



PDABL-315
95279

FORESTRY PLANNING & DEVELOPMENT PROJECT
Government of Pakistan-USAID

END OF TOUR REPORT

PROJECT NUMBER 391-0431-C-00-5021-00

Prepared by
Gary G. Naughton
Field Demonstration Forester

Tour Length July 1989 to May 1993

April 1993

 **Winrock International**

Technical Assistance Team

58, Margalla Road, F-7/2, Islamabad, Pakistan. Tel : 813262 - 813272 ~~Fax : 54252~~ WIFPD-PK Fax : 824519

FOREWORD

I had the good fortune to visit the Forestry Planning and Development Project during its initial phase in November 1986 as a USAID consultant/intern. What I saw then was encouraging, so it was an easy decision for me to take on this assignment when it was offered. Serving in Pakistan was one of the most rewarding of all my professional experiences.

From the beginning I want to express my warm personal regards to all of the foresters, farmers, and industrialists I have worked with in Pakistan over these four years. If any of the remarks in the following pages will help in any small way to improve our understanding of this project (and farm forestry in general) and what it means to the future of Pakistan, then this effort will have been worthwhile. I approach this writing with a great deal of satisfaction in the work, fully realizing that we are far from perfect in our effort, but firmly believing that we have charted a new course in the area of collaborative effort in private forestry development.

I am especially grateful for the friendships that have been formed during this work. There is no substitute for the trust and confidence that dedicated people can develop with each other in working toward common goals. My Pakistani brothers have been most gracious in their acceptance of my awkwardness with Urdu, patient with my slow understanding of how their "system" works, supportive when I was frustrated, and altogether kind and friendly to me.

There is a strange sense of finality about writing this report even though it was started more than 2 years ago while I was sitting out the Gulf War at Winrock Headquarters in Arkansas, USA. If the circumstances of that war had prevented my return to the project I would have been forever unfulfilled and frustrated. But the positive side of that episode is that I was goaded into starting this report early. That gave me a different perspective, and with the help of a word-processor, I was able to spend a few moments each week recording thoughts and ideas and events that seemed to be important to the history of the project.

I hope that this document helps us to achieve greater things in the future by being a responsible record of the past. We have changed the face of the landscape in Pakistan, and Insha Allah, have set the challenge for others throughout the world!

Pakistan Zindabad!

Gary G. Naughton
May 1993

TABLE OF CONTENTS

FOREWORD	i
SUMMARY	1
Major Accomplishments	1
Major Constraints	2
Recommended Actions	3
PROJECT DESIGN PROBLEMS	4
HISTORIC PERSPECTIVE	6
TEAM	7
FOREST DEPARTMENT (PROJECT) STAFFING	8
THE OUTREACH/EXTENSION MODEL	9
DEVELOPMENTAL STAGES OF THE PROJECT	10
CONCEPTUAL SUSTAINABILITY	13
TECHNICAL ISSUES	14
Tree Planting Emphasis	14
Tractors	15
Eucalyptus Pulp	16
Eucalyptus Chipboard	17
SOCIAL ISSUES	18
Women in Forestry	18
NGO Activities	21
Pakistan Tree Farm Society	23
MANAGEMENT ISSUES	24
Subsidy	24
Project Expansion	26
Mid-Term Evaluation	27
ANECDOTES	28
SCOPE OF WORK	APPENDIX A
LIST OF PUBLICATIONS	APPENDIX B

END OF TOUR REPORT
PAKISTAN FORESTRY PLANNING AND DEVELOPMENT PROJECT

GARY G. NAUGHTON, Field Demonstration/Outreach Forester
Phase II (10 July 1989 - 28 Feb 1993)
Extended (1 March 1993 - 31 May 1993)

SUMMARY:

Major Accomplishments:

1. Farmer's Training. In cooperation with the provincial project staffs, we held numerous field training sessions and tours for farmers on a broad range of practical subjects, mostly oriented toward intermediate management of plantations, harvesting and marketing of farm timber. Forestry staff received concurrent training at the same events. The ones which I presented are generally summarized as:

- a. Thin/prune: 23 sessions, 60 man months training,
- b. Harvest/market: 32 sessions, 70 man months training,
- c. Industry tours: 39 sessions, 50 man months training.

2. Wood producer's - wood user's linkages. In addition to the field programs listed above, contacts with over 60 individual wood using industries provided a lot of specific market information which was shared through the Newsletter as well as through informal regular contacts with foresters and farmers. One special effort was the Wood Producers - Users Seminar in Lahore in May 1990. Over 150 foresters, farmers and industrialists attended this and it set the stage for our continued activity over the next 3 years.

3. Development of the eucalyptus wood market. Details of this effort are covered in the main body of the report, but in summary I had personal and direct involvement in assisting farmers to put over 2,000 tons of eucalyptus into the industrial wood markets. This has had an extremely important effect on providing a cash incentive to help make the tree planting effort self-motivating.

4. Publications. I authored or co-authored 12 publications for foresters, farmers, and industries, and edited 3 technical reports for PFI (see Appendix for listing). In addition, I developed: (a) the "jungle stick" for measuring height, DBH, and volume of standing trees; (b) the technique of using the 5-paisa coin as a 10-factor angle gauge for measuring stand basal area; and (c) the method for using a tailor's tape for weight estimation for standing eucalyptus trees.

5. Developed and popularized the "Lok Shajarkar" project logo. I am pleased at the response to this and am proud to dedicate it to the people of Pakistan as the symbol of private forestry.

6. Established the Pakistan Tree Farm Society as a project sponsored and officially registered NGO to take up the task of maintaining the extension communication network for the farmer-forester-industry linkage after the close of the project.

7. I consider that my major contribution to the project was whatever part I played in gaining the special time extension of the project for 16 additional months past the original PACD. This is a major point of gratification to all of us and makes our project truly special.

Major Constraints:

1. The narrow focus of the PC-1 on "~~tree~~ planting" targets and the failure to recognize other measurable outputs such as management and marketing as legitimate project targets. This has kept the project from achieving enough, in the broader sense, in providing assistance to farmers. The TAT's farmer training program for fall 1992 was wiped out because of the heavy expenditure of local training funds on the Monsoon 1992 "tree planting promotional campaign". This caused a serious loss of momentum in our marketing program for farmers at a time when the opportunities for sale of eucalyptus were just starting to heat up. The "Tehreek Shajarkari" campaign of the Chief Minister of Punjab in Spring 1993 also caused so much confusion and disruption of the normal flow of project activities that we were again unable to address our objectives to provide management and marketing training to farmers. Too much emphasis on tree planting and not enough emphasis on tree marketing has held back the development of cash sales as the best motivator for tree planting in the future.

2. The bureaucratic approach to the project by the provincial departments creates unnecessary delay in getting work done. Even though certain officers and staff are posted to the project, they continue to be "picked off" by their superiors in the department to do other work which is not project focused and which disrupts the plans and project activities. At the field level there is a tendency for the forest officers to try to continue to exercise control over the production of seedlings in the farm nurseries, even when the project is supposed to be trying to help these nurserymen become independent. The nursery "contract" is being used as a means of holding back the operators from moving ahead in direct selling of their planting stock and is stifling the private initiative in this area.

3. Frequent shifting of CFs and DFOs in and out of the project, to the extent that it was sometimes difficult to develop working relationships and accomplish any field work. Social forestry depends upon the building of confidence and trust with the people. This takes time and commitment to properly develop; when the staff are constantly rotated or replaced, the rhythm of the work is seriously disrupted.

4. Travel restrictions due to civil unrest and dacoity.

5. Communication difficulties (mail and telephone), and the tendency for forest officers to keep, rather than distribute, the materials developed for the farmers and junior grade officers and staff (newsletters, pamphlets, technical guides, etc.). When the TAT tried to get around this obstacle by direct mailing or direct delivery of these materials, we were criticized for going "outside" project channels.

6. Lack of interest and/or capability at PFI and PFRI to conduct any continuing and meaningful extension/outreach programs. Even though we have sponsored some really good farmer's field day events at these institutes, the institutes themselves take no initiative in continuing this type of program. These important centers of knowledge and information are missing the opportunity to move ahead by becoming interactive with their "clients".

Recommended Actions: (for the remainder of the project)

1. Hold more frequent project staff meetings, and include the provincial Project Directors each time. In many ways we have four separate projects instead of one coordinated project.

2. Provide help and advice to the Punjab and NWFP forest departments as they move to implement social/extension forestry wings, as outlined in the Forest Sector Master Plan. These organizational changes are timely and have been moving forward under their individual department efforts. Challenge the research institutions (PFI and PFRI) to implement workable outreach and extension programs in support of this change.

3. For the fiscal year 93-94, try to get the provincial staffs to include targets for intermediate tree crop management and for marketing of farm trees. The necessary level of activity in Punjab and NWFP should be about 30% of the total staff time on these activities; for Balochistan it should be about 25%; and for Sindh about 20%. This should be done by interpretation of PC-1's, not by amendment of the documents.

4. Encourage the private industries to hire new graduates from PFI. Forestry professionals in Pakistan need to broaden their outlook beyond the confines of the forest departments as their only source of employment. Some industries are ready to try to absorb foresters on their staffs, but are reluctant because of poor past experience with retired officers. They want to train fresh people.

5. Be aggressive about pressing for duplication of the basic FPDP model in all new forestry project activities, especially when dealing with the design teams from World Bank and Asian Development Bank which are coming to Pakistan in the summer of 1993. Our model is working well and we should press the advantage.

6. Discontinue the nursery contracts in Punjab for one full season so that the money can be used to pay up the backlog of nursery contracts (some still holding over since 1991).

PROJECT DESIGN PROBLEMS:

Most of our problems arose from the way in which the project was designed, so I have started my personal remarks with that focus. During Phase II, we managed to re-interpret most of the problem areas and solve them on a day to day basis. The discussion offered here is for the purpose of helping us improve the sustainability of future social forestry operations.

1. **TARGETS** were all set on the basis of traditional forestry works of accomplishment such as number of trees planted, number of acres, number of nursery farmers, number of seedlings produced, etc. There were no real measures for outreach and/or extension efforts such as: the number of meetings held, contact hours of farmer training, number of news stories, radio programs, mass media events, number of repeat clients, number of volunteer clients (off the street), number and type of extension publications, etc.

2. **TRAINING** was always couched in the formal context of structured coursework. There was no legitimate format (in the plans) for conducting and reporting of farmer training in the informal on-farm context as used for extension and outreach types of programs. We conducted thousands of hours of farmer workshops, demonstrations, meetings and tours. Yet USAID continued to be somewhat critical of the effort because we didn't hold "traditional" training programs of several days' duration for the farmers. Our approach was, consciously, to attempt to get the farmers home before dark at the end of any training event. Only in a few isolated cases were the farmers asked to be away from home overnight.

3. **INDUSTRY** as a project client was more or less totally overlooked in the design, except for the presumption that it would provide markets for farm wood products. There was no provision for training people in the industrial sector or in treating them as project clients; yet the key to institutionalizing private forestry is in the strengths of the industrial based wood demand and market infra-structure. We set about to change that, to bring the producing farmers and the using industries together to strengthen market linkages. It took nearly one full year to get the first movement in this direction; then it started to become self-motivating, and the project efforts were immensely strengthened.

4. **BUDGET** for project activities did not identify an expenditure line for extension/outreach. There are a lot of expenses related to the production of photos, videos, bulletins, farm meetings and programs, mass media efforts, etc., which had to be re-identified as "local training" inputs in order to make them

work. If a project has an active program of interaction with farmers or other private citizens (direct clients), an "extension" line should be identified in the budget.

5. CONCEPT of the project was too conservative in that it did not presume an operable level of **success** which would spin off new issues and new opportunities for development of the private sector of the forest economy. The concept was especially weak in its failure to understand or consider the willingness of the forest industries to interact with farmers and foresters and devote some of their resources to project support. It failed to anticipate a whole new set of project activities and achievements that would be generated by the successful tree planting program. Such things as thinning, pruning, coppice management, harvesting, and marketing were not given legitimate consideration in the project plans, targets, and allocation of resources. Consequently, it was extremely difficult to get the forest officers to spend their time on these essential activities because they were not specifically targeted by the PC-1, and thus were outside the criteria by which the officers themselves are evaluated on their ACR.

Furthermore, the ASSUMPTION that farmers would be primarily motivated to plant trees for fuelwood was in error. Farmer's motives are as complex and as variable as the lands on which they live. Sometimes their first consideration for tree planting was shade, sometimes fuelwood, and sometimes cash income. But the over-riding common motive is, and has been, to improve cash income from their lands. Farmers sensed from the beginning that the trees would fill a market void with good income potential, and that the residues of their management and harvesting activities would produce fuelwood, shade and fodder as by-products.

6. STAFFING (TA Team) -- it appears that USAID was operating under the erroneous assumption that social forestry should be delivered by social scientists. Coming from many years of research focus in their programs and projects, USAID did not have a clear understanding of the power and capability of extension forestry specialists in delivering technical forestry advice and training in a socially acceptable way to laymen. But, just as research is a technical specialty within a professional discipline, extension is also a technical specialty within that same discipline. Social scientists have proven their value in studying and surveying and accumulating base data, but seem not to be able to fill the role of change-agent in a project of this type because of lack of training in the professional forestry discipline. In Phase I the project missed the opportunity to develop the outreach/extension potential of the forest departments, and was far behind on this point when Phase II started. In the words of one of the Social Scientists employed on Phase I of the project, "we got along all right until some farmer would take us to his field, kick the soil, point at the spot and ask, 'what kind of tree should I plant right here?' At that point we would begin to lose our credibility."

7. LOCAL LEADERSHIP did not develop along the lines envisioned by the project design. ~~VILLAGE~~ MOTIVATORS were mostly ineffective. Part of the problem was the low rate of pay (Rs 600/mo.) which was not tied to any level of accomplishment incentive. But, the most important reason for the lack of results was the manner in which the motivators were chosen, which was more a function of their relationship to local leaders than it was to their own abilities to communicate, motivate, or influence the thoughts of others. Likewise, the motivators generally were not selected from among the successful tree planters, nor were they particularly knowledgeable about what they were doing. ADVISORY COMMITTEES failed to develop, for the most part, because they were not trusted by the forestry departments, and tended to be organized by local leaders with political power. Depending upon the shifting winds of politics, we saw some of these very effective local leaders being favored or ignored by their forest officers out of fear of reprisal from the political hierarchy. The concept of local committees is still good as a communication device between the farmers and their forestry advisors, but it needs to be given much higher profile in the project terms of reference if it is to be effective.

HISTORIC PERSPECTIVE

Based on the experiences of the National Social Forestry Project in India (World Bank), as well as the collateral USAID Social Forestry Project there, I was apprehensive that some of the same problems would be repeated in Pakistan. These problems from India are partially addressed in the paper by N.C. Sexena, "EUCALYPTUS ON FARMLANDS IN INDIA: WHAT WENT WRONG?", Unasylva 170 Vol. 44, 1992, an earlier version of which has been in circulation since 1987 or 1988.

My own analysis of the situation pointed to a lack of market knowledge as the critical problem of the Indian experience: as late as 1986, when I was first there, there had been no effort on the part of the social forestry officers to learn about the market demands or to aid the farmers in finding market outlets for their trees. Even worse, the foresters were in the habit of telling Indian farmers that their eucalyptus would be worth Rs.100 each at the age of 5 years! At the same time that Indian farmers were raising millions of eucalyptus and Indian paper mills were using eucalyptus for paper, there was still a market linkage failure because of the Indian Forest Service's policy of providing eucalyptus from its government plantations at a 50% subsidized rate to the pulp mills!

This steady flow of subsidized raw material into the only large volume sector of the market effectively destroyed the opportunity for the Indian farmers to make a decent return on their investment from growing eucalyptus. Massive destruction of plantations by the farmers themselves was the final outcome in many areas, and the private forestry movement suffered enormously.

A second serious problem recognized from the Indian experience was that farmers (there) took less interest in their tree plantations because the forest department supplied all of the materials and most of the labor and protection for the first two or three years. The FPD Project was designed to avoid that, but we had to resist constant pressure to increase the amount of government assistance. One of the things we needed (and got) was recognition by the political leaders of the value of this project. Yet this also caused problems because ministers and legislators all wanted to 'get into the act' by proposing their own additional schemes. Some of these were too quickly proposed and too inadequately thought out, so the basic, simple model of the FPDP was frequently in jeopardy of being made complicated by the politicians.

TEAM

The technical assistance team on Phase II worked together very well as a unit. The addition of the two Pakistanis, Tahir Wadood Malik (November 1989) and Mahmood Iqbal Sheikh (February 1990), to our team was a great success. Their ability to help us understand the best approach to use in introducing ideas, and their excellent multi-lingual communications skills were an essential part of the success of the project. The fact that one was a retired military officer with a unique set of skills and the other was an eminently respected retired forester officer was of considerable advantage to the project. The TAT was initially criticized for hiring a non-forester, but we were not short of forestry expertise. It takes a variety of skills and talents to field a winning team, and we found the right combination.

Team building between the TAT and the GOP project staff was facilitated by the housing of the offices for the 3 Deputy Inspectors General in the same building with the TAT. It was still difficult at times, because of non-project duty assignments which side-tracked these men from FPD Project activities. Regular dialog and frequent joint field visits helped to keep the working relationship viable.

One of the biggest problems was the paucity of travel funds for the O/IGF. Only one of the three deputies was on the project budget line for salary and travel. Consequently, the other two had to share travel allowance with the Inspector General, and the three of them combined were allocated only Rs 4,000 per month (about the cost of one round-trip airline ticket to Karachi). So, there were many occasions when the O/IGF representatives were not able to accompany us on our field assignments. This was finally settled in September 1992 (7 years into the project!) when we got permission from USAID to use project funds to cover the cost of O/IGF travel on project business at the GOP internal rates of compensation. We can only speculate at the cost of this problem in terms of opportunities missed.

FOREST DEPARTMENT (PROJECT) STAFFING

There was a constant sense of vacillation of commitment to the project from the Provincial Forest Departments. People were either replaced frequently, not assigned, or were assigned on split appointment vis-a-vis other territorial forestry duties. Many of them were totally ineffective and never did get the real flavor of social forestry and the private sector initiative. Punjab at least went through the motions of setting up a formal project staff structure; and, it worked pretty well most of the time. Punjab had a full-time Project Director for the period of April '89 through October '91, and from May '92 onward. This enabled us to get a lot of work done efficiently. But we did lose out on team-work and communication when the Punjab staff shifted away from TAT headquarters to the new facilities at Soan Camp in May of 1992.

Sindh also appointed a full-time Project Director in July '91, but then proceeded to assign him additional responsibilities under the new Asian Development Bank Social Forestry Project. This problem was further compounded by massive re-assignments of field personnel during the fall of 1992 (including a new Project Director), and it made our work progress in Sindh very slow.

In both NWFP and Balochistan, the project directors were from the CF ranks on the territorial side, and in both cases they were deputed to the project on "20% assignment". This was never a workable arrangement, and except for the skill and dedication of the Range Officers appointed to the social forestry staff, the project would never have made any impact in these two provinces. The system of constantly re-posting DFOs and CFs has an adverse affect upon project momentum and continuity.

Civil unrest, kidnapping and dacoity in various forms made it extremely difficult for the Americans on the TAT to travel in Balochistan and Sindh. I was unable to travel to the project area in Balochistan during the last two and one-half years of my assignment, and was frustrated by frequent cancellation of travel plans to Sindh for security reasons.

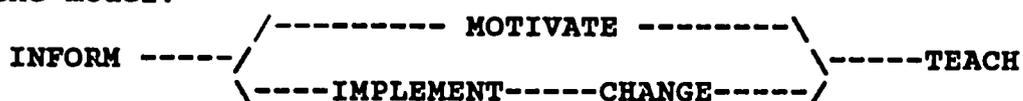
Assignment of project DFOs and RFOs to the task of building construction reduced their effective availability as field staff to work with the farmers. The construction phase was so slow in being completed that some officers were never really involved in farm forestry throughout the life of the project. New projects with forest departments should keep this in mind and attempt to specify that construction be supervised by non-project personnel from either the Forest Department or the Department of Public Works.

Not enough importance was assigned, under the project, to the staffing of the extension positions at the research institutes (PFI and PFRI). This made it really difficult to get any client needs presented to the research scientists, and made it nearly impossible to translate results back to the field users. As a result, almost

no research of interest to the clients was conducted under this project. Likewise, when the idea of farmer's field days at research stations was introduced, it could not be sustained because the directors had nobody available to delegate this job to, and the directors themselves were always too busy or too distracted to become proactive in this effort. These institutes represent a tremendous stockpile of personnel, equipment, talent, machinery, and potential capability. Yet they will not reach their full potential value until they become actively involved in sharing their capabilities with their private sector farmer and industrialist clients.

THE OUTREACH/EXTENSION MODEL

Our field demonstration and outreach (extension) program was based on the model:



This model implies a continuous process in which the technical advisors (forest department) and their clients (farmers and industrialists) constantly interact. As one new activity passes from the information stage, through motivation, to teaching it will evolve and be adapted by the audience, and finally implemented in some form. This process, in itself, creates new questions and the need for new information, which then re-iterate the process at a new level.

The model works very well in the case of farm forestry. It is simple, self modifying, and sensitive to advisor/client interaction. Farm forestry extension is a low intensity system which does not rely on frequent and repetitive visits by the advisor. Whereas traditional grain crops might have an "action window" of only a few days for the performance of some critical task in management, tree crops typically have from several months to a year or more available from which to select the timing of management interventions.

Demonstration of farm forestry activities is mostly static. The plantation will last for a good long time and during this period it serves as a constant, although gradually changing, demonstration of management technique and new ideas. Because of the long-lasting nature of these tree plantations, we made a special effort to assure that the first innovators in a farming community were successful in their efforts. In many cases this meant frequent and repeated follow-up visits to counsel with the farmer and provide encouragement as well as technical support. In a few key situations, I personally made dozens of visits to the same individuals to make sure they followed through correctly on management interventions.

DEVELOPMENTAL STAGES OF THE PROJECT

From the perspective of the field operations, and particularly the outreach and extension effort, the project went through (or evolved into) at least four distinct stages. These stages of development did not occur uniformly over the project area for numerous reasons -- most importantly, these stages were reached more quickly in those districts where the individual efforts of the project foresters were the most diligent and persistent.

The development stages that I identify in this regard are:

SELF-SUSTAINABILITY

SELF-MOTIVATION

DEMONSTRATION

INITIATION

Except for Sindh, which did not commence its farm forestry outreach activities until July 1991, most of the project districts essentially began the INITIATION stage at the same time, along in the summer and fall of 1985, after the TAT was in place. This was the most difficult period in the project, during which all of the inertia and resistance that had developed over long periods of time needed to be overcome. Foresters needed to be assigned, motivated, indoctrinated, trained, organized, and put to work on the crucial business of contacting farmers. The focus during this stage was to attempt to share information and to begin to motivate farmers to take action. One or two districts had moved through this stage after about 20-24 months (Winter 1987), while others continued to struggle at this level for up to 4 years.

The DEMONSTRATION stage began to evolve as soon as there was some accomplishment on the ground by the participating farmers. At first, this was limited to a scattering of a few small plantations from seedlings provided by forest department nurseries. It would have been totally inadequate if the demonstration stage had continued to depend upon this limited source of seedlings.

The real breakthrough on the demonstration stage came when the first kissan nurseries were ready to make their first distribution of seedlings to local farmers. These farmer-owned nurseries provided a much needed focal point for the project. They not only attracted the attention of other farmers, but they also were a point of very frequent contact by the technical advisors from the forest departments. The transfer of simple nursery technology from forester to farmer was, in my opinion, the key element in making the project move. Farmers quickly discovered that they could go there and ask questions and get advice from the forester and/or the nursery farmer. In addition, the nursery farmers were the key motivators because their contracts to grow seedlings were dependent upon the local demand from farmers who wanted to plant trees.

The demonstration stage also included the "field proof" of successful planting and raising of trees on farms in the neighborhood. By the time the first trees were two years old they had become quite visible and noticeable on the rural landscape. This attracted the interests of additional farmers. When farmers saw others successfully growing trees they were encouraged to try it themselves. The project, of course, took every opportunity to increase the visibility of these early successes by conducting field meetings and farmer's tours in which farmers were given the chance to talk directly to the early adopters and get answers to their most important questions. Foresters conducting these tours also became known to the curious new farmers and a rapport was established.

The first district reached this demonstration stage after about 48 months from the start of the project, while others were just entering this stage after 65 or more months.

The SELF-MOTIVATION stage is best gauged by the kind of day-to-day client contact which is experienced in the field. When the field forester begins to realize that a large proportion of his farmer contacts are from people who seek him out, as opposed to the early stage practice of looking for people to talk to, the project is approaching the point of self-motivation. This stage is triggered by the perception of success in the minds of the target audience. It may or may not be predictable in advance, and it may or may not be related to a specific activity of the project staff. We can only attest to the fact that, until self-motivation begins, any project can be a failure.

In the case of the FPDP, there were a series of inter-related successful activities which sparked the self-motivation stage. The most important was probably the fact that eucalyptus trees planted on many farms in the project were growing at an average rate of one foot of height per month for the first four years. A lot of strange, white-barked trees 20 to 30 feet tall were suddenly a part of the landscape, and they attracted attention. It became common knowledge that, if you had eucalyptus trees you planted them yourself, because God in his wisdom had not put that tree in Pakistan.

A natural consequence of the fast growth of trees is the concomitant interest in using them for something. We went to work with a great effort to get trees sold, cut, and hauled to market. As more and more farmers began to put rupees in their pockets from this new harvest, the project really began to take off under its own momentum. Demand for seedlings doubled and then doubled again in those districts that had entered the self-motivation stage.

The first district to achieve this status (Attock, Punjab) arrived at this new level in the fall of 1990, about 65 months after the start of the project. By fall of 1992, about half of the districts had moved up to this stage, but others continued to struggle.

The final stage, SELF-SUSTAINABILITY, has not been fully achieved by any district at the time of this writing. Fortunately, some 14 months of project effort remain, during which time one or two districts might (and should) be able to make this claim. If even one of them makes it during the life of the project, then the others have hopes of achieving this stage also. Identifying this stage of self-sustainability is not a simple process.

For example, there is an implied intent on the part of the cooperating farmers that they should have continuing technical advice and contact with their forest departments. So, one test point is: does the forest department maintain some social forestry staff as a means of continued support to tree farmers (in the absence of outside donor support)?

Also, the NGO linkage between forester-farmer-industrialist, which was established by the project to engender a sense of free enterprise cooperation and private sector responsibility, is a key to the continued communication of needs between producer and consumer in the market. Will this NGO (the Pakistan Tree Farm Society) survive under its own initiative and voluntary resources after the project ends?

It is quite one thing to convince, assist, and support the tree planting activities of a few thousand farmers, and quite a different thing for farmers to permanently adopt tree farming into their farming systems. Farmers will, in the long run, continue to do those things which are economically rational from their point of view. This would mean that the utility and/or marketability of the tree crops fills a recognized need, is practical, and meets the farmer's expectations from his land, labor and time invested: Will farmers grow a new crop of trees after their first crop is harvested?

Inadequate supply of wood to meet the burgeoning market demand has been the built-in motivation of the private sector in this project. We continue to assume that over-supply is beyond physical possibility for at least one more generation (25 years). If this is truly the case, then there should be an expanding opportunity for farm grown wood to fill the market void. The reason we can't accurately predict the result is because the high proportion of the farm grown wood is eucalyptus, a species which is exotic and not yet fully tested and demanded by the market place. Although we have led the struggle to obtain this market acceptance by teasing and tempting and underwriting market tests, the question still remains: Will market-user innovations and development continue the testing and adaptation to this new species after the project ends?

The planners and designers who put this project together envisioned that the kissan nurseries would graduate from their dependence on project funds into direct-sales businesses as the demand for tree seedlings increased, farmer confidence in the

benefits of tree crops increased, and as the project phased out the subsidy. This has essentially happened with the poplar and bat willow nurseries. But, these species have no problem of acceptance in the market. Although there are some sporadic sales of eucalyptus seedlings, this species is a long way from being able to sustain kissan nurseries on a commercial footing. What will happen to eucalyptus seedling demand when farmers have to pay the full market cost for the seedlings?

Finally, self-help on the part of the industries has been significantly lacking in Pakistan. Industrial wood users have only begun to wake up to the fact that they have a vested interest in the production of trees to fill their raw material needs: Will the industries dedicate some of their capital resources to producing trees, either on their own lands, on leased lands, or by contractual arrangement with Tree Farmers? (At the time of this writing we have four industries actively involved in tree planting and/or tree farming: Faruki Pulp Mills, Orient Match Company, KDC Plywood, and Pakistan Tobacco Company, but they represent only a token effort at this point).

CONCEPTUAL SUSTAINABILITY

When we look beyond the parochial interests of the Forestry Planning and Development Project, it becomes apparent that, even if the particular activities of this project fail to be sustained by the benefactors for their own future interests, there is evidence that the concept promulgated by the project is sustaining itself in Pakistan:

- * The privatization of forestry as an economic activity has been successfully initiated;
- * The government, the forest departments, and the people have effectively accepted the legitimacy of the production of forest products from private lands as a proper, necessary, and profitable venture;
- * The role of the forest department as a provider of services to the private sector has been established and accepted;
- * The working linkage between farmers, industries and foresters as a means of communicating ideas, needs, and market knowledge has become so useful that it will certainly be continued by the primary benefactors.

Some of the most encouraging evidence to support this claim of conceptual sustainability comes from the other donor supported projects in Pakistan which have adapted their social forestry projects along the lines of the FPDP model:

1. Malakand Social Forestry Project (funded by the Kingdom of the Netherlands) designed and instituted a "farm forestry" component in July 1990, using our model. This was a major addition to their own "village commons" model, and was taken up as a means of finding a new way of interesting their target audience in growing trees. This was successful enough to be permanently incorporated into the project design for Phase II of their project which began in July 1992 and will run for 5 years. The key factor in this shift was that the individual farmers were able to take unilateral decisions to get involved in a productive effort, while the village committees continued to talk about it.

2. Barani II Integrated Rural Development Project (funded by the Asian Development Bank) starting July 1991. Social (farm) forestry was not a part of Phase I, but was designed into Phase II because of farmer demand. The model was exactly like FPDP, some of the Tehsils were adjacent to our project (or a part of our project), and the actual implementation was facilitated by deputing the forestry staff of Barani II into the Punjab FPDP forestry cadre. They effectively became an extended arm of our project in 3 tehsils with the forestry activity of their project being coordinated by the Punjab project director for the FPDP. This project will run through 1996.

3. Punjab Farm Forestry Extension Circle. This unit has been organized since the early 1980s and is working in the parts of Punjab not covered by the FPDP. A new Farm Forestry Extension Wing has been proposed which would cover the entire province and would adapt the FPDP model into the extension program when the project closes.

4. Sindh Forest Development Project (Asian Development Bank), which began operations in July 1991 has incorporated the FPDP model into its farm forestry component, and is operating in districts adjacent to those under the FPDP.

5. World Bank (new project identification - 1993) for funding of Forestry Sector Development in Punjab, and Asian Development Bank (new project identification - 1993) for funding of Forestry Sector Development in NWFP, will both have major components for farm forestry patterned after the FPDP and taking advantage of the lessons learned under our project.

TECHNICAL ISSUES

TREE PLANTING EMPHASIS:

Even after the motivational programs to get farmers to plant trees and raise nurseries were well entrenched and operating successfully, there was a tendency on the part of forest department personnel to continue to request the TAT to devote a lot of its time and effort to this part of the project. In reality, we very early saw that this effort did not require continuing input from us

(beyond a ceremonial function), and we were not interested in consuming great amounts of our time in this repetitive process.

Trying to move the program forward to new dimensions of intermediate stand management (pruning, thinning, weeding, etc.) and to first cycle harvesting and marketing, was difficult. This was largely due to the fact that these activities were not targeted outputs in the PC-1, and there was great reluctance by foresters to spend time on things which would not tally on their charts. It is also true that a great many of the foresters who were confident in the areas of nursery production and tree planting, were not well skilled in plantation management and forest products marketing, harvesting, etc. Corrective training when tried, was mostly unsuccessful because the foresters were reluctant to admit that they **needed** it!

TRACTORS:

USAID provided tractors which were not used to great advantage. Indeed, it is difficult to understand why the tractors were provided in the first place (except for Sindh, in which case the need for them in managing the government plantations was easily justified). There were 27 tractors in total; big diesel engine Ford 5610-II, painted yellow instead of the standard blue color. When we began Phase II, most of these tractors had less than 20 hours on them, even though they had been issued nearly two years earlier.

Each tractor was issued with a complete set of SNAP-ON tools, a large supply of replacement air and oil filters, and implements including a land-plane, a front mounted (snow) blade, and an 8-foot tandem disk. The front blades were shipped dis-assembled, with the 5 major component parts mis-distributed in such a way that all of the 27 units of one part went to one district, all of the 27 units for another part went to another district, etc. The hydraulic kits and the assembly instructions were found in still another district, and it took several weeks to sort out this logistical headache.

With the expert help of G.E. Slagle, consultant, the tractor implement parts were sorted out, re-distributed, and fabrication of some attachment mounts was done at local blacksmith shops. This was followed by a series of training schools for the tractor operators under field conditions, to give them practical experience in attaching, adjusting, operating and maintaining the equipment. One year after the tractor training, the use had increased significantly and the tractors were finally an operating part of the project.

The DFOs have gained confidence in this machinery, and have come to realize that, even though the tractors are bigger than the Ford tractors used by farmers, and are a different color, most of the repair and replacement parts are interchangeable and therefore available on the local market.

By mid-1991, the project directors were trying to get us to supply more tractors.

EUCALYPTUS PULP:

There are 28 paper mills operating in Pakistan, none of which were using wood in their pulping processes by the end of 1990. Most of them operate on wheat straw, waste paper, river grass, bagasse, and imported manufactured wood pulp. The pulping qualities of eucalyptus were only vaguely familiar to the chemists at these mills, so an effort was launched by the TAT to find out if we could get the mills to take up the production of wood pulp as a partial replacement for the imported pulp they were accustomed to using.

Gerald Wire was hired as a project consultant for this activity. His previous work in Pakistan had familiarized him with the industry and the people and equipment in the plants. After a very thorough analysis of the feasibility of producing eucalyptus wood pulp, a special test-run was conducted at the Adamjee Paper and Board Mill, Nowshera, in January 1991. This test used 4 and 5 year old eucalyptus purchased from 5 project farmers in Attock.

A farmer's field day was held at the mill as part of the event, and good quality eucalyptus paper came off the mill in very impressive fashion. This event has increased the interest of the paper industry in using farm produced wood, and has increased farmer confidence in the raising of trees as a cash crop.

Faruki Pulp Mills, Ltd., contacted us in the fall of 1989 and collected data about the amount of eucalyptus tree-planting being done under the project. During these early contacts we found out the company's intentions to import a used Kraft mill from Sweden and set it up in Gujrat and operate it on entirely eucalyptus feed stock. We were especially skeptical of the plan in those early months because of the size of the investment needed and the low probability of achieving the objective.

Over the months (and years) we maintained a working contact with Faruki and provided as much information as possible to help answer numerous technical, economic, and biological questions that arose. Years of hard work and determination are now very near to the pay-off. The necessary financing has been secured, the mill has been received on site, construction of the civil works are well under way, and the company has established a forestry division of 15 people to work with local farmers to grow trees.

Some new and challenging problems and questions seem to arise weekly with regard to this project, but things continue to move. As proof of good faith, the company began to raise its own eucalyptus nursery of 1 million plants for distribution in spring 1993. In addition, they bought out 40 of the FPDP kissan nurseries in Gujrat and Gujranwala districts, and are distributing these seedlings free or at subsidized prices.

This private initiative, taking its ideas from the FPDP model, is in a position to do more for the sustaining of farm forestry than any other single effort we have seen thus far.

EUCALYPTUS CHIPBOARD:

There are 14 Chipboard plants operating in Pakistan, three of them using mostly wood as a raw material and the remainder relying upon bagasse. In trying to drum up market interest for eucalyptus from farms, we went directly to the issue of producing chipboard from eucalyptus.

Technical tests conducted by PFI had shown promising results, but the response of the industries was poor, reflecting their low confidence in PFI. We worked on these 3 mills with steady pressure through providing excerpts of technical information, showing them some of the farmers' plantations, and commiserated with them over the problem they are facing for their future wood supply.

In December 1991, after over 2 years of continuous effort, one of these mills, Pakistan Chipboard at Jhelum, finally acquired enough eucalyptus wood to make a run of one shift in the plant (about 30 tons). The results were very positive and the response of the mill manager was that he was ready to begin buying eucalyptus at the same delivered price as for the mango he customarily used in his process. This mill took in nearly 500 tons of eucalyptus in December 1992, just one year later.

We publicized the results of this test by sharing samples of the particleboard with other wood using industries, project foresters, and farmers. We also made special note of this accomplishment in our Farm Forestry Newsletter, along with information on how the farmers could contact the plant. Then we put forth a challenge to the rest of the industry in our Wood News (a periodic newsletter directed toward industry).

Six months after the first test, KDC Board, also located at Jhelum, quietly acquired a supply of eucalyptus and ran its own tests. When we discussed the results during a routine office visit to the plant, they told me that it was good and that they were ready to "buy a million tons".

Although very competitive, the operators of these two adjacent mills are personally friendly toward each other, and it is probably presuming too much for us to take the credit for getting the second mill to run the trials. But, the results were positive, and another entry was established in the market.

It should be noted here that the management styles of these two mills are quite different. In the first case, I was notified in advance of the tests and was able to be at the mill during the run. Whether the operator gained anything from my presence is uncertain, and he would have carried on without me. In the second case, nothing was said about the tests until after they were successfully completed. It is of great importance to be alert to these differences when dealing with the private industries.

The third mill, Crescent Boards of Faisalabad, has also conducted tests on eucalyptus and has, up to now, made no plans to enter the market. This mill, associated with a large sugar refinery operated by the Crescent Group, uses bagasse as its primary raw material and mango as a supplement. Being much closer to the source of the mango (coming from old decrepit orchards in the Multan area), Crescent can leverage a greater share of the mango market because of lower transport costs.

Even though nearly 600 tons of eucalyptus have been sent from farms to these mills in the past 18 months, and in spite of the favorable technical qualities of the wood, these mills are still not paying more than 85-90% of the price they offer for mango. Our work here is not finished!

SOCIAL ISSUES

WOMEN IN FORESTRY

In the fall of 1988, 4 women were recruited for the PFI social forestry course, 2 at the BSc level and 2 at the MSc level. They were fairly well integrated into the training program, and were accepted by the men students as "sisters". Many of the faculty, however, were quietly opposed to this move and had various levels of skepticism, doubt, and dislike for their presence. Some faculty seemed openly supportive of the women.

There were no housing facilities available for them, so special arrangements were made with Peshawar University. A Women's hostel was included as part of the project's construction program for PFI, but was not completed in time for this first class of women to use it. Two more women entered the program in 1989. The first 4 graduated in October 1990, but no new women were recruited that year. In October 1991, 13 new women students joined the incoming class.

Jobs for these first four women graduates were problematic. In order to break the ice for these ladies, TAT offered all four of them positions on the project, beginning in November 1990, to work in the field at the tehsil level to develop women's tree planting programs. This opportunity was facilitated by the personal interests of Mr. S.K. Khanzada, Punjab Secretary of Social Welfare, and formerly Sec. of Forests. Through his interests, a special liaison was created between Punjab Forestry and Punjab Social Welfare to accommodate the effort. The concept was to have the women foresters to work closely with the female social welfare officers and local NGOs which were promoting women's and children's welfare.

Only two of the four women accepted our offer for work. One of the others found a part-time position in her native Balochistan, and the other enrolled in Medical School upon graduation from forestry. The two women hired by TAT, Mamoona Wali (SDFO) and

Nighat Mansoor (RFO), were placed under the direct supervision of the DFO Rawalpindi, and given grade and pay equivalent to that which would be earned by a regular Punjab Forest Dept entrant (grade 16 for the BSc and grade 17 for the MSc).

In meetings with the DFO about how to make the women's program more effective, he confided to me that he was not comfortable with women foresters working for him. This was no surprise to me, since I had also experienced the same reluctance when the first women showed up in my unit several years ago. Regardless how the people at the top of the forestry services support the induction of women into the profession, men at the field level will continue to feel reluctant and uncomfortable with women working in the profession. This problem will only disappear when the women are posted alongside the same men that they were trained with at PFI, because they will already know and understand each other.

Housing, office space, and travel arrangements were sensitive issues. Housing for these single women was arranged by locating one of them in her home town so that she could live with her parents; and locating the other one at the Rawalpindi Social Rehabilitation Center so she could have space in a women's hostel (this one quickly resolved her housing security problem in her own way by getting married and moving to Pindi with her husband).

Office space of the Social Welfare officers was supposed to be shared with the foresters, but this did not develop satisfactorily. What began as an optimistic experiment to channel the women's forestry program through the network of the Social Welfare Department never did materialize. We don't know all of the reasons for this failure, but it was at least partly due to bureaucratic conflicts of interest between the people involved, and at least partly due to fact that the forestry program was field oriented while the welfare program was more or less office-bound. During our first internal six-month review of the women's program, it was decided to terminate this linkage to the Social Welfare Department.

Both the lady foresters eventually wound up working from their homes. There was no serious effort on the part of the forest department to provide the women with office space.

Transportation was difficult because there were neither enough drivers nor enough vehicles in the Punjab social forestry unit for the addition of these women. They could not use public conveyance when traveling alone, and the social welfare officers had little or no transport to share. The women solved their transport problems by hiring family members to drive them back and forth to the field on motorcycles. This use of private motorcycles was initially disallowed by the department but was finally worked out.

The most workable solution to the transport problem was to go to the private market and rent a car and driver on a monthly retainer basis. Once this was done (for Mamoona in August '91), the next problem was that the car made her so mobile that nobody could keep track of her movements, and she became very independent.

For the first several months it was difficult to get the lady foresters included in such things as field trips, staff meetings and project sponsored training sessions. But, these ladies were real pioneers and kept up their work and eventually carved a niche for themselves. On those occasions when they were included in field trips and meetings, they were still separate during meals and tea breaks and did not really have an opportunity to interact with the rest of the staff during discussions.

In winter 1990, the Punjab government announced the intent, through newspaper advertisements, to fill some forestry vacancies in the professional grades. It was our intent to "mainline" these ladies as rapidly as possible so that they could have regular entry, full-fledged professional status. However, the announced openings specified "men only", and we were not successful in getting it changed. Then in July '91, we learned that the CCF Punjab had decided that none of the PFI scholarship positions offered to him through our project would be offered to women. This triggered an immediate response from USAID, suggesting that none of our scholarships would be awarded to Punjab if that policy remained in effect. In the end, 13 new women were enrolled in PFI in the fall of 1991.

In June 1991, SDFO Mamoona Wali was sent to the US for short course training at the University of Idaho. This was a successful undertaking. On her return trip, Dr. Hatch had arranged for her to present a lecture at Oxford University before a group of agro-forestry/social forestry personnel from around the world. This was well received and was listed by Mamoona as the high water mark of her experience.

In July '91, RFO Nighat Mansoor resigned to accept a position with the Agha Khan Regional Support Project in Gilgit, Northern Area. We were delighted with this development since the AKRSP had a good program underway and the capacity to properly support her work. She resigned from that position in the fall of 1991 over the problem of not being able to get AKRSP to provide a job for her husband. She then returned to PFI and enrolled in the MSc program and her husband enrolled in the BSc class.

In March 1992, SDFO Mamoona Wali accepted a position as lecturer at PFI. Thus, we were able to give her some experience which kept her employed temporarily until this permanent position opened up. We felt encouraged by this development in her career, and also saw that she had matured professionally during her 16 months assignment with the TA team.

In October 1992 the Women's Hostel at PFI was finally completed and handed over from USAID. This was a nicely constructed facility except for the fact that, as a money-saving measure, the bathroom facilities were cut in half, requiring that the occupants of two rooms share one common bathroom; whereas the rooms at the Men's Hostel each have private bathrooms.

In December 1992, Ms. Farhat Naseer Zaidi joined the Winrock team as a monitoring and evaluation officer for the NGO Grant Unit. She is one of the original class of four women graduated from PFI (MSc. 1990) and had been working in the Quetta area since that time. It was felt that we would have a more open opportunity to address women's programs through employing her in the NGO Unit than what we had experienced with our previous attempt with the Punjab project staff.

In the first 4 months that Farhat has been on the job, she has become effective in contacting and working with women's training programs in NGOs which have received sub-grants from Winrock. It is early to predict the significance of all of this, but once again we have found a qualified young lady forester who is willing to "break new ground".

NGO ACTIVITIES

The project planners had some vague idea about the role of NGOs in this project, and after the project was approved and operating there was still only a vague idea of the role of NGOs. We identified the following types and circumstances of NGOs and proceeded, in the 6th year of the project, to try to do something about them:

* **Social Welfare NGOs:** there is a great proliferation of these in Pakistan, apparently because of the particular structure of subsidy payments available from provincial governments. There were, for example, over 3,800 registered NGOs in Punjab. Most of these were small "Mom and Pop" operations. Most, ostensibly, were focused on the improvement of women's and children's welfare. Some seemed to make legitimate effort toward education and development of cottage industries. Our approach was to identify suitable NGOs in rural villages to deliver forestry program concepts to women and children.

* **Environmental NGOs (National Level):** some of the international environmental NGOs were already operating in Pakistan. We identified the World Wildlife Fund as the most likely one to cooperate with our environmental awareness program. As early as 1986, WWF had been in contact with the US sponsors of Project Wild, and had made some preliminary attempts to introduce the program into the Pakistani school system. We got initial approval from the sponsors (Western United States Environmental Education Council), acquired a set of the current workbooks, and began to re-vitalize this effort in the spring of 1991.

* **Industrial NGOs:** by definition, NGOs include all non-government organizations, with no distinction as to profit or non-profit status. We wanted to establish a working linkage to the private industrial sector, but were not in position to make direct support to individual companies. During the May 1990 national seminar for wood-producers and wood-users, we started the process

of bringing the focus toward industrial associations. Each of the major wood commodity processing groups in Pakistan has an association -- such as the All Pakistan Particleboard Manufacturers -- primarily organized on a protectionist format to counteract the efforts of government to levy new value added taxes to their products. We found a professional business atmosphere at work in these associations, and set about trying to convince them that they should be pro-actively involved in support of the farm forestry program in order to help assure an increased flow of raw material for their plants. Our agenda was:

- try to get the associations to focus on their raw material supply problems;
- encourage the associations and individual companies to meet with tree farmers and explain their raw material needs and quality constraints, while improving their understanding of the farmer's production constraints;
- encourage industries to host farmers at field days to show them their manufacturing processes and open up a meaningful communication process;
- encourage associations and/or individual companies to support tree farming by providing nursery stock to farmers, cooperating with the social forestry staffs, financing the farmer recognition program through "lok shajarkar" promotions, and offering technical forestry extension through the employment of field foresters by the company for contact with local farmers (following the model of the sugar cane processors);
- challenge and assist the separate commodity associations to form a federation of associations at the national level (similar to the National Forest Council of the US) for the purpose of promoting private forestry in Pakistan. This would give high level recognition to the strength of the private sector as a national leader in self-help programs, and would give us a long-lasting institutional framework for the sponsorship of tree-farming.

The tactical approach to getting this accomplished was to create opportunities to put farmers, foresters, and industrialists together. Building gradually from each successful activity, the business community gradually gained confidence in the concept and began to bring forward some of their own ideas. The chance to shed their dependency on public timber and imported raw materials was the driving force of their interest.

In the summer of 1991, the Match Manufacturer's Association and the Particleboard Association both appointed special 3-man "Tree Farm" committees to work with the project in promoting private forestry. These committees never have done much, but they are in place and they do help the associations to identify with the

tree farming effort.

In September 1991, Winrock submitted an unsolicited proposal to USAID to implement the NGO program through a separate management cell to be formed at the TAT office. There was considerable misunderstanding, initially, over the manner in which the NGO grants would be administered and awarded. This was resolved by incorporating the Office of IGF, USAID, and the TAT into the grants review and advisory panel which acted as a board of directors to the Grants Manager.

After some negotiation over details, the NGO Grant contract, was signed in April 1992. But, actual hiring and organization of the NGO cell in the project didn't get underway until June 1992. We hired Mr. A.S. Bokhari, a well-known and well respected retired forest officer for the position of Grant Unit Manager, and he began work at the end of June. This lethargic start cost us several months of potential output -- under normal circumstances the Cell should have been up and running at least 6 months earlier.

The management arrangement put Bokhari in the center of our other project activities by virtue of the fact that he was made responsible to a three-member Advisory Board from FPDP. We got off to a fast start, making our first grant of Rs. 500,000 (US\$ 20,000) within the first month.

The NGO Cell and the Advisory Board functioned reasonably well, once we got over some of the more basic problems of structure, authority, responsibility, policy, procedure, administrative support, office accommodation, transportation, etc. Keeping a clean line of differentiation between project activities and NGO support activities was not always easy, and occasionally led to some mis-understandings.

PAKISTAN TREE FARM SOCIETY

In October 1991, after much preparation, we formed the Pakistan Tree Farm Society. The kickoff event was a Tree Farm Field Day for farmers, industrialists and foresters at the Orient Match Company Tree Farm near Sadhoki. This organization was chartered under the Societies Registration Act of 1860, and was registered with the federal government on 25 February 1992. At that time the total membership stood at 130.

The chartered purpose of the PTFS is "to promote private forestry", and its basic strength is from its broad and diverse membership of farmers, industrialists, foresters, and general public from all across Pakistan. It is my personal hope that the PTFS will be able to continue forever as the primary communication linkage between all of these diverse groups with an interest in the improvement of private forestry and "Tree Farming" in Pakistan. It can be the future private sector "extension forestry" unit that will continue to work after the end of the FPDP.

The PTFs was really the outgrowth of our earlier attempts to form a federation of wood-industry associations. Because these associations are narrowly construed by their members to be for the purpose of protecting their members from arbitrary actions by government, the industrial leaders themselves proposed that we set up a separate organization with voluntary membership.

As part of a special grant from the project's NGO Unit, PTFs took over the publication of the newsletter and some other project sponsored motivational materials in early 1993. Even though PTFs passed its first charter year in good shape, with an elected Board of Directors and some money in the bank, it is still a fledging organization and requires a lot of nurturing before it can fly on its own. It has not yet successfully competed for an "outside" grant and will not be able to fully realize its goal of linking the tree farmers with the industries until the FPDP is completed and that responsibility is fully turned over to it.

MANAGEMENT ISSUES

SUBSIDY

The whole idea of giving trees to farmers free of cost in order to provide some initial motivation to plant trees, became a trap as the project progressed. There was always, apparently, some intent on the part of USAID to lift this direct incentive out of the equation at some point in the project. But, provisions were not made for how this would be done; both the project paper and the PC-1 were silent on the subject.

Actually, it might have been possible to force the elimination of this subsidy if it had been structured in from the start, say at 10-15% reduction of subsidy per year until the full cost of seedlings is being paid for by the recipient farmer. It was not, however, operable to try to reduce the subsidy after the project got up and rolling.

The issue is controversial anyway, when viewed from the standpoint of common practice of subsidies to private forestry in most of the developed world. In those cases, subsidies are both more complicated and more substantial than is the case of the very simple, straight-forward, and low-cost subsidy of providing free trees.

In May 1991, USAID issued a project implementation letter (PIL # 53), which cut financial support to the seedling subsidy by 50% in FY92 and by an additional 25% in FY93. This nearly ruptured the morale of the provincial project directors and came at a time when new nursery contracts had already been drawn up for the coming season. This also co-incided with an austerity move in GOP to hold the line on its FY92 budget because of pressure from the International Monetary Fund, and forestry had no alternatives except to slash the subsidized seedling program.

This caused a 50% reduction in the GOP budget to the project account, and sent the wrong message to the farmers. Instead of encouraging them to pay part of the costs for their planting stock, it tended to reduce their confidence in tree planting. We tried, and failed, to make up the lost momentum by showing farmers that high market demand for wood assured them of a low-risk investment. Even those who recognized the soundness of the investment were mostly constrained by the sheer lack of available cash. Certainly trees continue to be bought and planted, but the reduced quantity has truncated the future impact of this farm-based resource.

The subsidy reduction was not really implemented in FY92 because, by the time the PIL and the GOP budget cutbacks collided at the policy level, the districts had already entered into seedling production contracts with the nursery farmers. By September of 1991 the forest departments were over-committed in all the NWFP districts and 2 districts in Punjab to the tune of about 2.5 million rupees. I came across this problem while on field visits in NWFP, when a group of about 30 irate nurserymen cornered me and the Project Director in one of the field offices.

When this was reported upon my return from the field, the whole project team went into a flurry of activity to try to figure out what to do. Since USAID still had a large sum of uncommitted project money (due to slow absorptive capacity by the GOP), it was finally decided to make payments on these outstanding contracts from USAID project funds, through TAT, directly to the farmers. This would avoid the GOP impoundment of the funds if they were sent through the normal channels, because the GOP budget could not accept additional development funds under the conditions in its budget.

A special rupees account was set up by TAT and the first check for payment arrived on 3 June 1992, 9 months after the problem was first identified and tackled. Although we managed to get the deficit payments made in this way, I personally feel that it is a poor way to operate a project and that it is a poor use of TAT time. I had no personal and direct responsibility for the nursery contracts, nor inspection, and no first-hand opportunity to visit all of the nurseries which were paid off. This puts the whole process outside the normally accepted limits of sound management practice.

Another problem which we faced in trying to implement a partial charge for tree seedlings was that the forest departments were selling seedlings to the general public at the subsidized rate of 25 paise per plant. This has been a long-time policy which started before our project and will, most likely, continue. Only in the case of the poplar and bat willow were our farmers able to move readily into the business of direct sales of nursery stock at a price which provided true market incentive. The solution is probably to tell the nurseryman that you are only going to contract for a certain percentage of the cost of the plants and that he will have to charge the farmers for the remaining part of the cost.

An announcement by the Secretary of Forests, NWFP, during the Farmer's Convention in monsoon 1992 campaign, took this issue head-on and appeared to solve the problem. He told the group (and the press) that NWFP would discontinue raising Forest Department nurseries and would turn to the private farmers to contract for the production of nursery stock. This is the best long term solution to improving the quantity and quality of seedlings in the shortest possible time, and for the long-term stability of private forestry. However, the idea is still not implemented.

It appears that most of the appropriations to the Forest Departments (NWFP in this case) are for the payment of salaries. If the costs of nursery seedling production in the NWFP Forest Department nurseries are mostly for salary, there doesn't seem to be any way in which the department can come up with financial savings adequate to convert the nursery program over to the private sector contracts envisioned by the Secretary. One possible solution would be to assign all of the FD nursery personnel to the Social Forestry Wing and employ them as advisors to kissan nurseries, then use Annual Development Program funds or Forest Development Corporation funds to purchase the needed seedlings from the kissan nurseries.

PROJECT EXPANSION

When the GOP got around to writing the PC-1 for phase II of the FPDP they made one very serious mistake: they allowed for the massive expansion of the area covered by the project without providing for more manpower, equipment, facilities, and budget resources.

At first we were all very pleased with this turn of events. First of all, it meant that the GOP saw a successful project underway and wanted to take maximum advantage of the opportunity. Second, it meant that we would have the chance to get the private tree farming program to a point of "critical mass" which would help make it self-sustaining. Both of these points served our egos well and made us all feel extremely proud to be associated with the FPDP.

Then, the bubble burst. The reality of the change was that, first of all, we were not adequately staffed to take on an expanded area. Second, we did not have adequate vehicles and equipment to begin with, and all at once the small amount of these items we did have were being shifted overnight into new districts at the hands of forest officers who had just acquired the "status" of being associated with the project in name only. Third, the lack of budget flexibility meant that we suddenly found ourselves with a large group of newly motivated farmers who wanted to plant trees, but couldn't get seedlings because the expanded project could not be properly funded to provide the additional nursery capacity!

MID-TERM EVALUATION

During June 1991 we had a 5-man team contracted by USAID to do a Mid-term evaluation of the project. This was not a very productive experience. USAID did a poor job of organizing, managing, and supporting the evaluation team. As a result, the team spent its office time at our TAT offices. The advantage of having them officed with us could have been that they would ask more questions and find out more about how the project was being executed. This, however, did not really happen.

In the evaluation team's report, it appears that they maintained and addressed their own personal biases with which they started the evaluation, while at the same time, neglecting to suggest any substantive solutions for project issues.

However, one very positive contribution of the Mid-term evaluation was the recommendation that the FPD Project be extended past the statutory 10-year PACD so that un-expended funds could be utilized to continue the work, and so that the trees planted in the early years of the project could be put to the market test while technical assistance was still available. USAID Director James Norris accepted the idea and went to bat for it in Washington in fall 1991. On the 18th of March, 1992, USAID received a telex confirmation extending the PACD to 31 December 1994 (a 17 months extension), which would keep it under the Pressler Amendment rules.

This kind of project extension is a highly unusual occurrence and is perhaps the highest compliment that can be paid to those of us involved on the project, whether GOP, Winrock, or USAID. Under the political pressures being created by the Pressler Amendment, and at a time when Americans at home were expressing their lack of interest in providing help to developing nations, the FPDP Team came through!

In view of the fact that USAID/Pakistan was within a 'whisker' of cancelling the FPDP at the end of Phase One, the men and women of this project have pulled together and done what was necessary to make the project work. We should all be proud of this team effort!

'Coming Together is a Beginning,
Staying Together is Progress,
Working Together is Success.'

* * * * *

ANECDOTES

SUSPICION:

Before the start of this project, most farmers had only negative experience with the officers of the Forest Departments, mostly in front of a local magistrate over the issue of trespass of livestock and/or illicit cutting of forest products from the public lands. When Forest Officers started to try to gather people together to tell them that they should plant trees on their farms, and that the department would provide free advice and free trees, most of the farmers saw this as a scheme for government to claim the land and the trees as government property after a few years.

It was only after the foresters were able to convince some of the influential "big guys" in the rural communities that USAID would not allow for such a confiscation of property, that the first "big guys" planted a few trees to show their good faith. After that, the job was easier. Even so, most of the early foresters on the project had their first success only through some gentle arm-twisting of their close friends and relatives. "All right, I will plant 1,000 trees, but only as a personal favor to you" was a typical response. Working from this toehold, the project started.

The first farmer operated nursery was much the same. In that case, the deal was struck with an old classmate, but all of the inputs and efforts were actually done by the forest department people, right up to time of giving the seedlings to farmers. Then, the cash payment was made to the "nurseryman" with a great amount of fanfare, and others became anxious to join in.

ADVERTISEMENT:

Rumors (and some news) spread rapidly around the rural villages unless you want them to. The foresters in the early days had not been trained in public communication and thought that all they had to do was to tell people about the project, word of mouth, and the results would come. This was not happening. By some pushing from the TAT, some of the foresters began to come "out of their shells" a little bit, and discovered that people would listen if they went to a public place and stood up and talked.

The most effective early communication tool was the loud-speaker system at the village mosque. By convincing the maulvi that their purposes were good, some of the foresters used the loudspeaker system to either announce local activities or to call on-the-spot meetings. The response was good in enough places to break the ice and create the initial awareness of the project.

UNDERCOVER WORK:

One of the major thrusts of the project during Phase Two was to push farmers into selling their eucalyptus trees in the market. Nobody was using eucalyptus, so this was a really tough job to develop market acceptance. The experience with eucalyptus also showed us that farmers knew very little about marketing of any kind of trees, so the marketing initiative was expanded.

In dealing with the wood-using industries, one of the DFOs discovered that there was a built-in market bias in favor of poplar from the NWFP area of Mardan-Charsadda. Because he had poplar farmers in his district in Punjab who were not able to get as good price for their trees (even though much closer to good markets at Lahore and Sialkot), he decided to explore this problem.

Dressed in old shalwar kameez and a Chitrali hat, and speaking in Pushtu, he travelled by flying coach from village to village and stopped at wood depots along the way, asking the kinds of questions that one would ask if he were looking for a job as a wood broker.

The results of this undercover excursion revealed that the professional wood contractors knew that there was no inherent difference in the quality of poplar from NWFP and from Punjab. But, they had also been party to a myth which had developed in the industry which had dubbed NWFP poplar as "best". This had succeeded to the point that they were able to get a premium price for it.

The problem for the contractors began when their supply of NWFP poplar started to dwindle and they began to buy poplar from farmers in Punjab. Industry was quick to complain that this "Punjabi" poplar was not as good and could, therefore, not command the higher price.

The problem was solved this way: When the contractor had a couple of loads of poplar to sell from Gujrat or Jhelum, he would send his son by bus to Mardan or Peshawar. The son would "buy" transit permits, tax receipts, etc., from the checkpoints along the route. These would then be given to the truck drivers with the Punjabi poplar logs, and would be used as "proof" of origin of the timber when it was delivered to the factory, thus fetching the higher (NWFP) poplar rate.

The sad part of this was that the Punjabi farmers who sold to the local contractor were told that their trees were not as good as "NWFP poplar", so they couldn't be given the best price!

WHERE DID THIS TURKEY COME FROM?

There is a horror story among agricultural extension people (perhaps true) about the poultry research and extension team at a major American university that worked together to develop the "super turkey". Contact by the extension people with consumers and turkey producers had shown that what the market wanted was a turkey with a larger breast -- seems that the American consumer really had a strong preference for the white breast meat, even though it tended to be too dry after cooking. The ladies in the Home Economics staff got into the act and perfected new ways of cooking turkey to assure that the meat would stay tasty and moist, and then a great research project was launched to breed a better bird.

After several years of exhaustive work, the research people came up with a much improved variety of turkey. This new bird not only had 50% more breast meat, but it also grew faster and had smaller drumsticks and less feathers. Really a miracle! More high value parts and less waste! The new turkey was released by the university with great publicity and fanfare and hope for the future. It was not until after a few months that the problem started to show up and the new turkey was abandoned. The problem? The new turkeys grew so fast and were so heavy in the breast that they could not stand up on their small legs long enough to feed themselves, so they were starving to death.....

We got a new turkey in this project when the revised PC-1 for Phase II was finally released by GOP in July of 1991. This document, wishing to take advantage of the success of the project, set the stage for expansion to almost twice the geographic area of the original project. But, it became a "super turkey" because the expansion did not allow for additional expenditure on personnel, travel, facilities or training. Just like the super turkey, the project began to collapse from its own weight.

The forest officers "assigned" to the expanded project area were mostly dis-interested because they received no additional benefits from the additional responsibilities, and they received no additional help to carry out the new work. Most of them made a show of establishing enough farmer nurseries to meet their seedling production targets, but did not properly train these nurserymen nor properly follow through on the distribution of the planting stock and/or interaction with the farmers who were planting the trees.

I was very frustrated by this because it was almost impossible to get anything to happen in the expanded districts. These new DFOs were not un-cooperative, they were just un-committed, and always had some thing or another thing which they had to do which kept them from getting involved in any on-farm activities. The Project Directors didn't seem to know how to deal with it either, so the system just bogged down.

Worst of all, I must confess a serious error in judgment over this whole expansion effort. At the time it was being planned and discussed, I was in favor of the expansion and totally naive about the repercussions of such a step (apparently we ALL failed here). The great success we were experiencing in the old project area was at least partly the result of the project being designed with some balance and concept of scale built into it. We had a system that was working, and we nearly ruined it by trying to add "50% more breast meat".

"YELLOW TRACTOR" PARTS:

The diesel Ford 5610-II tractors provided by USAID to the provincial project directors were painted yellow at the factory instead of being sent with the original blue color. It isn't clear why this was done, but it did create an unexpected problem. When replacement parts and service items were needed, the mechanic would ask for parts for a "yellow Ford tractor" and would be told that they didn't have any. In Pakistan, the blue 4610 Ford is a commonly seen tractor, and the parts supply stores are reasonably well equipped with standard replacement items.

Many of the every-day replacement parts are identical between these two tractors. Such things as hydraulic couplings, nuts and bolts, filters, fuses, hitch pins, and many more, are interchangeable. We found that the most fool-proof way of getting the right parts in the market was to take the broken or worn out item to the parts store and let them find the replacement on the shelf. If anybody tried to find a part by the tractor model number or by the color of the tractor, he was out of luck. As always, success lies in the ability to ask the right question!

EUCALYPTUS OIL - A SLICK PROBLEM:

One of the joys (and hazards) of working with farmers is that, once they get onto an idea, the innovators amongst them will push ahead far more rapidly than the extension foresters can respond. After the tree planting program had reached an established plateau of effort, farmers were aggressively in search of new markets for tree products.

One such marketing idea was the production of eucalyptus oil for use in the pharmaceutical, cosmetics, and confections industries. We knew that there had been some promotional work done in the agricultural sector to get farmers into the production of mint oil, and were actively trying to locate a processor and obtain some real market information. One day, in discussion with a group of forest officers, one DFO was heard to say, "We don't have the right kind of eucalyptus for the production of oil. We have tried to get some oil from some of our trees, but none of the bark-scribing and tapping techniques we have tried have produced any results!"

This came as no surprise to those of us who knew that the oil is extracted from the leaves and not - like resin - from the stem. The serious problem encountered here was the lack of knowledge on the part of the DFO and his obvious unwillingness to inquire into the methodology before setting out to do something.

Later, we did manage to locate two farmers who were actually extracting marketable quantities of the oil with profitable results, and they had found wholesale markets in Rawalpindi, Lahore, and Karachi. They were both using relatively simple low pressure steam retorts and getting about 1 litre of oil from 15 maunds of mature (wilted) leaves.

The eucalyptus oil business is problematic for two reasons: (1) the consumption demand of the market is currently small in quantity, and (2) availability of mature leaves in any volume concentration will need to depend upon timing of tree harvesting. The operators already in the business are making it profitable, but we have not prompted further development because it appears that the market might be quickly over-supplied.

A specific market survey of the eucalyptus oil wholesale demand would be in order.

APPENDIX A

SCOPE OF WORK: FIELD DEMONSTRATION/OUTREACH FORESTER

Terms of Reference

Primary responsibilities include but are not limited to the following:

* This position will be responsible for introducing the concept of outreach/extension services and assisting in developing them as an integral part of the work of the forest departments and the foresters. In addition, a high priority will be given to establishing with the forest departments a series of farm forestry demonstrations on farmer's lands. The consultant will be responsible to develop in-country training to support these activities.

Specific Tasks

* Works with Assistant Inspector General of Forests (AIGF), CCF's and provincial project directors to plan and execute all field operational aspects of the project;

* Supports initiation of provincial farm forestry planning programs and design plans for field demonstrations of farm forestry for field testing;

* Assists GOP foresters and other team members to devise on-farm experiments to adapt and test new approaches to tree culture in nurseries and field plantings;

* Identifies with GOP foresters outreach opportunities that will result in improvements in the tree culture on farms in the future and assists in coordination of research for species and silvicultural methods selection programs;

* Assists in developing a series of field days and short courses with the provincial forest departments and the PFI to demonstrate species selection, nursery methods, and other techniques;

* Assists in developing criteria for the selection of candidates for long-term training;

* Prepares extension/motivation materials and assists with outreach program development to include a series of field guides for nursery operation, field demonstration, tree planting and other subjects that may be identified during implementation of the project;

SCOPE OF WORK (continued):

* Interacts with provincial project directors and farm and energy foresters to identify, evolve and test successful participatory strategies and define incentive options if necessary;

* Develops and conducts seminars in outreach program design and management for Pakistani forestry professionals;

* Recommends means to achieve practical integration of research with field operations; and

* Assists in planning appropriate steps to ensure that Pakistani professionals returning from overseas training can effectively serve in farm and energy forestry training and research activities.

* * *

APPENDIX B

LIST OF PUBLICATIONS

FPDP Tech. Note No. 1 - "Marketing Farm Forestry Products", July 1990 (with Raja Zarif).

FPDP Tech. Note No. 2 - "Farms Windbreaks", September 1990.

FPDP Tech. Note No. 7 - "Thinning Block Plantations", October 1991, (with Charles R. Hatch).

FPDP Tech. Note No. 8 - "Measuring Farm Grown Trees", January 1992, (with Charles R. Hatch).

FPDP Tech. Note No. 12 - "Economic Opportunities from Tree Farming", March 1993, (with Nazir Ahmad Malik).

FPDP Research Rpt. No. 3 - "Cross-Arms of Eucalyptus and Poplar Woods", (edited for Siraj-ud-Din, PFI).

PFI Tech Note # PB TN 1 - "Designing a Particleboard of Desired Parameters", May 1992, (edited for S.M. Yasin and T.A. Qureshi, PFI).

PFI Tech Note # WQ TN 1 - "Improving the Quality of Wood Produced from Eucalyptus Trees", October 1992, (edited for S.M. Yasin and S. M. Raza, PFI).

TREE FARMERS GUIDES:

No. 1 - "Marketing Farm Grown Timber".

No. 2 - "Pruning Timber Trees".

No. 3 - "Managing Coppice Sprouts".

No. 4 - "Farm Trees - Chinaberry".

No. 5 - "Farm Trees - Ber".

No. 7 - "Estimating Weight of Standing Eucalyptus Trees"

TRAINING VIDEO #1 - "Kissan Nursery Production", 8 minutes.

TRAINING VIDEO #2 - "Planting Eucalyptus Trees". 10 minutes.

FPDP Project Brochure, December 1992.