurseries formed by rural landless women in a village in each of the 459 blocks of M.P. State. Horticulture would set up 2,000 hectares of orchards cum fuel and fodder plantations in 31 Districts on 2,000 hectares of revenue lands. Also, fuel and fodder community plantations would be established on 5,400 hectares of land in all 45 Districts and in ten of the Districts the work would be done by women's organizations.

6. Non Governmental Organizations (NGO's): A potentially important change which is taking place is the greater involvement of NGO's in social forestry. Large sums of money have been budgeted under the Seventh Plan for allocation to NGO's to assist in implementation of various schemes. While some experimental programs with NGO's may be started, the issue in MPSF or rather, for the state social forestry program as a whole, is whether NGO's are sufficiently numerous and qualified to be helpful in implementation of MPSF.

The State of Madhya Pradesh is marked by the absence of a tradition of voluntary organizations. On the basis of a listing of voluntary organizations in three directories, two prepared by the National Institute of Public Cooperation and Child Development (NIPCCD) and one by the Association of Voluntary Agencies for Rural Development we found 90 NGO's in Madhya Pradesh. Indore with 16 NGO's was at the top of the list

followed by Hoshangabad 8, Raipur 7, and Bhopal and Rajgarh 5 each and Morena with 4. Among the remaining Districts 15 had no NGO's. The team was not able to assess the strength and resources of these organizations.

Very few of the NGOs like Kasturba Gandhi Trust have any experience in social forestry. Aside from a women's organization engaged in promotion of nurseries managed by women in a village visited by the team, we are not aware of other NGOs directly involved in promoting social forestry in Madhya Pradesh.

C. Alternative Structures

The preceding section purposefully did not cover changes taking place in the Forestry Department or SFD with respect to the MPSF. Their evolving situation, described below, provides a preamble to the discussion of options for the future.

The Forest Department is continuing to struggle with the place and priority of SFD operations viz. the more traditional production and development activities of the department. This is reflected in the SFD's budget allocations and the outlook for the future: SFD requested Rs. 1,600 lakhs and has been allocated at the present time Rs.1,000 lakhs for IFY 86-87. The team was told that in the future the allocation was likely to remain at present level or fall slightly.

A strong case can be made a priori that because the quality of land is so poor, the scale so small, and the management issues so complex, that returns to social forestry on community plantations are substantially lower than for forestry on Reserved Forest and Protected Forest (RFPF) or on private farms.

The estimates by the team of returns to farm forestry indicate that it can be highly profitable: The keys are the quality of land and entrepreneurship of farm forestry. Highly speculative estimates on returns to community plantation (speculative because great uncertainty surrounds the value of the wood products that will eventually be harvested) suggest that while the plantations technically can be financially remunerative, the political economy of the Panchayats militate against it.

If one places economic value on "greening of India" over and above the direct returns the picture does not change, community plantations are a relatively poor investment: Also, the weighting of distributional impact of community plantations may not help much as over and over again the team heard skepticism about the equity of the actual distribution process.

For the above and other reasons relating to SFD management constraints, SFD resources might usefully be shifted from community plantations towards private farm forestry.

The first structural alternative would be to create an autonomous organization, i.e. a full-fledged and separate social forestry department which would focus on promoting farm forestry or other appropriate wasteland development models. Staff for the new department could be recruited from all departments such as the SFD, Agriculture, Rural Development, Panchayat and Social Welfare, etc. now executing social forestry-like programs. A particularly attractive source of extension staff may be the Horticulture Directorate of the Agriculture Department, which has a background in extension and is already working with clients that SFD would like to reach. In addition, SFD has been assisting private nursery owners to raise fruit trees for distribution with forest trees, and Horticulture Directorate, the team was told, also raises and distributes some forest trees and is planning to undertake a major social forestry program involving fuelwood and fodder.

A second institutional option is to engage PVOs more heavily in the extension work with Panchayats in establishing and managing community plantations. This option is in the early stages of being acted upon by Rural Development Department, but may be seriously constrained by the lack of interested organizations in the State: (See pp. 40-41.)

A third option involves Rural Development building its own technical staff in forestry to provide technical advice to Panchayats on managing and establishing a plantation: A variation of this would be for the Panchayats to be given resources to purchase the requisite expertise whether from SFD, Horticulture or an NGO.

The possible institutional arrangements and relationships among the direct and supporting institutions are manifold. Presently the relationships are in a state of flux. Periods such as this one provide important opportunities to make major changes that might otherwise not take place for years. The above are not by any means definitive ideas, but the team believes they should be given consideration. Given the scale of changes in targets and budget, social forestry and wasteland development activities in the state over the next decade could be greatly facilitated through a fundamental change in the structure of implementing organizations.

D. Recommendations

1. Radical alternatives to the present structure should be considered. For example, consideration might be given to the creation of a new, independent department responsible for social forestry activities. This organization could merge the strengths of the SFD and the Horticulture Directorate. Both organizations in different degree raise and distribute fruit and forest trees and both are engaged in farm forestry and establishing and managing community plantations. The two organizations are rapidly evolving in directions that indicate increasing overlap of functions and the populations they serve:

Other staff could be recruited, as appropriate from the Rural Development Panchayat and Social Welfare Departments and the like.

2. Further illustrative of the kind of change that should be considered in the absence of the merger suggested above would be a division of responsibilities for private farm and agro forestry and community plantations between Horticulture Directorate and SFD respectively. Two separate GOMP social forestry agencies competing in each of the State's districts (Horticulture proposes to work in all 45; SFD proposes to work in 31) for the same land and approaching the same clientele with the same products, though differentiated by mix of product will be confusing, wasteful and very likely counterproductive to MPSF objectives.

3. Preferably a cadre of SFD staff should be developed apart from the Forestry Department: At a minimum, procedures should be developed which allow these forest officers with an interest and aptitude for social forestry to be recruited and retained by the SFD.

4. SFD should continue and expand on an experimental basis the involvement of NGOs in MPSF. The utilization of NGOs as intermediaries assisting the Panchayats in taking over management responsibility of community plantations may be a promising mechanism for achieving participation of villagers in social forestry.

VIII: SOCIAL FORESTRY DIRECTORATE MANAGEMENT

In more than two weeks of discussions with SFD officials, all were frank to admit that with a few exceptions villagers have not been involved in management of the approximately 1,500 community plantations that have been established: This is by project design which calls for the plantations to be initially established by the SFD albeit in collaboration with the Panchayats: By design it was the SFD which is also responsible for the first 3 to 5 years of protection following establishment. As noted elsewhere, perhaps the only management responsibility expected of the Panchayats to date has been to oversee the distribution of grass. The team concluded that the main way in which villagers have been involved in the project is as paid laborers or as managers of private nurseries and planting seedlings distributed by the program in their own fields.

A. Leadership

A critical factor has been the number of turnovers in the top position of SFD over the past four years.

The Director's post has been used as a "port of last call" by the Forestry Department for the past one year. Three times, persons who were on the verge of retirement were appointed as Director to hold office for a few months: The organization is only three years old and is about to receive yet a fifth director! Generally few top positions (conservator level and above) have been held by an incumbent for the full tour tenure of three years.

Continuity and strong leadership are essential for establishing program direction, guiding program implementation and building staff morale. This has been missing at SFD.

B. Extension

The extension program of the Social Forestry Department has not developed as anticipated, especially with respect to the community plantations where it was to focus on the preparation of written management plans as a means of ensuring collaboration between SFD and Panchayat representatives: Villagers were approached by SFD for contribution of land to the program and in some cases on choice of species and the method of distribution of plantation grasses/fodder. The most widespread participation by villagers in MPSF was in supply of wage labor. Otherwise villagers have not by and large been engaged in panchvan management.

SFD extension has taken place with respect to establishment of private nurseries and distribution of seedlings to farmers. However, interaction between SFD staff and farmers on business and technical problems of farm forestry appear to have been very limited.

The key management issues in the area of extension fall under the heading of staff composition, training and publicity.

1. Staff composition: The staff at the District Forest Officer level and above consists of persons transferred from the Forest Department to SFD. At the Ranger level approximately 50 percent are new employees with no previous experience in the Forest Department. The remainder of Rangers were transferred from the Forest Department. Criteria for recruitment in the open market for the lower ranks, i.e. below "Ranger", is based entirely on academic achievements (exam scores); background in forestry and/or extension has no bearing on selection. Most old hands from the Forestry Department and almost all recruited from outside FD into SFD have not received adequate training to go about the very sophisticated type of extension work required in gaining community consensus and active Panchayat involvement in panchvan management. Extensive and intensive training is required. Further sanctioned headquarter specialist positions for an extension specialist and rural sociologist have not been filled despite 169 out of 188 headquarter positions having been filled.

In sum, staff background and skills composition are not in keeping with the substantive requirements of the program.

2. Training: The main facility for training employees is the Social Forestry Training Institute at Shivpuri. The School has facilities for conducting classes and providing lodging/boarding for about 125 trainees at one time. The courses for Van Vistar Sahayak is nine months duration and for Sewaks and Van Sewikas four months duration.

Before the trainees are sent for regular training at Shivpuri one week preliminary training is given to them in extension methodology at Kasturba Gandhi Krishi Vigyan Kendra in Indore, a non-governmental extension training facility. To date 289 Van Sewaks, 69 Van Vistar Sahayaks and 16 Van Vistar Adhikaris have been training at the Kendra.

The Institute at Shivpuri has about 12 faculty/instructors. The faculty/instructors all have experience in traditional forestry activities. However, none of them have expertise or exposure with extension as such.

Furthermore none of the faculty/instructors posted at Shivpuri had any background or experience in the MPSF or with SFD prior to being posted at the school. The faculty/instructors posted at the school have

no desire to make a career in teaching. None of them opted to work in the school. If given a choice, nearly all of them would prefer to work elsewhere. Placement at Shivpuri is generally regarded as a punishment posting.

The school curriculum requires coverage of topics such as extension, mass communication, sociology etc. No faculty/instructor has educational background or work exposure in any of these aspects. Rather, the current staff have studied the literature available and text books on extension techniques, rural sociology and mass communication and how to communicate with the least knowledgeable person in a group. They prepared notes and are delivering lectures based on this literature. The faculty/instructors are teaching these disciplines to the trainees without any assistance of guest faculty or expertise.

No faculty/instructor has been trained or provided exposure in training methodology or teaching methods.

An attempt was made to seek the assistance of Jawaharlal Nehru Krishi Vishwa Vidhyalaya, the State Agricultural University at Jabalpur, for teaching non-forestry subjects. The university trained two batches (a total of 50 officers) in Jabalpur in extension techniques in July 1983. Courses are now scheduled for October 1986.

There is provision for appointing a faculty member with expertise in extension methodology and community organization at SFD headquarters in Bhopal. In theory the position could be shifted to Shivpuri, but it has not been filled to date.

The school does not have any facilities for transportation of trainees for field work.

In sum the faculty at Shivpuri is less than perfectly trained or motivated. As a consequence the quality of training in non forestry subjects is less than adequate. Hence the trainees are not very well prepared to meet the extension/community mobilization aspects of their jobs.

It should also be noted that out of \$200,000 granted for overseas professional development of SFD staff only \$50,000 has been spent. Two nominations for overseas training of SFD staff were disapproved during this fiscal year.

3. Publicity: Short duration training courses of 3-4 days duration are arranged once a year in each district in which orientation training is given to village leaders, Gram Panchayat members and farmers. Forty-six such training sessions have been held to date involving about 3000 participants.

Other publicity components include the distribution of brochures and promotional materials, slide and film shows. A 15-minute radio program sponsored by the SFD is broadcast throughout North India every Tuesday night and is immensely popular. However, on balance the publicity function has languished. A publicity officer has been appointed at headquarters but spends substantial amounts of time working on non SFD business. A single junior officer handles SFD publicity requirements at headquarters. Publicity vans have been provided to 16 out of 21 districts, but few, if any, are actually used for this purpose. The Assistant Conservator of Forests (ACFs) who were envisaged as being responsible for publicity and extension, mostly assist DFOs in discharging their routine responsibilities and spend little time on publicity. The publicity function, which should be an integral part of an extension program, requires direction, staff attention and resources.

C. Resource Allocation

A critical variable in MPSF success is the deployment of resources by SFD. The deployment reflects a perception of priorities; a judgement on the quantity and type of resources required to accomplish the selected activities; and over time adjustments of resource allocations as feedback from results in the field flow back to management.

1. Target Setting: The main outputs of the program have been perceived by SFD as number of hectares of community plantation established and numbers of seedlings distributed to private farmers. Accordingly the key measures on which data have been regularly collected by SFD have been number of hectares planted and numbers of seedlings distributed. Each year targets are set by SFD for these two outputs for each district.

Although in planning the performance indicators were focused on institutional and social objectives, in implementation the focus shifted toward hectares planted. This emphasis on meeting hectares planted targets as the key indicator of performance has played an important part in some of the weaknesses that have developed in the program. DFOs have accepted land for community plantations that in the words of the Status Report were "unsuitable for planting" and are also of less than economic size. The team saw a number of plantations on highly degraded land that required long term soil conservation measures before they were ready for plantation establishment. Generally, the SFD holds that "beggars cannot be choosers" and quality of land has not factored explicitly in the land provided to the SFD by the Revenue Department. However, it does become a factor in determining what type of treatment or silvicultural prescription is adopted for any particular sites. The SFD has established five hectares as the minimum size of plantation, given the cost involved in plantation protection. Generally, the size ranges from 10 to 50 hectares with an average size of 15 to 20 hectares. However, the team was shown a

plantation of one hectare in Vidisha district on which a chowkidar was required at the same cost as for a plot of 25 hectares. If area targets were reduced, presumably the quality of land and minimum size of plot criteria could weigh more heavily in the decision on which areas would be taken up.

By design, SFD has concentrated on establishing panchvans. It has seen its role to be to provide 3 to 5 years of protection until the plantation is ready to be turned over the Panchayat. Now, as certain panchvans are beginning to reach a turn-over stage, the need to engage the villagers more meaningfully in panchvan management (beyond grass distribution) looms paramount. The situation is now one where the SFD is responsible for protecting hundreds of plantations of relatively very poor quality at scattered sites in 21 districts. As plantations accumulate, the SFD protection and management problems grow correspondingly large. The failure to engage the Panchayats in management at an earlier stage, now appears as the major constraint in expansion of the panchvan program.

To this point in time only a couple Panchayats have stepped forward to request plantation management be turned over to them. Based on the teams inquiries, the only circumstances in which the Panchayats appear interested in assuming management responsibility is where the panchvan clearly represents a source of revenue capable of covering protection and management costs and providing a positive surplus. A second point, made by SFD, is that the authority for and procedures through which Panchayats could manage revenues from the panchvans must be clarified and codified in official government "notification". It is possible that some plantations will not produce enough revenue (even at market rates) to meet protection costs. In this case continued direct SFD management is one alternative to allowing the land to revert to the condition it was in prior to the MPSF. The State is examining other alternatives which would allow the Panchayats to distribute grass from these plantations at concessional rates and provide the Panchayat with any additional revenues needed to meet protection costs. The point is to find an arrangement under which the protection of a stock of plantations accumulated over project period will cease being a major financial and management responsibility for SFD. The alternative of unilaterally turning the land back to the Panchayat before a positive cash flow is in place is an open invitation for the asset to be liquidated.

Some basic changes in management and innovative programming will be required if this situation is to result in a positive outcome for MPSF. An excellent starting point would be to eliminate targets for hectares of new land brought into the program or at the very least link them to qualitative targets such as hectares of plantation successfully turned over or managed by the Panchayat. Various possibilities exist for tying new land acquired to successful achievement of extension goals.

2. Performance Budgeting: A striking feature of the SFD program is the uniformity of targets and sanctioned staff across districts. Each district regardless of area, potential for social forestry and performance has been sanctioned a staff of approximately ninety persons starting at the top with one DFO and working down to 41 to 44 Van Sewaks (forest guards) plus assorted drivers, clerks, orderlies. While in some districts a substantial number of positions have not been filled (314 vacancies out of a total of 1,932 sanctioned in the 21 districts); a cursory review suggest no consistent application of criteria that would explain the larger number of vacancies in some districts. In other words, the sole guiding criteria for resource allocations across districts is that each should have the same number of staff and number of targetted hectares.

At the outset of the MFSF, uniform targets and staff by district may have been as good a means as any of discriminating among competing claims for resources. However, as knowledge and experience of the districts has grown, the expectation would be that the program would be tailored to districts, blocks and staff that showed the most promise for MFSF.

3. Program Content: Among the most difficult issues facing SFD is the program mix between community plantations and farm forestry.

The evaluation team has concluded that on the whole the problems of establishing and managing community plantations in Madhya Pradesh are so difficult as to warrant a pause in establishment of new plantations. SFD could take advantage of the pause to explore on an experimental basis various means of engaging Panchayats in management of community plantations already established. Quite as important during this period important additional experience will be gained that will indicate the longer-term viability of the MFSF community plantation concept.

This period would also allow the SFD to establish working arrangements with the Panchayat and Social Welfare Department and other institutions which will figure heavily in preparing the Panchayats for panchvan management.

Also during this period SFD could begin a major effort to improve its ability to provide extension services to farmers engaged in farm and agro forestry. This is an area in which SFD could provide a useful service.

If SFD is to be a factor in farm and agro forestry, provision of extension services will have to become the product around which SFD is organized. Extension will have to be elevated among SFD priorities to the highest level.

D. Technology

The team observed the techniques used by the SFD and noted that application was often quite different between districts. In some ways these differences illustrate adaptability to local conditions, and in some ways they illustrate absence of or non-compliance with standard practice.

1. Soils: There is no acid soil in Madhya Pradesh and alkalinity is only a problem in two or three northern districts. Generally, the field forester in Madhya Pradesh does not need to perform pH testing. Rather he works from a knowledge of which species do best in local soils. Additional guidance in species selection viz. soils and sites has been codified, published and distributed by the SFD in 1983. However, additional on-the-spot information regarding soil characteristics and fertility might well aid in species selection and in seedling survival if nutrient deficiencies could be corrected with chemical additives, for instance super phosphate, at planting. Portable field soil testing kits are available locally, are inexpensive, quick and easy to use.

2. Nursery techniques: Techniques have varied widely and are sometimes at considerable variance with the published recommendations of the project silviculturist. Close adherence to proper nursery techniques is needed, e.g. timing of sowing, seed treatment prior to sowing, hardening off of seedlings before field planting, etc.

Acquisition of high quality seed for social forestry programs is a high priority need. Somewhat rustic methods of seed gathering have been used and seed quality is highly variable. Improved practices need to be used in this regard. In September, 1985, responsibility for seed collection, testing and certification was assigned to the State Forest Research Institute at Jabalpur. While this has had little impact on nurseries for 85-86 plantations, utilization of the Institute's seed laboratory promises certain improvements over time.

3. Fodder: Some districts were enthusiastically planting in panchvans and encouraging private tree farmers to plant seed of good varieties of pasture grasses and legumes to improve the palatability and nutrient content of the fodder grown. Other districts seemed hardly to have heard of the practice. The project agrostologist advises that a minor increase in expenditure would produce a significant increase in production and quality of livestock forage on plantations where grazing was prohibited (and cut by hand) or carefully regulated (to permit only allowable animal units of use).

An additional benefit to implementing legume planting in tree plantations is the synergistic effect of increased tree growth due to increased amounts of available nitrogen added to the soil thru nodules on the roots.

In order to produce enough grass and legume seeds in 1985, SFD issued instructions for seed multiplication plots in each district. During the 1985 monsoon, 59 plots were sown with grass seed (*Cenchrus ciliaris*, *Cenchrus setigerus*, *Sahima nervosum*, etc.) and 71 plots with legumes (*Stylosanthes hamata*, etc.). These are in addition to 49 such plots established in the 1984 monsoon.

Some district personnel asked just how much forage production was increased on an area after protection from overgrazing. Although statistics are available in other countries, the team was told that no such statistics are available in India. Such statistics should be made available to SFD personnel to aid them in their extension activities.

4. Water conservation: Much of the land on which community and private plantations are established is semi-arid and degraded to the point where moisture holding capacity is almost nil. An increasing number of districts are using water harvesting and other moisture conserving techniques to make the most of what moisture is available. The use of these practices must be expanded to all plantations where inadequate moisture is a problem. The purchase and transport of water is too expensive to be practical and it increasingly conflicts with human needs for potable water as the population grows. Water harvesting structures will also serve as soil conserving measures which will further improve soil conditions in plantations.

E. Program Planning, Analysis and Monitoring

1. Planning and Analysis: The process of analyzing the external environment as it affects forestry the experience with different program interventions in that environment and use of the lessons learned from the analyses to guide the program need to be strengthened and more systematically applied.

The strongest element of the analytical program of SFD has been research on growth of species on community plantation land. The research results from fourteen research plots are just beginning to provide information that will be useful in estimating growth of different species on the types of land made available for community plantations.

The SFD has been conscientiously following the 5-year research plan initially approved by the CGI and USAID in 1983. Annual research programs based on the plan have been prepared and implemented. Since 1983 the need for other types of information have surfaced. This information is not so much silvicultural in nature but rather consists of critical variables affecting field implementation of the projects. It would entail the systematic collection and application of information on such things as the quantity and grade of land available, the estimated

market value of different species, and experience with alternative approaches to community participation. The failure to generate this kind of information for use by top management in directing the program is an important problem that needs to be addressed by SFD.

The team also noted that through the USAID grant sizable resources were available for consultancies to assist in all aspects of program development. Following the first mid-term evaluation terms for reference for four such consultants were proposed. The State, believing it lacked the capability to let such consultancy contracts, forwarded the terms to the GOI with the request that the terms be transmitted to AID for direct AID contracting on their behalf. The GOI's Department of Economic Affairs refused this request and returned the terms to Madhya Pradesh advising the State to do it's own contracting as per the rules prevalent in the State. To date this has not proved possible. Out of U.S. \$480,000 granted for technical support, thus far \$0 have been expended.

2. Monitoring and Evaluation: The Monitoring and Evaluation Unit of the SFD regularly collects information from the 21 districts on:

- direct expenditure on plantations
- number of Panchayats contacted by the SFD
- number of Panchayats allocating land for panchvans
- area of panchvans established
- number of management plans prepared
- number of individuals contacted (male and female)
- number of private and school nurseries established
- expenditure on each private and school nursery
- number of seedlings produced by each private, school and department nursery
- number of individuals lifting seedlings for farm forestry (including name of individuals, gender, size of holding, and whether of a scheduled caste or scheduled tribe)
- amount of grass produced and distributed and revenue generated through grass sales
- days of labor generated and characteristics of laborers (gender, scheduled caste/scheduled tribes, etc.)

Indeed, large quantities of information are generated by the field on expenditures, hectares of land planted, number of seedlings distributed, etc.

Modern facilities for processing retrieving and analyzing data would go a long way to help management in decision making. Processing and analysis of this information into a form that is responsive to management requirements occurs on an sporadic basis. In the course of undertaking this evaluation basic information on expenditure, plantation size, number of plantation sites and hectares of revenue land planted by district and year was not readily available. Expenditure data was kept at

headquarters only on a circle basis though the basic operating unit is the district; the other information was available, but not processed. Sanctioned positions and vacancies by district was readily available; data on seedling distribution was also readily available. Taking SFD objectives on its own terms, the information required to have an assessment of management performance is not readily at hand.

Verification of information from the field by headquarters has been weak. The example is the seedling distribution program. The evaluation team was taken by SFD to one village where we were told 2,000 trees had been distributed to farmers and planted by them. When we arrived at the village and asked to see the trees, we were told they had not been distributed or planted. In 1984 SFD distributed 9.3 million seedlings to private farmers; in 1985, 12.3 million. Field reports of survival rates ranging from 75 percent to 25 percent have not been verified. Sound information about planting and survival of seedlings distributed free of charge to farmers is critical information for reaching judgements about potential for farm forestry and investments by SFD in this area.

A review of the workload faced by the Monitoring and Evaluation Unit indicates that in addition to implementing the monitoring requirements called for under the AID-assisted project, the Unit is now also responsible for implementing the sophisticated and comprehensive monitoring and evaluation (M&E) program called for in the GOI's "Red Book." It is responsible for monitoring the social forestry work undertaken by other state departments and reporting results to the National Wasteland Development Board. It has also been relegated many ancillary tasks not directly related to its M&E mandate. Clearly the workload must be rationalized and additional resources are required for the Unit to function more effectively. Automated data processing facilities are advised.

F. Recommendations

1. The evaluation team strongly urges that the Social Forestry Directorate undergo a period of program reconceptualization, restructuring and consolidation. The principal reason for this recommendation is that there are serious questions about the viability of the community woodlot component of the project. The principal purpose of the M&E -- building institutional capacity to motivate participation of villagers in the establishment and maintenance of community plantations -- by design, will only resolve it's initial testing during the next couple years as the SFD begins turning panchvans over to the Panchayats. The longer-term replicability or expansion of the panchvan is uncertain due to questions about land availability, economic feasibility, and behavior of Panchayats with respect to long term management and maintenance responsibilities.

2. Every effort must be made to improve the continuity and strength of top leadership at SFD. During the past year the top position at SFD has been both a revolving door and a "port of last call" for senior Forest Department Officials about to retire. Recognizing constraints of the system, innovative action is required in this area.

3. Changes in the personnel system would potentially increase the SFD's extension effectiveness. For example, a separate cadre of SFD officers with career opportunities in social forestry could be established. Implicit in this would be closing off transfer from Forest Department to SFD except by request and recruitment of qualified extension staff from other agencies and the open market.

4. SFD should examine feasibility of radically altering faculty composition at Shivpuri Training Institute. If no plan can be developed to provide competent and interested faculty, the school should be closed and training provided at other institutions such as Jabalpur Agricultural University and Kasturba Gandhi Institute of Indore. The Training Institute cannot function effectively with faculty who view their assignment to Shivpuri as a form of punishment.

5. The publicity function needs to be activated. It has not materialized as yet either in the form of full time professional staff on the job or in services to the field. An important step would be to restructure the supervision of the publicity officers in the field, putting them under the direction of the Publicity Officer in the Conservator's headquarters.

6. The program targets should be reformulated to give greater weight to extension services. At present, the principal targets motivating field staff are number of hectares of community plantation established and number of seedlings distributed. Alternative targets that link existing targets to provision of effective extension should be formulated. In addition, consideration might be given to iteration with the field in establishing targets.

7. SFD should develop a system for resource allocation that takes into account program potential and performance by district. Under the existing system regardless of whether a district is very small or large; contains very low or high grade revenue lands; has responsive or non responsive Panchayats and has performed well or poorly in the past, SFD sets uniform targets, sanctioned staff and budget allocations. Evidence suggests the system of uniform target setting and resource allocation by district is wasteful.

8. The first mid term evaluation team recommended greater emphasis on private farm and agro forestry. This shift has occurred to a degree. The second mid term evaluation team recommends that the emphasis on private

farm and agro forestry be further intensified. As a part of this shift in emphasis SFD may want to call a halt to establishment of new community plantations and concentration plantations. The concerned decision makers including villagers need evidence that the concept of Panchayat managed community plantations can work before committing further resources to the program.

9. SFD should improve technology and enforce standards as follows:

- a. Each officer with responsibility for determination of suitability of an area for planting should have and use a portable field soil testing kit to test nutrient status. Cadre should also determine soil depth and overall site suitability. Every site should receive treatment appropriate to its productive capacity. Sites where conditions are judged too severe for economic tree production should not be planted under social forestry schemes, but can be recommended for soil conservation work which probably should include some tree planting.
- b. SFD should reissue the paper on proper nursery techniques. It would be valuable to issue also nursery and general planting and maintenance guidelines for all the species that SFD distributes. These guidelines should be distributed at seedling distribution points, and extension agents should carry them on their rounds for reference and distribution. Additional effort is needed to ensure uniform high quality seed acquisition and distribution.
- c. All field staff should promote improved forage production in plantations through planting of good species of grass and legumes.
- d. A search should be made for statistics on the quantitative and qualitative increase in fodder production which occurs when land is protected from overgrazing. In the absence of India based results, a study should be made by an agriculture organization, e.g. the Grassland and Fodder Research Institute at Jhansi, to furnish such information.
- e. The utilization of water harvesting and other water conservation and storage structures should be standard practice in soil working on all sites where inadequate moisture and/or seasonal fluctuation is a problem.

10. The staff responsible for the monitoring and evaluation function should be strengthened. Direction from top management on the kind of information required by it for decision making would be helpful. In

particular, monitoring of field operations needs to be increased. For example, the utilization of free seedlings by farmers and the survival rates of those plants requires monitoring. Verified information on the impact of the distribution program is important in considering the quantity and mix of resources to be made available under the SFD farm and agro forestry program. At present, SFD does not have full confidence in the field reporting on the seedling distribution program.

ANNEX I

Recommendations by First Mid Term Evaluation Team (November, 1983)
and Actions Taken (November, 1985)

A. The Plantation Program:

1. The Social Forestry Directorate (SFD) assign specific staff to the crucial task of fostering management of the project at the community level. This staff should also serve as liaison with the Panchayat Ministry.

A.1. No action.

2. The SFD experiment on a pilot basis in selected villages with alternative community management models that vary the methods and incentives used for achieving the project goal of building local management capacity.

A.2. No action.

3. The SFD clarify legal and administrative issue effecting the project and initiate changes in them that will be needed by panchayats to manage the plantations.

A.3. Check with SFD.

4. USAID and the GOI amend the project purpose to highlight the importance of the SFD's role in building local management capacity at the community level.

A.4. No action.

5. The SFD over the next two years obtain accurate estimates of the amount of common land in Madhya Pradesh that is available for panchayat plantations.

A.5. No action.

B.1. Training and Extension:

1. Increase emphasis on community management, rural sociology, decision making, and nursery management coursework in the Shivpuri Training Institute.

B.1.1. Syllabi revised. However, no faculty or consultant with professional expertise, or prior teaching experience in subject matter hired or contracted.

2. Strengthen the oral communication component in Shivapuri Training Institute's coursework program.

B.1.2. Check with SFD.

3. Provide extension training for all faculty associated with the Shivpuri Training Institute.

B.1.3. Check with SFD.

4. Develop detailed syllabi for Shivpuri Training courses which specify content, length of the training period and hours of instruction.

B.1.4. Syllabi revised as per recommendation May 1985.

5. Fill the vacant faculty position at the Shivpuri Training Institute with an extension specialist.

B.1.5. No action.

6. Develop village-level programs to train community leader in management skills and responsibilities bearing on the project and to involve villagers in the project and provide them with basic forestry skills.

B.1.6. Check with SFD

7. Develop mechanisms for obtaining feedback on extension training needs from forestry extension workers and for creating incentives to encourage them to meet at the local level with their counterparts in other extension organizations.

B.1.7. No action.

8. Develop programs at Shivpuri and the district which will provide periodic in-service training for extension workers.

B.1.8. No action.

9. Encourage extension officers in one or two districts to experiment with alternative extension assistance models with special emphasis on linking with the T&V system of the agricultural extension service.

B.1.9. Check with SFD.

B.2. Research:

1. Focus the SFD's research direction by developing a problem analysis approach to research.

B.2.1. No action.

2. Provide financial resources to the SFD to conduct problem analysis and to carry out priority research projects that are documented by annual research action plans.

B.2.2. No action.

3. Develop closer cooperation and coordination between social forestry research personnel and other state and Indian research organizations.

B.2.3. No action.

4. Assess research personnel needs in light of current research priorities and available contractual services.

B.2.4. No action.

5. Change the Research Wing with technology transfer responsibilities and change its title to the Research and Technology Transfer Wing to reflect its dual role.

B.2.5. Published pamphlets on early species trials for distribution to field. Also published and distributed pamphlets on improved nursery technique. No change in title.

C. Seedling Production:

1. Establish new nurseries and increase the capacity of existing nurseries to meet the increasing demand for seedlings.

C.1. The tables below indicate number of nurseries and seedling production for 1983, 1984 and 1985 by type of nursery.

Numbers of Nurseries

<u>Year</u>	<u>Departmental</u>	<u>Private</u>	<u>Total</u>
1983	385	373	758
1984	417	641	1058
1985	184	648	832

Number of Seedlings
(TAKHS)

<u>Year</u>	<u>Departmental</u>	<u>Private</u>	<u>Total</u>
1983			362
1984	436	32	467
1985	228	41	269

2. Admin technical assistance in nursery management and seed procurement and treatment areas to improve research, training, and management programs.

C.2. No action.

3. Develop, implement and maintain an inventory system for nursery seedlings and their distribution.

C.3. System in place.

4. Initiate research programs in nursery techniques and provide annual workshops at the state, district, and block level in nursery management procedures.

C.4. One statewide workshop held in December, 1983.

5. Develop incentives that will encourage the establishment of private nurseries at the village level.

C.5. Incentives provided.

D. Monitoring and Evaluation:

1. Adopt a system of regular reviews to assess the quality of training, extension and research efforts.

D.1. No action.

2. Insure that comparable baseline data on the socio-economic composition of each village be included in each management plan.

D.2. Socio economic baseline data being collected on uniform basis in management plans.

3. Conduct social science surveys in selected villages to verify and assess how distribution of benefits within each panchayat is being handled and to assess popular attitudes toward and participation in the project.

D.3. CENDIT completed five case studies of Panchayats in December, 1984.

E. Operational Constraints:

1. All funds for the project be allocated through the plan budget under the SFD's control.

E.1. Non SFD funds are no longer being utilized for the SFD programme.

2. The state's Land Development Act be amended to insure that the SFD and panchayats have legal management authority over community woodlots including regulatory power.

E.2. Check with SFD.

3. Expeditious procedures to hire consultants should be identified and initiated.

E.3. Hiring of consultants continues to be blocked by procedural problems.

4. Consideration be given to procedures and incentives that would encourage recruitment and retention of quality social forestry teachers and researchers.

E.4. No action.

F. Women's Role:

1. Increase the effort to recruit women at all personnel levels within the SFD.

F.1. Increased effort to hire women at lower level. No action on higher level participation.

2. Panchayat and village training courses be designed to promote and encourage participation by women.

F.2. Check with SFD.

3. Continue to use women as social forestry project laborers and encourage women to raise private nurseries.

F.3. Check with SFD.

4. Initiate programs that will facilitate the recruitment, training, and retention of women extension workers.

F.4. Action taken to recruit and retain women extension workers at lower levels.

G. Focusing the Project Elements:

1. Expanding Farm Forestry

a. The SFD develop a plan for expanding its efforts to promote farm forestry including establishing farm forestry targets and focussing its efforts on small and marginal farmers.

G.1a. No targets or plans prepared for private farm forestry.

b. Encourage establishment of private and institutional nurseries at village locations to meet seedling production targets.

G.1b. Private farm nurseries nearly doubled between 1983 and 1984 and rose slightly in 1985.

c. Initiate selected pilot studies to assess villager perceptions of farm forestry and program modifications that would increase acceptance of the program.

G.1c. No action.

d. The SFD manage or coordinate all farm forestry program within the State.

G.1d. SFD was officially given control of farm forestry in February 1984.

2. Roadside Plantations:

a. The roadside planting component be dropped from the Social Forestry project.

G.2a. Roadside Plantations dropped from programme.

3. Energy Saving Devices:

a. A study of past experience with fuel saving devices be carried out in collaboration with other groups and a pilot program be designed for one or two districts.

G.3a. SFD has purchased improved chulas and crematoria for village demonstrations.

b. The GOI/USAID Alternative Energy Project coordinate its activities with the MP Social Forestry Project.

G.3b. No action.

4. Budget and Life of the Project:

Budget revised and approved.

5. Extension of the Project:

a. Although it is premature to firmly recommend a second phase to the project it is recommended that planning for a second phase begin in the fall of 1984.

G.5a. SFD proposal for extension of project presently under consideration by Govt. of M.P.

6. Technical Assistance Requirements:

a. Technical assistance be provided for education/research equipment and for materials, personnel training, and contractual services of specialists with needed technical and social science skills.

G.6a. No action on technical assistance requirements.

USAID PROJECT EVALUATION
M. P. SOCIAL FORESTRY EVALUATION

Distribution of Plantations by District, Year and Area-Size
(Unit: Number of Plantations)

District	Year	Size-Classes In Hectares (HA)				Total No. of Plantations	Total Area (Hectares)
		1-15 HA	16-30 HA	31-60 HA	Above 60 HA		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(Number of Plantations)							
Total	1981-82	10	-	-	3	13	355
(21 Dis-	1982-83	19	11	18	16	64	2,755
tricts)	1983-84	61	95	73	25	254	8,421.6
	1984-85	183	232	120	22	557	13,394.2
	1985-86	248	253	70	21	592	13,149.4
	Total	521	591	281	87	1,480	38,075.2
1. Indore	1981-82	1	-	-	-	1	10
	1982-83	-	-	-	1	1	100
	1983-84	9	8	4	4	25	442
	1984-85	-	22	7	7	36	747.5
	1985-86	20	8	4	3	35	750
	Total	30	38	15	15	98	2,049.5

District	Year	Size-Classes in Hectares (HA)				Total No. of Plantations	Total Area (Hectares)
		1-15 HA	16-30 HA	31-60 HA	Above 60 HA		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(Number of Plantations)							
2. Dewas	1981-82	1	-	-	-	1	10
	1982-83	-	-	-	2	2	152
	1983-84	1	2	9	-	12	458
	1984-85	6	12	11	1	30	766.2
	1985-86	6	22	6	-	34	762.2
	Total	14	36	26	3	79	2,148.4
3. Dhar	1981-82	-	-	-	1	1	75
	1982-83	-	-	1	4	5	450
	1983-84	6	7	8	3	24	786.8
	1984-85	-	10	4	4	18	849
	1985-86	1	8	7	3	19	750
	Total	7	25	20	15	67	2,910.8
4. Khargone	1981-82	1	-	-	-	1	10
	1982-83	10	-	-	-	10	100
	1983-84	3	5	4	2	14	490
	1984-85	7	9	8	1	25	752
	1985-86	15	22	1	2	40	780
	Total	36	36	13	5	90	2,132

District	Year	Size-Classes in Hectares (HA)				Total No. of Plantations	Total Area (Hectares)
		1-15 HA	16-30 HA	31-60 HA	Above 60 HA		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(Number of Plantations)							
5. Ujjain	1981-82	-	-	-	-	-	10
	1982-83	1	1	2	-	4	100
	1983-84	3	9	3	1	16	454
	1984-85	12	15	4	-	31	658
	1985-86	21	18	3	-	42	693
	Total		37	43	12	1	93
6. Ratlam	1981-82	-	-	-	1	1	75
	1982-83	3	-	3	3	9	450
	1983-84	7	17	4	2	30	763.5
	1984-85	10	17	8	-	35	750
	1985-86	6	19	5	-	30	752
	Total		26	53	20	6	105
7. Mandsoor	1981-82	1	-	-	-	1	10
	1982-83	-	-	3	-	3	135
	1983-84	11	14	1	-	26	451
	1984-85	12	20	4	-	36	753
	1985-86	2	21	3	-	26	778
	Total		26	55	11	-	92

District	Year	Size-Classes In Hectares (HA)				Total No. of Plantations	Total Area (Hectares)
		1-15 HA	16-30 HA	31-60 HA	Above 60 HA		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(Number of Plantations)							
8. Shajapur	1981-82	1	-	-	-	1	10
	1982-83	2	3	-	-	5	100
	1983-84	2	2	7	2	13	505
	1984-85	8	11	7	-	26	754
	1985-86	14	10	1	-	25	625
	Total	27	26	15	2	70	1,994
9. Avalor	1981-82	1	-	-	-	1	10
	1982-83	-	1	2	-	3	111.5
	1983-84	5	4	5	1	15	442
	1984-85	4	2	5	5	16	714
	1985-86	-	6	2	3	11	488
	Total	10	13	14	9	46	1,765.5
10. Morena	1981-82	1	-	-	-	1	10
	1982-83	-	1	-	1	2	100
	1983-84	4	2	6	1	13	457
	1984-85	3	6	8	-	17	480
	1985-86	2	4	7	1	14	560
	Total	10	13	21	3	47	1,607

District	Year	Size-Classes In Hectares (HA)				Total No. of Plantations	Total Area (Hectares)
		1-15 HA	16-30 HA	31-60 HA	Above 60 HA		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(Number of Plantations)							
11. Bhind	1981-82	-	-	-	-	-	-
	1982-83	-	-	-	1	1	78
	1983-84	2	11	3	-	16	467
	1984-85	7	14	8	-	29	750
	1985-86	3	13	1	2	19	750
	Total	12	38	12	3	65	2,045
12. Datia	1981-82	-	-	-	-	-	-
	1982-83	-	1	2	-	3	108
	1983-84	1	1	3	3	8	449.3
	1984-85	2	5	9	2	18	740
	1985-86	5	1	5	3	14	357
	Total	8	8	19	8	43	1,654.3
13. Shivpuri	1981-82	-	-	-	1	1	95
	1982-83	-	-	3	3	6	450
	1983-84	3	3	6	5	17	769
	1984-85	5	11	9	-	25	762
	1985-86	3	14	6	1	24	762
	Total	11	28	24	10	73	2,858

District	Year	Size-Classes in Hectares (HA)				Total No. of Plantations	Total Area (Hectares)
		1-15 HA	16-30 HA	31-60 HA	Above 60 HA		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(Number of Plantations)							
14. Guna	1981-82	1	-	-	-	1	10
	1982-83	3	3	-	-	6	100
	1983-84	-	4	8	-	12	456
	1984-85	11	13	5	1	30	745
	1985-86	9	12	4	1	26	663
	Total	24	32	17	2	75	1,974
15. Bhopal	1981-82	1	-	-	-	1	10
	1982-83	-	1	2	-	3	120.5
	1983-84	4	6	2	1	13	384
	1984-85	3	17	7	-	27	644
	1985-86	6	9	1	-	16	296
	Total	14	33	12	1	60	1,454.9
16. Rajgarh	1981-82	1	-	-	-	1	10
	1982-83	-	-	-	1	1	100
	1983-84	-	-	-	-	-	647
	1984-85	3	7	5	-	15	431
	1985-86	3	13	1	2	19	440
	Total	7	20	6	3	36	1,628

District	Year	Size-Classes In Hectares (HA)				Total No. of Plantations	Total Area (Hectares)
		1-15 HA	16-30 HA	31-60 HA	Above 60 HA		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(Number of Plantations)							
17. Sehore	1981-82	-	-	-	-	-	-
	1982-83	-	-	-	-	-	-
	1983-84	-	-	-	-	-	-
	1984-85	1	9	10	1	21	455
	1985-86	5	2	-	-	7	82
	Total	6	11	10	1	28	537
18. Vidisha	1981-82	-	-	-	-	-	-
	1982-83	-	-	-	-	-	-
	1983-84	-	-	-	-	-	-
	1984-85	12	10	-	-	22	338
	1985-86	17	2	1	-	20	237.8
	Total	29	12	1	-	42	575.8
19. Rajpur	1981-82	-	-	-	-	-	-
	1982-83	-	-	-	-	-	-
	1983-84	-	-	-	-	-	-
	1984-85	11	14	1	-	26	467
	1985-86	6	19	9	-	34	850
	Total	17	33	10	-	60	1,317

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District	Year	Size-Classes In Hectares (HA)				Total No. of Plantations	Total Area (Hectares)
		1-15 HA	16-30 HA	31-60 HA	Above 60 HA		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(Number of Plantations)							
20. Bilaspur	1981-82	-	-	-	-	-	-
	1982-83	-	-	-	-	-	-
	1983-84	-	-	-	-	-	-
	1984-85	29	6	-	-	35	401.5
	1985-86	43	17	2	-	62	786
	Total		72	23	2	-	97
21. Durg	1981-82	-	-	-	-	-	-
	1982-83	-	-	-	-	-	-
	1983-84	-	-	-	-	-	-
	1984-85	37	2	-	-	39	437
	1985-86	61	13	1	-	75	987
	Total		98	15	1	-	114

SOURCE: Madhya Pradesh Social Forestry Directorate.

NOTE : Figures under area may not be consistent with distribution of plantations.