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AGENCY FOR INTERNATIONAL DEVELOPMENT

Washington, D. C. 20523

PROJECT PAPER

Pakistan: (391-0481)
Forestry Planning and Development

JUNE 1989

UNCLASSIFIED

COVER

PROJECT DATA SHEET

1. TRANSACTION CODE

A = Add
 C = Change
 D = Delete

Amendment Number

DOCUMENT CODE

3

2. COUNTRY/ENTITY

Pakistan

3. PROJECT NUMBER

391-0481

4. BUREAU/OFFICE

Asia and Near East (ANE)

04

5. PROJECT TITLE (maximum 40 characters)

Forestry Planning and Development

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)

MM DD YY
 0 8 2 7 9 3

7. ESTIMATED DATE OF OBLIGATION
 (Under 'B.' below, enter 1, 2, 3, or 4)

A. Initial FY 83

B. Quarter 4

C. Final FY 91

8. COSTS (\$000 OR EQUIVALENT \$1 =)

A. FUNDING SOURCE	FIRST FY 83			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total ESF	4,300	2,700	7,000	13,138	21,862	35,000
(Grant)	(4,300)	(2,700)	(7,000)	(13,138)	(21,862)	(35,000)
(Loan)	()	()	()	()	()	()
Other U.S.						
1. Host Country		205	205		14,300	14,300
2. Other Donor(s)						
TOTALS	4,300	2,905	7,205	13,138	36,162	49,300

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) ESF	740	160		25,000		10,000		35,000	
(2)									
(3)									
(4)									
TOTALS				25,000		10,000		35,000	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

241 090 080 064 700 876

11. SECONDARY PURPOSE CODE

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code	BS	BL	R/AG	TECH	TNG	ENV	PVOU
B. Amount	12,000	2,000	1,200	9,000	6,000	300	700

13. PROJECT PURPOSE (maximum 480 characters)

To strengthen the capability of federal, provincial and local institutions to design, implement, and evaluate policies and programs for increasing the production of fuelwood and timber in Pakistan.

14. SCHEDULED EVALUATIONS

Interim MM YY MM YY Final MM YY
 0 9 9 0 0 6 9 3

15. SOURCE/ORIGIN OF GOODS AND SERVICES

000 941 Local Other (Specify)

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment.)

AID plans to add \$10.0 million in ESF Grant Funds to the existing Project. These funds will allow expanded field operations including training, research, and additional tree plantations.

USAID/Pakistan Controller's approval of proposed methods of implementation and financing.

Signature: A. Dean Pratt, Controller

17. APPROVED BY

Signature James A. Norris

Title Mission Director
 USAID/Pakistan

Date Signed MM DD YY

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION

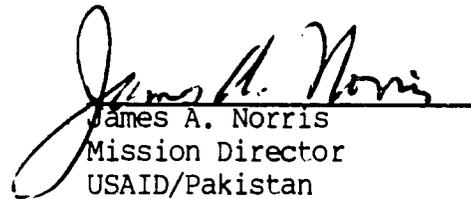
MM DD YY

PROJECT AUTHORIZATION AMENDMENT NO. 1

Name of Country : Pakistan
 Name of Project : Forestry Planning & Development
 Number of Project : 391-0481

1. The Forestry Planning and Development (FP&D) Project for Pakistan was authorized by the Administrator on August 11, 1983 with a life of project funding level of not to exceed U.S. Dollars Twenty-Five Million (U.S. \$25,000,000) over a four (4) year period from the date of initial authorization. The PACD for the Project was extended from September 30, 1991 to August 27, 1993 by an Action Memorandum approved by the Mission Director on December 8, 1988.
2. Pursuant to Section 531 of the Foreign Assistance Act, as amended, the Project Authorization is hereby amended as follows:
 - a. I hereby authorize additional planned obligations of not to exceed Ten Million United States Dollars (\$10,000,000) in ESF grant funds, over a six (6) year period, subject to the availability of funds in accordance with the A.I.D. OYB allotment process, to assist in financing foreign exchange costs and local currency costs for this Project. The total planned obligations for this Project shall not exceed Thirty-Five Million United States Dollars (\$35,000,000) in grant funds.
3. All other provisions of the original Project Authorization and the subsequent Action Memorandum shall remain in full force and effect except as hereby amended.

Approved Disapproved


 James A. Norris
 Mission Director
 USAID/Pakistan

6/26/89
 Date

Clearances:

RLA: TBCarter: [Signature]
 ARD: AMerkel: [Signature]
 PDM: MFuchs-Carsch: [Signature]
 PDM: RWNachtrieb/AKNayani/SJaved: 85/81 [Signature]
 PRO: FWTate: [Signature]
 FM: ADPratt: [Signature]

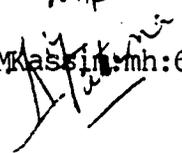
RLA:KFMaslin:mh:6/20/89
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List of Abbreviations and Acronyms

ADB	Asian Development Bank
AID	Agency for International Development
CCF	Chief Conservator of Forests
CDSS	Country Development Strategy Statement
CN	Congressional Notification
COP	Chief of Party
ESF	Economic Support Fund
FP&D	Forestry Planning and Development
FX	Foreign Exchange
FY	Financial Year
GOP	Government of Pakistan
IBRD	International Bank for Reconstruction and Development
IG	Inspector General
IGF	Inspector General of Forests
IRR	Internal Rate of Return
NGO	Non-Government Organization
NWFP	Northwest Frontier Province
OPG	Operational Program Grant
PACD	Project Assistance Completion Date
PFI	Pakistan Forestry Institute
PIL	Project Implementation Letter
POL	Petrol, Oil and Lubrication
PP	Project Paper
PROAG	Project Agreement
PVO	Private Voluntary Organization
TAT	Technical Assistance Team
UNDP	United Nations Development Program
USAID	U.S. Agency for International Development
WFP	World Food Program
WID	Women in Development

I. SUMMARY AND RECOMMENDATIONS

A. Recommendations

1. Funding

USAID/Pakistan recommends that an additional \$10,000,000 be added to the existing project ESF Grant. This will bring the total ESF funding for the Forestry Planning and Development project to \$35,000,000. The Project Assistance Completion Date (PACD) is 27 August 1993.

2. Geographic Code

The Geographic code does not change from that in the original Project Paper.

B. Summary Amendment Description

The Project Paper (PP) of August 1983 remains valid. This Amendment adds several new activities and will reschedule delayed activities. The budget has been revised in accordance with the amended implementation plan. Several tables and the log frame in Annex C present data for the entire project, as amended.

1. Evaluations

During the first four years of operations, project personnel and GOP representatives, the IG auditors and an evaluation team identified several factors that limit the impact of the project and several opportunities that could increase its value. These findings are reflected in the choice of additional activities.

The findings and recommendations of these teams are summarized as follows:

a. Project activities are vitally needed in Pakistan to overcome deforestation and shortfalls in the production of fuel wood, poles, posts and other minor forestry products.

b. Farmers are increasingly accepting and adopting farm forestry technology.

c. The project was slow to start. As a result, training and field activities are behind schedule.

d. The role of the technical assistance team was originally not well defined.

e. The project should provide additional building to ensure that training and research outputs are achieved.

f. There was opportunity for expanding field activities to the irrigated areas of Punjab and Sind. This recommendation was supported by the GOP.

2. Amendment Components

This Amendment adds and reschedules activities without altering the philosophy, goals, or purpose of the project. The amended project will consist of four closely-related components: (a) institutional and human resource development; (b) farm and energy forestry research; (c) farm and energy forestry field operational activities; and (d) grants to NGOs and PVOs to develop indigenous ability to enhance the public awareness of conservation and natural resource management. These four components together will provide the means to help Pakistan overcome the institutional inadequacies, the research deficiencies and the lack of technology that constrain sound development of its potential forest resources.

Each component is an essential activity. The institutional and human resources development component will continue to enhance the GOP's capability to identify, implement, and evaluate the most promising forestry development alternatives. The research program will continue to provide an improved scientific basis for the technical and socio-economic design of farm and energy forestry activities. The expanded operational activities not only will provide practical demonstrations of the feasible farm and energy forestry development opportunities but will also provide an avenue for direct farmer involvement in the design of these activities. Field activities will also stimulate the enthusiasm of forestry personnel. Development of an indigenous PVO/NGO capability in the area, resource management and conservation will lead to improvement in forest conservation as well as better support for these programs within Pakistan. To ensure maximum effectiveness of the inputs, the four components will be implemented in a coordinated manner.

There are many component linkages. Individuals benefiting from the human resources training programs are and will increasingly play key roles in executing the research and operational activities under the project. The research and operational components will provide living laboratories for extensive "on-the-job" training for both managerial forest officers and field foresters and will help to firmly establish the skills developed through human resources training. Careful integration of the research and operational components will contribute to a data base and information bank on which future policies and plans can be formulated while further developing critically needed skills for project monitoring and evaluation.

3. Amendment Budget

Table 1 summarizes the budget for the project, as amended. In total, AID is contributing \$35 million to a \$49.3 million, ten year project. The GOP contribution of \$14.3 million has not been increased by this Amendment.

TABLE 1

FORESTRY PLANNING AND DEVELOPMENT PROJECT (391-0481)
BUDGET SUMMARY

(in 000 s US Dollars)

CATEGORY	ORIGINAL PP	AMENDMENT	GOP(6)	TOTAL
A. TECHNICAL ASSISTANCE	9,243.0	0.0	0.0	9,243.0
B. TRAINING	3,293.0	3,312.0	588.0	7,193.0
C. COMMODITIES	1,621.0	1,329.0	178.0	3,128.0
D. FIELD OPERATIONS				0.0
1. RESEARCH	164.0	476.0	1,358.0	1,998.0
2. FIELD ACTIVITIES				
a. Farm Forestry				
1. Tree Plantation	2,378.0	1,772.0	2,370.0	6,520.0
2. Nurseries	99.0	79.0	172.0	350.0
3. Soil Conservation	2,567.0	198.0	1,000.0	4,765.0
4. Watershed (WFP)	0.0	500.0	0.0	500.0
b. Irrigation Upgrade	1,000.0	0.0	500.0	1,500.0
c. Building Construction	1,982.0	1,031.0	547.0	3,556.0
d. NGO/PVO Operations	0.0	700.0	0.0	700.0
E. EVALUATION	374.0	275.0	0.0	650.0
SUB-TOTAL	23,216.0	9,632.0	13,269.0	46,117.0
F. CONTINGENCY	1,784.0	368.0	1,031.0	3,183.0
TOTAL	25,000.0	10,000.0	14,300.0	49,300.0

Notes:

1. Costs estimates of original PP include inflation.
2. For the amendment the currency conversion factor of \$1=Rds. 19 has been used.
3. Annually compounded inflation factor of 5% has been applied to FX costs and 10% factor has been applied to expenses in local currency.
4. Contingency of 6.4% has been provided.
5. Expatriate Technical Assistance has been contracted under the original PP funding for the entire project including the amendment.
6. GOP contribution does not change from original PP allocation.

The revised project budget significantly increases the relative proportion of project funds spent on farm forestry, training, commodities and construction. There is no increase in technical assistance.

4. Current Status of Outputs

Table 2 presents the status of project outputs for the period from August 1983 to May 1989.

Table 2
Status of the Project Outputs for the Period
From August 1983 to May 1989

<u>Activity</u>	<u>Status</u>
<u>Planting</u>	
Trees planted	5 million
Land treated for soil conservation	150 acres
Farmer's planting	8,300 acres
<u>Irrigation</u>	
Canal construction	15% complete, estimated completion date October 1989
Land receiving preliminary levelling	1000 acres
<u>Building Construction</u>	
PFI men's hostel	85% complete
12 other buildings	2 complete, others ready by February 1990
<u>Training</u>	
<u>Overseas</u>	
Long term MS	18 (2 already returned)
Short term	81 for a 3-6 week course
<u>Local</u>	
Long term MS	26 at PFI
Short term BS	25 at PFI
<u>Field Training</u>	
Foresters	119 for 2-3 week courses in field operations, computers and administration.
Farmers	7,425 for 1-2 day courses on care and management of trees and nurseries.
<u>Technical Assistance (TA)</u>	
	Four years of TA have been provided by Winrock International. A contract extension has been negotiated and is in force.
<u>Commodities</u>	
Computers	20 provided to project officers
Vehicles	44 provided for field activities
Other	\$150,000 worth of office equipment, survey and other tools and research equipment.

For the financial status of the project from 1983-89 please see Table 7 in Section V. A breakdown by expense category for the same time period is presented in Annex D (See Table 1).

The following new activities will be added:

5. New Activities

a. Operational Program Sub-grants to NGOs and PVOs

Grants will be given to Pakistani NGOs and PVOs to undertake many different environmental and conservation management projects on forest and wild lands. For further discussion, see Section III.C.4.

b. Managerial and Infrastructure Support to the O/IGF

Training, commodities, and other assistance will continue to be provided to the Office of the Inspector General of Forests for developing policy, procedures, and operational guidelines. New activities will include the establishment of a cell to monitor the forest products sector's activities, both public and private, so that a data base of information about economic and marketing conditions can be developed.

c. Expansion of Farm and Energy Forestry Demonstration Activities to the Irrigated Areas of Punjab and Sind Provinces

For details see Section III.C.1 and Annex A.

d. Additional Construction at the PFI

To support training of women in forestry careers, a 15 person hostel to house women students will be built. The main buildings will be upgraded and new facilities such as rest rooms and study rooms for women will be added.

e. Improvement of Provincial Training Facilities

Existing provincial training buildings in Punjab, Sind, and NWFP will be upgraded and new training facilities in Baluchistan will be constructed.

f. Improvement of Provincial Research Facilities

Stations in Sind (Miani) and Punjab (Gatwal) will be expanded and improved. Additional installations in Baluchistan (Quetta) and NWFP (D.I. Khan) will be built.

g. Assistance to the NWFP Tarbela Watershed Reforestation Project

The project will continue to work with the World Food Program (WFP). USAID assistance will provide daily wages to workers in conjunction with the WFP food-for-work rations for reforestation of the watershed and for operational support including short-term Technical Assistance (TA) and POL in FYs 89 and 90.

II. BACKGROUND

A. Constraints

Following four years of operations and considerable progress in the implementation of the Forestry Planning and Development Project (FP&D), both AID and the GOP felt that a mid-term adjustment of Project activities was required. The resultant Amendment been influenced by the results of a project audit, a mid-term evaluation, the findings of a design team and lessons learned by project staff during the first four years of implementation.

The Mission has identified five major constraints:

1. Limited Focus on Non-irrigated (i.e. Barani) Areas

Considerable opportunity for development of Farm and Energy Forestry exists in irrigated areas, where field evidence suggests that farmers' motivation for adoption of tree-crop technology is already high. Limitation of demonstration and outreach activities to Barani areas constitutes a significant opportunity foregone. (See Annex B for additional discussion on the potential for wood development).

2. Inadequate Physical Infrastructure for Research

The activities of the Farm and Energy Forestry Research component are designed to improve the scientific basis for farm and energy forestry activities and increase researchers' knowledge of the social, economic and technical aspects of on-farm tree crop management. Provincial research facilities are inadequate for conducting the area specific, problem oriented research essential to generating and testing appropriate technology for integrating multi-purpose tree crops with farm crops. While NWFP houses a small research station, Baluchistan has no forest research center. The Punjab research station has no facilities located in Barani areas. In Sind, the Miani Research Station needs expanded and improved facilities.

Distances in Pakistan are great. It can take many hours, sometimes days, to reach remote research areas normally selected for farm forestry research. Suitable sub-stations for research must be provided in each

province if research is to take place in the areas and under the conditions found on cooperating farmers' lands. Another benefit of these additional research facilities will be research into identifying and protecting biological diversity in Pakistan. While this research will not be directly funded through the project, the availability of facilities in these remote areas will allow access for researchers.

3. Lack of Training Facilities at Federal and Provincial Levels

A major element of the project purpose is to strengthen the GOP's capability to identify, implement and evaluate alternative forest development programs and policies, through a variety of in-country and overseas training programs. Considerable in-country training is programmed in the provinces but there are no facilities that can be dedicated to this training. Each province, except Baluchistan, has a small forest ranger training school but these are utilized throughout the year in normal training. The project therefore will upgrade Provincial training schools so that training can be provided to groups of 20 to 40 students at a time. In some cases only expansion of existing facilities is envisioned, but where no facility exists, a small center will be established. These centers will consist of simple classrooms and dormitories, located at the research stations discussed in (2) above.

Women's participation in training activities is inhibited in part by a lack of suitable facilities. For example, at the Pakistan Forestry Institute (PFI), there are no housing, study rooms, or rest rooms provided for women. If professional women foresters are to be trained under the project, physical facilities must be modified. During the Amendment period, the project will also actively promote women's participation in field activities.

4. Conservation/Environmental Concerns

Improving general public awareness of broader environmental concerns and the social benefits associated with various conservation measures can complement the project's outreach activities. Indigenous NGOs and PVOs, with appropriate support, could be the best conduit for publicizing natural resource issues. The project will help with funding for technical assistance and operations through sub-grants administered by a US registered NGO/PVO. Indigenous NGO/PVOs will use the money to increase their technical ability and to pay for activities like improving wildlife habitats or conducting public awareness programs through mass media and schools.

5. Effectiveness of Technical Assistance (TA)

Levels and performance of the TA team were major concerns of both the GOP and USAID. It was decided to reduce the number of long-term expatriate consultants, but to ensure continued high quality support by using short-term consultants that have long-term commitments to the project but do not reside in Pakistan for various technical inputs. Repeated visits by short-term experts will increase efficiency by reducing the time required for familiarization of the country and ensuring continuity of inputs.

B. Relationship to AID Policy

The project is explicitly designed to contribute to the ability of the GOP to analyze policy options and to conduct policy dialogue through: (1) creation of policy advisory committees, (2) creation of Federal and Provincial Forest Management Plans in cooperation with the UNDP/ADB funded effort, (3) training programs in forestry sector policies and the role of fuel wood as an energy resource, and (4) assisting with the development of a GOP Natural Resource Policy in conjunction with the ADB, the World Bank, and other donors. This Amendment's new PVO initiative directly supports Mission CDSS statements on Biological Diversity and Tropical Forest Conservation (see CDSS annex and 87 Islamabad 011151). The CDSS calls for assisting PVOs/NGOs in promoting and developing environmental and conservation awareness in Pakistan, and assisting the GOP in developing policies of natural resource management to reverse and halt deforestation. Amendment activities will contribute to additional dialogue opportunities on the role of public education and awareness programs in promoting conservation and environmental protection through the private sector.

They will also contribute to analysis of policy options through demonstration of an integrated approach to complex forestry, watershed, and environmental problems. The development of a national policy will bring together several GOP institutions that now have independent control over important aspects of natural resource management.

The Amendment will allow training of women foresters. The GOP has already started recruitment of women for training at the Pakistan Forest Institute (PFI) induced by the FP&D Project. Bringing women into the forest service not only will improve project implementation by allowing women to fully participate in the work and benefits of the project but also meets a major policy objective of AID.

C. Relation to Project Paper, Dated August 1983

The August 1983 Project Paper remains valid. New activities do not alter PP methods or philosophy. For instance, although training levels are increased, the type of training remains the same. Similarly, the discussion of project research on pages 70 to 73 of the original PP remains an excellent description of research needs under the Amendment. Farm forestry demonstrations will be expanded but the methodology outlined in the original PP remains unchanged. Actual procedures used will reflect past experience and will be modified as more experience is gained, but the underlying philosophy and strategy will not change.

D. Benefits and Beneficiaries

1. National

Improved forest and natural resource management will result in increased production of wood products from farm and waste lands, with additional benefits from improved watershed protection. Better long-range plans will result in more efficient use of the scarce resources of funds and expertise and improved utilization of labor and materials. Enhanced understanding of the objectives and methods of conservation by the general public will, in the long-term, result in a workable natural resource policy for Pakistan.

2. Individual

With the expansion of on-farm forestry outreach activities into irrigated areas of Punjab and Sind, the project will enable farmers to establish approximately 44,000 acres of woodlots in farmers fields, assisting an estimated 37,000 farm families in meeting their domestic energy needs. Support of activities in the Tarbela Watershed Project will provide 500,000 workdays of employment to a very poor segment of the NWFP population as well as reforesting 5,000 acres of important watershed lands. In addition to the farm family target group, the Project directly and indirectly benefits Federal and Provincial Forest Departments, industrial and other fuel consumers, and rural labor. Several Amendment activities will include significant improvements in opportunities for women. Others will support national efforts to educate the rural and urban population on the social benefits of environmental protection and conservation as well as developing private sector conservation organizations. The project will benefit farmers and consumers in project areas as energy supply and farm productivity increases as a result of the demonstration and related outreach activities.

E. Related Activities of Other Donors

The World Food Program funded watershed programs and the UNDP/ADB assisted National Forest Management Plan relate directly to the project, as discussed in Section III. However, other donors are interested in supporting project objectives by providing training, research and assistance in developing policy to include forestry in Agricultural Extension. The Mission and the O/IGF will actively pursue opportunities for inter-donor cooperation during the Amendment period.

Project activities have given USAID a leadership role in coordinating donor activities. This was shown at the Project-sponsored International Forestry Policy Workshop in March 1989, at which several donors actively participated. The workshop established a two year plan for a complete revision of national forest policy.

World Bank representatives have suggested that some project outreach activities could be undertaken by the Training & Visitation Projects funded by the IBRD. This possibility will be explored early in the Amendment period.

The UNDP and ADB are sponsoring development of a National Forestry Management Plan. The Policy Advisor on the Technical Assistance Team (TAT) will be a major source of advice to the IGF on the scope and direction of this plan.

Dutch and German sponsored project personnel are visiting FP&D Project sites and studying methods of promoting and managing farmer-owned nurseries for production of tree seedlings in their social forestry projects. Aqa Khan Foundation projects have already adopted many FP&D project methods and there have been several conferences and workshops where information and research findings have been exchanged, especially in the area of social information. Such conferences will be continued during the Amendment period.

The WFP is actively seeking continued funding and technical assistance from the FP&D project. Influenced by the project, WFP has included private nurseries in their operations. Improved planting techniques are soon to follow.

FP&D techniques adopted by the GOP Forest Department are being included in all new and on-going donor farm forestry projects. The Mission will seek additional support from donors in funding and equipping the training and research stations and in pursuing the formulation of the National Forestry Policy. Donor inputs will be sought in building the forestry sector data base for O/IGF.

III. PROJECT DESCRIPTION

A. Goal and Purpose

The project goal and purpose remain the same as those found in the Project Paper (PP):

The primary goal of the project is to help Pakistan increase its energy supplies to achieve energy self-sufficiency. The secondary goal is to reverse the process of deforestation in Pakistan and to expand the extremely limited forest resource base. The primary purpose of the project is to strengthen the capacity of institutions at the federal, provincial, and local levels to design, implement, and evaluate policies and programs for increasing the production of fuel wood and timber in Pakistan. The secondary purpose of the project is to demonstrate the economic, technical, and social feasibility of producing tree crops on privately-owned farm and range lands.

B. Outputs

The revised Project is expected to produce the following results:

1. The strengthening of a federal forest policy and planning team with professional staff responsible for integrating farm and energy forestry activities, private forest product sector needs, and other non-traditional forestry activities into federal policies, plans, and budgetary allocations. This will include the ability to collect and analyze data about the forestry sector.
2. The establishment of provincial forestry planning teams with skills necessary for provincial program planning and evaluation.
3. The strengthening of federal and provincial Forest Department infrastructure as required to implement tree crop management and outreach programs to owners of private farms and range lands.
4. The demonstration of tree crop management on approximately 70,000 acres of privately owned farm and range land leading directly to the production of approximately 126 million cubic feet of fuel wood, 9.2 million cubic feet of timber, and \$5.5 million worth of minor forest products including fodder, thorn fencing material, and mine pit props.
5. The improved management of about 5,000 acres of irrigated forest plantations on government land in Sind Province.
6. The training of 568 forestry and related professionals to improve their skills of decision-making, to develop farm and energy outreach training specialists, researchers, economic and marketing analysts, and to train planners for developing strategies to implement national policies on forestry and natural resource Management.
7. The training of approximately 60,000 farmers and their families in on-farm tree crop management.
8. The development of federal and provincial forest management plans (with emphasis on farm and energy forestry) in cooperation with the UNDP and ADB.
9. The expansion of the research program supporting farm forestry including cooperative agroforestry research with agriculture research workers.
10. The improvement in operations of the Tarbella Watershed project and reforestation of approximately 5,000 additional acres.
11. Assistance to Pakistani NGOs and PVOs in the natural resource management and conservation area through a grants program.

Approximately 10-20 such grants of between \$5,000 and \$50,000 will be given.

12. Improvement of provincial research stations and training centers. Four training centers and four research stations will be improved, one in each province.

13. The role of women in forestry will be enhanced by the construction of a women's hostel at PFI and funding the main building for renovation to include women's studies and wash rooms. Additional WID activities will be developed and coordinated with the Mission WID officer.

More detailed quantified outputs are presented in the Log Frame in Annex C. This log frame presents inputs and outputs for the project as amended (i.e. the total of PP and Amendment activities). As such, it supersedes the log frame in the original PP.

C. Amendment Activities

The following new activities will be integrated into the existing four component structure of the project. More details, including quantifiable targets and activity schedules are provided in the Implementation Plan in Annex A.

1. Field Operations

One of the principal activities of the Farm and Energy Forest Operations Component is to encourage on-farm production of fuel wood, fodder, and timber for subsistence. Field demonstrations are aimed at encouraging the spread of farmer-operated nurseries and woodlots. Sites originally selected for field demonstration and outreach include barani farmlands in several districts of Northwest Frontier Province (NWFP) and Punjab, and irrigated farmlands in the Nasirabad District of Baluchistan. Considerable opportunity for development of on-farm forestry also exists in irrigated areas, where field evidence suggests that farmers' motivation for adoption of tree-crop technology is already high. This Amendment will expand operations into the irrigated areas of the Punjab, the Sind, and Skardu in the Northern Territories.

Relatively high water availability in irrigated areas contributes to rapid tree growth rates that can generate substantial returns to the farmer. High returns on investment encourage farmer adoption of on-farm forestry technology. Initial successes among farmers are key to widespread adoption of tree crop technology which will enable the GOP Forest Departments to sustain the activity over time.

Other considerations also support expansion into irrigated farmlands. Most fuel wood is currently produced in irrigated areas. The marketing infrastructure necessary to service this production already exists.

Traditionally, farmers have planted trees on farmsteads along irrigation canals and fields to serve multiple purposes. Field activities suggest that farmers are both able and willing to expand output through increasing area planted and denser planting. At present, however, they lack access to technology that supports their requirements. To satisfy farmer demand in irrigated areas for forestry inputs, the Punjab and Sind Forestry Departments have requested assistance from the project.

Figure 1 shows both the areas included under the original FP&D project and the new areas added under the Amendment. In all some 44,000 additional acres will be included at a cost of approximately \$5 million. The log frame shows the anticipated total field operation outputs for the amended project.

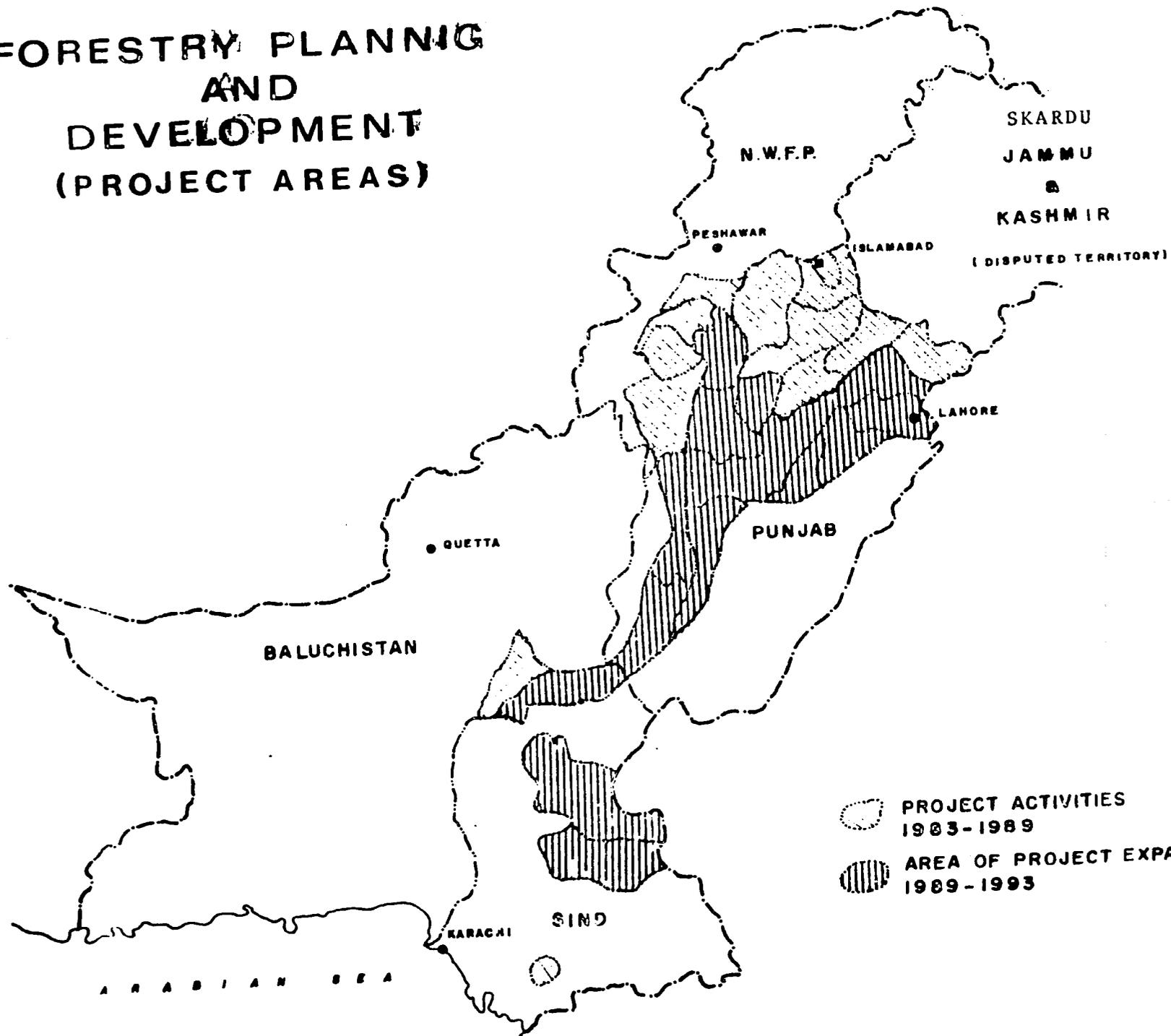
2. Construction

Another major constraint to project implementation is inadequate physical infrastructure for research & training. The activities of the Farm and Energy Forestry Research component as now designed are to improve the scientific basis for farm and energy forestry activities and increase researchers knowledge of the social, economic and technical aspects of on-farm tree crop management. Present provincial research facilities are inadequate for conducting the area-specific, problem oriented research essential to generating and testing appropriate technology for integrating multi-purpose tree crops with farm crops. While NWFP houses a small research station, Baluchistan has no forestry research center. The Punjab research station has no facilities in the barani areas. In Sind, the Miani Research Station needs expanded and improved facilities.

In addition, the lack of facilities for conducting training at federal and provincial levels constrains the achievement of the extensive training required for foresters and farmers.

The purpose of the Institutional and Manpower Development component is to strengthen GOP's capability to identify, implement, and evaluate alternative forest development programs and policies, through a variety of in-country and overseas training programs. Considerable in-country training is programmed in the provinces but there are no facilities that can be dedicated to this training. Each province, except Baluchistan, has a small forest ranger training school but these are fully utilized throughout the year for training forest rangers and guards, and they cannot be used for other courses. The only reasonable option is to build additional facilities that would be used for the continuing education required by the Project. In each province, one training and one research station will be improved at a cost of \$250,000. After PACD completion these facilities will be used as continuing education training centers for the Forest Departments.

FORESTRY PLANNING AND DEVELOPMENT (PROJECT AREAS)



- PROJECT ACTIVITIES 1983-1989
- ▨ AREA OF PROJECT EXPANSION 1989-1993

FIGURE 1

Under the existing project, the construction component consists of forty-three buildings: a hostel for 24 men and a hostel for 15 women at PFI; a conservator's office at Rawalpindi; six divisional forest offices; 17 range offices; and 17 nursery huts. In addition, the Old Penah Minor in Sind is being upgraded and up to 5,000 acres of its command area will be improved. There are 99 nurseries to be developed. Under soil conservation activities, 6,500 acres of farmers' lands will be treated to stabilize erosion by using minor engineering structures such as check dams. Total cost of this construction is \$6.2 million.

Under the project Amendment, the additional buildings will consist of four small provincial training facilities, four research field stations, six project offices in Sind, and improvement of existing facilities to allow women to study at PFI.

For the Sind, a local engineering firm has already prepared standard plans for the three types of project offices. Thirty-eight nurseries will be established. Soil conservation activities will involve additional 500 acres allocated to the Sind Province.

The Office of Engineering, USAID, Islamabad will monitor all major construction activities with the assistance of a project funded engineer. As with the current construction program, USAID will contract a local A/E firm for design and construction supervision services at the PFI. The construction services for buildings will be performed by local firms under host country contracts or AID direct contracts or by the Forest Department with their own resources under direct reimbursement or fixed amount reimbursement (FAR) modes. Total cost of the additional construction is \$1.5 million. Table 3, Annex D presents construction costs divided between those funded from the original PP budget and those from the Amendment budget.

3. WID Activities

Women traditionally collect the fire wood in Pakistan. They also plant trees in and around their house yards for shade and to produce fodder for animals. In the project nurseries that have been established, women do much of the day-to-day work but cannot receive training because cultural modes prohibit men from approaching and discussing such things directly with them. In order to take advantage of the opportunity of bringing women into the project as tree growers and nursery operators, women must be included in the project extension staff.

Bringing women into the implementation of the project and into the decision making operations of the Forest Department is a high priority of the project. A first step is to get women into the professional ranks of the Forest Service in positions such as extension/outreach specialists, research officers, and statistics officers. The Forest Service is already recruiting women for training at the Pakistan Forest Institute (PFI) This training is required before entering the Forest Service as a

professional. Other women may be given special training to act as motivators, nursery operators, or in other such positions. Several short-term consultancies are scheduled to assist with this task.

Women's participation in the various training activities envisaged by this component is inhibited in part by a simple lack of suitable facilities. For example, at the PFI, no housing or study room facilities are provided for women. Under the Amendment, a 15 person hostel for women students will be built and renovation of existing facilities for rest rooms and study rooms for women will be provided at a cost of \$235,000. Restructuring of physical facilities is a first, but necessary, step in the process of encouraging women's participation in the project. Although the potential and rationale for women's participation in the project was described in the PP, considerable work remains in designing methods to encourage this participation.

4. NGO/PVO Activities

Throughout the world and especially in South Asia (with the notable exception of Pakistan) the actions of NGO/PVOs have been instrumental in developing and implementing natural resource policy and in providing exceptional outreach to the rural, disadvantaged poor. This component will provide funding for both the development of indigenous NGO/PVO groups as well as for the operations of such groups. It is envisioned that the Project will give an Operational Program Grant (OPG) to a US registered, experienced PVO who will in turn manage and administer the development and funding of Pakistani NGO/PVO organizations through sub-grants and other such mechanisms. Total funding envisioned for this activity will be \$700,000 for the LOP with \$200,000 being budgeted for the costs to the principal PVO and with the other \$500,000 being budgeted for sub-grants to Pakistani NGO/PVOs in the range of \$5,000 to \$50,000. The principal NGO/PVO will be expected to contribute some \$50,000 of its own, non-AID funds to add to the \$200,000 cost of the activity. This contribution could be in the form of donated home office personnel costs, for example.

The principal PVO should be one that has had considerable experience with this type of program and has demonstrated ability to develop local, grass-root support of natural resource/environmental concerns. The requirement to help local NGO/PVOs develop technical and administrative skills will have top priority. The objective will be to create a cadre of Pakistani NGO/PVOs that can plan and implement natural resource management programs.

Selection will follow AID Handbook 3, Annex 4B, and involve competition among several registered NGO/PVO organizations; other organizations will be tapped through Commerce Business Daily notices. Discussions with the GOP on the use of a PVO for this activity have begun, and it is expected that the grant mechanism will be in place in about six months.

5. Policy and Planning Enhancement

The Office of the Inspector General of Forests is the central source of information about the forestry sector in Pakistan. But it has almost no facilities to collect, analyze, or present relevant data. Policy statements are developed and enforced in this office but the lack of up-to-date field information prohibits early detection and justification of changes that may be required. Provision of training, equipment, and technical assistance will help this office become the strong central data source the country needs.

6. Planning for Sustainability

The provincial Forest Departments will take over project activities in 1993. Two Provinces (Punjab and Sind) are already in the process of assigning non-project personnel to FP&D work.

The success of the field demonstration in the present, limited project area and high farmer interest are encouraging the provincial Chief Conservators of Forests (CCF) to expand activities outside the project area. However, limited funds and the need to support traditional forestry activities constrain their actions. With continued success in the Farm and Energy Forestry Operations component, support will be gained for funding from provincial sources. The amended project will provide the Forest Departments with technical assistance, training, and construction at a cost of \$500,000 to help them plan for the transfer of activities from the project over the course of the next four years.

7. Marketing Needs

Under the amended project, the potential uses and markets of farm and energy forestry outputs will be studied. During the next two year 1985 and 1986 plantations will be mature enough for harvesting. Potential markets and product mixes will be identified and sales prices estimated and confirmed with the help of several short-term and continuing consultancies.

In the O/IGF, a computer information data base on forestry marketing will be established. Private sector firms will be encouraged to participate actively in these marketing initiatives and will be assisted in developing products that use the raw material produced in the farm and energy plantations. The project will provide technical assistance and commodities, including computer software and hardware, at a cost of \$350,000 for this activity.

8. Soil Conservation

Soil conservation activities, started under the PP, will continue during the Amendment period. Specifically, some 1,200 acres in Sind will be added to the 5,800 acres covered in the other provinces. This is the

result of reallocating 700 acres from other provinces and adding 500 acres to be funded under the Amendment. The total area benefiting from soil conservation increases from 6,500 acres to 7,000 acres.

Soil conservation includes small engineering works, like check dams and gully plugging, and will be supported by tree planting on the reclaimed site. It is envisioned that the average farmer will receive about one acre of soil conservation assistance. These activities can repair water-logged and saline conditions as well as reverse active erosion to stable soil. Such reclaimed sites are ideal for farm forestry, since they leave already productive land for agricultural production.

IV. IMPLEMENTATION PLAN: AMENDMENT CHANGES

The revised project Implementation Plan is presented in Annex A. It is presented separately for ease of use by GOP and contractor project personnel. The August 1983 PP plan remains applicable with the following additions:

A. Technical Assistance

No additional Amendment funds will be allocated to technical assistance. Original PP funds will be used to effect some changes in the Technical Assistance Team (TAT). Annex K contains the full Scope of Work for the five long-term advisors (three expatriates and two local hire technicians) augmented by a team of short-term consultants that will constitute the Amendment TAT. The short-term consultants will be contracted to undertake tasks that require several years to complete but do not require continuous in-country oversight. Visits for these individuals will be scheduled as required by the GOP and the TAT. The long-term TAT specialists will be:

1. Senior Policy Advisor and Management Advisor/Chief-of-Party (Expat.)
2. Farm Demonstration/Outreach Forester (Expat.)
3. Training/Education/Research Advisor (Expat.)
4. Training Logistics Coordinator (Local Hire)
5. Policy and Management Specialist (Local Hire)

Some \$2 million has been allocated for 64 person months of short term technical assistance during the Amendment period. An administrator will be required of the contractor. The local office administrator will be responsible for all TAT logistic support under the supervision of the COP, freeing up more COP time for substantive technical tasks.

B. Training

A training plan now exists for the project in PIL No. 23. This plan will be updated by the COP and TAI to reflect new Amendment activities by December 1989. Table 3 gives the expected total training levels for both in-country and participant training. The Amendment budget for training is just over \$3.3 million.

Table 3

Summary of Training

<u>Category</u>	<u>Persons FY 83 to FY 89</u>	<u>FY 89-93 Persons</u>	<u>FY 89-93 Person-Month</u>
1. <u>Overseas Training</u>			
a. Advanced Degree	18	25	600
b. Non-degree	<u>72</u>	<u>45</u>	<u>645</u>
Sub-total	90	70	1245
2. <u>In-country Training</u>			
a. Degree Level			
i. B.Sc.	26	50	1,200
ii. M.Sc.	22	30	720
b. Non-degree Short Courses	80	200	250
c. Travelling Seminars (Provincial)	240	500	250
d. Farmer Short Courses	<u>3,000</u>	<u>20,000 *</u>	<u>400</u>
Sub-Total	3,368	20,780	2,820
TOTAL:	3,458**	20,850	4,065

* Farmer Short Courses will be taught by Forest Department Personnel and will be of two-day duration.

** Farmer training is just now starting and is expected to accelerate during the next two years.

C. Commodities

Table 4 shows an illustrative list of commodities, totaling \$1.3 million, that will be purchased during the FY 89-93. The table also gives a procurement plan for acquiring these commodities.

Table 4
Illustrative List of Commodities

<u>Items</u>	<u>Year of Procurement</u>	<u>Quantity</u>	<u>Purchaser</u>
1. Vehicles			
a. Pick-up Trucks <u>1/</u>	FY 90	25	AID
b. Motorcycles <u>2/</u>	FY 90-91	50	AID
2. Computers	FY 90	20	TAT
3. Computer Software	FY 90-92	As needed	TAT
4. Specialized Research Equipment	FY 90-92	AS needed	TAT
5. Office Furniture and Other such needs	FY 90-92	AS needed	GOP
6. Tools for field work	FY 90-92	As needed	GOP
7. Other Equipment from Overseas sources	FY 90-92	As needed	AID
8. Other Equipment from Local sources	FY 90-93	As needed	GOP

1/ These vehicles will be required to support farm forestry field activities in the expanded areas.

2/ During the first four years of the project the need for motorcycles for outreach foresters to reach remote farmers became clear. These motorcycles will be provided to outreach foresters in the expanded areas.

D. Evaluation Plan

This section amends the Evaluation Plan found in the August 1983 PP. There will be two additional evaluations during the amended project.

1. September 1990 Evaluation

This mid-term evaluation will provide an opportunity to refine the strategies and evaluate the results of the changes incorporated under this Amendment. Representatives of the World Bank have asked and will be invited to participate in this evaluation.

The proposed timing will allow for evaluation of outcomes with the full range of plantations from harvest-age to recently planted trees. The 1990 evaluation will occur when field methodologies and strategies are being fine-tuned.

Specific items for consideration in this evaluation include:

- a. the adoption of farm forestry practices and the success of private nursery strategy;
- b. the spread of farm forestry practices outside project supported areas;
- c. the effectiveness of technical assistance in providing leadership and guidance to the project staff;
- d. the progress of in-country training and the use of returned participants in meeting the needs of the project.
- e. the progress of the forest departments in policy development and implementation of policy through planning and monitoring of their activities; and
- f. the budget allocation to the project in the ADP and amount of non-project resources devoted to farm forestry.

2. June 1993 Evaluation

The 1993 evaluation will coincide with the completion of AID sponsored activities under this project, and will serve as the terminal evaluation. However, it is anticipated that farm forestry in Pakistan will be in a strong growth mode and that related activities will be proceeding under GOP and/or other donor sponsorship. For AID, this evaluation will provide an important opportunity to examine lessons that may be applicable to other AID-supported forestry and rural development projects. Questions such as the following will be addressed:

a. To what extent have the farm forestry operations become self-supporting and which outreach strategies have helped or hindered the outcome?

b. What has been the impact of the project on: Cropping patterns in the target areas? The availability of fuel wood? The use of cow dung for fuel? The level of tree cover? The balance of market versus subsistence oriented tree management?

c. To what extent have the Sind forest plantations on government land increased productivity of fuel wood and other such products?

d. To what extent has the technical assistance and training program had a discernible impact on the project outcome?

e. Is the revised curriculum at the PFI fully implemented?

f. Has applied research in farm forestry filled the role envisioned for it as an integral part of project design, implementation, monitoring, and evaluation? To what extent have forestry and agricultural research and outreach activities been integrated?

g. To what extent have social and economic considerations been brought into research and field operations in forestry in Pakistan?

h. Have issues pertaining to women and NGO/PVOs been utilized adequately in this project?

i. Has a process been established for the development and use of a renewable natural resources policy in guiding future federal and provincial renewable natural resource management activities on public and private lands?

j. To what extent has the GOP committed to support farm forestry? Have the forestry departments assigned people to continue farm forestry in the provinces? Is there funding from GOP sources dedicated to continue farm forestry?

V. FINANCIAL AND ECONOMIC ANALYSIS

The technical, administrative, social soundness, economic and environmental analyses as presented in the Project Paper remain applicable during the Amendment period.

A. Discussion of PP Economic Analysis

The economic analysis as presented in the original PP remains relevant to the project as amended. The activities that are being expanded are similar to those discussed in the analysis on Page 143 of the PP. Of the

six farm forestry models discussed in the PP, the model for the irrigated plantations in Nasirabad is suitable for the economic analysis of the expanded areas in the Punjab and Sind provinces. This model's assumptions about landfarms, climatic and other ecological conditions meet the assumptions underlying the activities in the areas included under the Amendment in the Punjab and Sind provinces. Earlier economic analysis of this model demonstrated internal rates of return (IRR) between 21% and 53%. Since all farm forestry plantations funded under the Amendment will follow this model, there appear to be strong economic justification for the farm forestry activities in the expanded areas. 1/

Annex B to this Amendment contains updated information about the forestry sector in Pakistan and discussed the situation of fuel wood supply and values. The federal and provincial forestry departments are also discussed. The assumptions in the original PP remain valid and the direction of the project in relation to institutional capability will be strengthened under this Amendment. The PP economic analysis addressed this point and the conclusions put forward are still germane at the time of this Amendment.

B. Financial Plan

The revised financial plan is presented below. An inflation rate of 5% was used for FX costs and 10% for local costs.

1. Overview

This Amendment adds \$10 million to the previously authorized \$25 million. Including the GOP contribution, the entire 10 year LOP will cost just under \$50 million. Table 5 shows the budget summary for AID original plus Amendment funding and including GOP inputs. Table 6 shows the methods of implementation and financing for the AID contribution. The project is totally grant funded. While other donors are funding complementary activities in the forest sector, none are providing funding directly for this project.

1/ For a full description and discussion of the model see pages 10 to 14 of Annex F of the PP.

TABLE 5

SUMMARY OF PROJECT AMENDMENT COSTS BY PROJECT ELEMENT,
EXPENSE CATEGORY, AND SOURCE OF FUNDING (a)

(in 000's US Dollars)

EXPENSE CATEGORY	USAID GRANT		GOP (b)	Total Funds
	Total	Percent		
A. TECHNICAL ASSISTANCE				
Expatriate Long-term	7,215.0		0.0	7,215.0
Expatriate Short-term	1,488.0		0.0	1,488.0
Local	540.0		0.0	540.0
Sub-total	9,243.0	26.4	0.0	9,243.0
B. TRAINING				
Overseas Long-term	3,120.0		358.0	3,478.0
Overseas Short-term	1,387.0		0.0	1,387.0
In-country	1,914.5		230.0	2,144.5
Sub-total	6,421.5	18.3	588.0	7,009.5
C. COMMODITIES	2,877.9	8.2	178.0	3,055.9
D. FIELD OPERATIONS				
1. Research	584.8	1.7	1,358.0	1,942.8
2. Field Activities		22.2		
a. Farm Forestry				
1. Tree Plantation	4,444.3		8,970.0	13,414.3
2. Nurseries	132.5		132.0	264.5
3. Soil Conservation	2,742.0		1,000.0	3,742.0
4. Watershed(MFP)	442.0		0.0	442.0
b. Irrigation Upgrade	1,000.0	2.9	500.0	1,500.0
c. Building Construction	2,893.3	8.3	543.0	3,436.3
d. NGO/PVO Operations	618.8	1.8	0.0	618.8
Sub-total	12,857.7	36.9	12,503.0	25,360.7
E. Evaluation	618.0	1.8	0.0	
SUB-TOTAL	32,018.1	91.6	13,269.0	45,287.1
F. Inflation (c)	829.9	2.4	(d)	829.9
G. Contingency (e)	2,152.0	6.1	1,031.0	3,183.0
Total	35,000.0	100.0	14,300.0	49,300.0

Notes:

- (a) Project Costs are defined as anticipated earmarkings or commitments of funding through, for example, PIOs, contracts, purchase orders, or PILs.
- (b) Expressed as dollar equivalents at the exchange rate of US\$1.00=Rs.19.00.
- (c) Inflation is assumed 5% of FX costs and 10% of local costs.
- (d) Costs estimates for the original PP include inflation.
- (e) As the project is well underway, costs factors are fairly firm therefore contingency is calculated as approximately 6%.

TABLE 6

FORESTRY PLANNING AND DEVELOPMENT PROJECT (391-0481)

Methods of Implementation and Financing

CATEGORY	Implementation	Financing	Amount (in \$000)
A. TECHNICAL ASSISTANCE			
1. Expatriate TA	Competitive contract	LOC	8500
2. Local services such as A/E	USAID Procurement	Direct Payment	250
3. Other local services	Host country contract	Direct Payment	498
B. TRAINING			
1. Local by GOP	PIL (earmark funds)	Host country reimbursement	1314
2. Other	Through DSTP Contractor	LOC	5286
C. COMMODITIES			
1. Vehicles	USAID Procurement	Direct Payment	2180
3. Tools and Equipment (local)	PIL (earmark funds)	Host country reimbursement	470
4. Equipment (overseas)	USAID Procurement	Direct Payment	300
D. OTHER COSTS			
1. RESEARCH	PIL (earmark funds)	Host country reimbursement	640
2. FIELD ACTIVITIES	PIL (earmark funds)	Host country reimbursement	8056
a. FARM FORESTRY			
1) TREE PLANTATION			
2) NURSERIES			
3) SOIL CONSERVATION			
4) WATERSHED (WFP)			
b. IRRIGATION UPGRADE	FAR	Host country reimbursement	1000
c. BUILDING CONSTRUCTION	FAR	Host country reimbursement	2594
	USAID Procurement	Direct Payment	410
d. NGO/PVO OPERATIONS	Operational Program Grant	LOC	700
E. EVALUATION	Competitive Contract with private firm	Direct Payment	<u>650</u>
TOTAL			32848 *

* Excludes contingency.

Table 7 shows project expenditures and obligations by fiscal year and source of funds. Contingency is presented as a separate line item.

C. Expense Categories

A comparison of current and planned expenditures with the original PP budget (shown in Table 1 in Section I.B) reveals the changes described below:

1. Technical Assistance

The overall level of \$9.2 million remains the same. Long-term expatriate TA has been reduced by more than \$1.2 million. Short term expatriate and local TA have been proportionally increased. These changes reflect the recommendations of the evaluation, lessons learned from the first four years of project implementation and constraints in the number of long-term expatriate personnel allowed in the program. The costs estimates for TA are firm, as the contract has been negotiated and will be fully funded within the original authorized level.

2. Training

All elements of the training budget (overseas long-term, overseas short-term and in-country) have been doubled, reflecting the value and popularity of this project element. The costs per person month are standard costs used by the mission for all DSTP-monitored participants

3. Commodities

This line item has been increased by almost \$1.3 million to cover additional vehicles and other equipment for use in the project offices and for field operations. More details are presented in Section IV(C) above.

4. Other Costs

The evaluation line item increases by almost \$300,000 to cover the additional evaluation described in Section IV(D) above and a non-federal audit should it be required.

Operating expenses receive an additional \$4.7 million to cover Operational Program Grants NGOs (\$700,000), the expansion of field operations to irrigated areas (\$4 million).

Just over \$1.0 million has been allocated for Amendment construction activities, including new training and research facilities and women's hostels at PFI.

TABLE 7

SUMMARY OF PROJECT EXPENDITURES AND OBLIGATIONS BY FISCAL YEAR AND SOURCE OF FUNDING
(in 000's US \$)

SOURCE OF FUNDING	Through FY 89	FY 90	FY 91	FY 92	FY 93	TOTAL

1. AID EXPENDITURES						
GRANT		7385	6104	5402	4887	
CUMULATIVE	9070	16455	22559	27961	32848	32848
CONTINGENCY						2152
					TOTAL	35000
2. AID PLANNED OBLIGATIONS						
GRANT		3000	7000	5000	2000	
CUMULATIVE	13000	21000	28000	33000	35000	35000
3. GOP EXPENDITURES						
CUMULATIVE	3500	4500	7700	11000	14300	14300

The foreign exchange component of the AID contribution over the remainder period of the project is \$9.5 million while the local currency contribution is about \$15 million (see Table 1, Annex U). As a result of the increased funding for the FP&D project the foreign exchange component of the AID contribution and the local currency component increased by \$3.3 million and \$6.7 million respectively.

Budget analysis reveals that \$15.7 million, about 45% of the total USAID funds for the project will go towards institution building (see Table 5 in this Section). 1/ These funds are divided between technical assistance (26.4%) and training (18.3%). About 620,000 will be allocated to NGO/PVO activities.

Almost \$7.8 million will be spent on field activities. This represents about 22% of the total USAID funds allocated to the FP&D project. Field activities include tree plantation established, outreach and extension nurseries and land improvements for soil conservation.

Each province receives a more or less equal share, ranging from about \$1.7 million for Baluchistan to about \$2.0 million for Punjab. The balance will form AID's contribution to the WFP's Tarbela Watershed Project.

Construction is the next highest item, receiving about 11% of the total USAID funds. This includes not only construction of buildings but a large part of the cost of improving farm land to stop gullying, eliminate salt problems and prepare water logged lands for tree planting. Table 2 in Annex D gives a breakdown of the total cost of construction, including the GOP contribution. Table 3 in Annex D presents a breakdown of the soil conservation cost per acre.

For all of the above items, both AID and GOP will make financial inputs. In total, the GOP will contribute \$14.3 million toward training, research, commodities, field operations, and construction over the life of the Project. In addition, it is estimated that the GOP will finance over \$7 million worth of field staff and operations costs in excess of project funding from other sources over the ten year LOP for such things as non-project staff, commodities and maintenance.

Project funding will reach a peak in FY 91 and decline to just over \$500,000 in the final year of the project. By this time, it is expected that the project will have helped the GOP acquire alternative funding sources so that key project activities are sustained beyond 1993.

1/ Cost figures presented in Table 5 do not include inflation which explains why the sub-totals do not match the figures presented in Table 1, Section I. In Table 5 inflation is listed as a separate item.

VI. CONDITIONS, COVENANTS, AND NEGOTIATING STATUS

This section does not change from that in the August 1983 PP. There are no new conditions precedent and those covenants that are in effect, remain in effect.

5015S/0190S
6/19/89

VII. AMENDMENT ANNEXES

22

FORESTRY PLANNING AND DEVELOPMENT PROJECT (391-0481)
IMPLEMENTATION PLAN

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I. INTRODUCTION and SUMMARY

This revised implementation plan covers all project activities that must be completed during Amendment period and supersedes the Implementation Plan that is in PIL 23 and the PP Implementation Plan. Activities have been reprogrammed to: take advantage of knowledge gained in the first five years of activities, reschedule activities set back by the unexpected two year delay in mobilizing project start up and include new activities. For ease of planning, the GOP Fiscal year has been used.

Inputs and outputs are quantified in the amended Log Frame, Annex C to the PP amendment, and are considered the minimal acceptable achievements if the project is to attain its stated purpose. For all Amendment activities, the Implementation Schedule in Table 1 of this appendix presents phasing of yearly outputs.

USAID and the GOP will meet at least annually to review progress toward achievement of the Project purpose as well as to review the accomplishments of the past year's work. At this meeting, the Implementation Schedule will be reviewed and revised if necessary.

The TA Team and Federal and Provincial forestry organizations will develop annual work plans to achieve the targets in the Implementation Schedule.

Tables I, II, and III summarize field operations and construction outputs.

TABLE I
PROJECT FARM FORESTRY TARGETS

	89/90	90/91	91/92*	92/93*	TOTAL
1. Permanent Nurseries	46	70	62	0	178
2. Seedlings Produced	7.2 MM	9 MM	11 MM	11 MM	38.2 MM
3. Acres Planted	12,250	9,000	11,000	11,000	43,250
4. Farmers trained	6,000	7,500	9,500	0	23,000
5. Farmers Planting	10,000	11,000	11,000	11,500	43,500
6. Advisory Boards District/Tahsil	7/15	0	0		7/15

*NOTE: Requires GOP extension of PC-I.

TABLE II
IRRIGATION TARGETS, SIND (in acres)

	89/90	90/91	91/92*	92/93*	TOTAL
1. Land leveling and Canal					
Construction:					
A. New sites	350	1,500	2,000	0	3,850
B. Improved sites	150	500	500	0	1,150
2. Plantations:					
A. New plantations	0	1,200	2,500	150	3,850
B. Improved Plantation	0	400	600	150	1,150

*NOTE: Requires GOP extension of PC-I.

TABLE II

CONSTRUCTION

	89/90	90/91	91/92*	92/93*	TOTAL
1. Pakistan Forest Institute					
Women's hostel	0	1	0	0	1
2. Conservator's office	1	0	0	0	1
3. D.F.O Office	3	3	1	0	7
4. R.F.O. Office	6	12	1	0	19
5. Nursery Hut	6	13	1	0	20
6. Soil Conservation (Acres)	800	2,800	2,800	600	7,000
7. Permanent Nurseries	87	70	40	0	197
8. Research Station	0	2	2	0	4
9. Training Facilities	0	2	2	0	4

*NOTE: Requires GOP extension of PC-I.

II. IMPLEMENTATION ACTIVITIES DURING FY89-FY93

A. Institutional and Manpower Development

1. Annual Work Plan

In March of each year the Implementation Plan will be reviewed for accomplishment of all scheduled tasks. Tasks not completed will be reviewed to see if they are still relevant and whether they should be rescheduled. The next year's tasks scheduled will be discussed and modified as required in light of progress. The Implementation Plan will be updated as required in coordination with GOP, USAID, and the TA Team. By this time the ADP budget will be known and the preparation of the annual work plan can start.

The annual work plan will be prepared using the Implementation Plan, based on the PP and the GOP PC-I, as the guide for tasks to be performed and the minimum level of achievement of each task. The work plan will become the basic tool for monitoring annual progress. The work plan will list activities and schedule them appropriately throughout the agricultural year. For example, field training for farmers will be scheduled for times when farmers are free from other work. Similarly, the climatically proper time for seedlings to be raised in the nursery for planting will be identified in the plan. Once the Annual Work Plan is approved, the activities listed will be considered approved and additional approvals will not be required. All activities should be explained as fully as possible so that additional reviews of the work are not necessary. For example, a short-term consultancy should be scheduled with the scope of work included in the work plan. Another example would be scheduling a building with the site already selected.

2. Policy and National Plan

a. National Forestry Policy

In March 1989, the IGF hosted an international workshop in Karachi to discuss the elements of a national forest policy for Pakistan. All forestry donors, many senior GOP officials and representatives from the wood products industry attended. The resultant recommendations and their implementation will form the context for future actions on National Forest Policy. This keys into the development of the national forestry management plan being developed by the IGF with the assistance of the ADB and UNDP. The formulation of a forest policy is a first step in defining the priorities of any forestry management plan. The Project will assist the GOP with inputs into the effort to develop policy and coordinate policy with management planning.

The IGF will appoint working committees to formulate a draft national forest policy based on the recommendations and findings of the International Workshop and GOP requirements. Short term TA will assist with writing, editing, and publishing the draft plan.

The draft policy will be submitted to the appropriate GOP offices for review and discussion. Both federal and provincial offices as well as NGOs will participate in the review.

b. National Forest Management Plan

The ADB and the UNDP are assisting the GOP with the development of a National Forest Management Plan. The TA Team will assist with reviewing and monitoring progress in the development of the Plan. Specifically the TA Team COP will be assigned to assist the O/IGF with planning and management concerns.

To support forestry planning and policy formulation, a statistical data collection cell will be established in the O/IGF to collect and analyze economic, production, and outputs data relating to the forest sector, both public and private. This information will be used in designing budgets and in promoting awareness of the significance of forestry and the wood products sector in the overall economy.

3. Research Plan

Research committees have already been established and policy directions defined. During the Amendment period, a research management plan will be institutionalized, and a Research Career Corps established.

A workshop will be held to identify barriers that hinder career development for provincial and federal research officers. The workshop will appoint a committee that will write a working paper on how to resolve the issue of the low status of the forest researcher and how to induce professionals to enter this career. After discussion and approval by senior provincial forestry officials, the paper will be submitted for approval by the Ministry of Food, Agriculture, and Cooperatives. The desired outcome is a career ladder for the researcher that is financially and professionally attractive. With conceptual approval from Planning and Finance, the IGF and the DG/PFI with the assistance of the TA Team will develop the mechanisms for establishing a career corps of researchers with appropriate promotion ladders and professional incentives.

4. Training

The Training Plan in Appendix 1 of PIL 23 will be updated by January 1, 1990 in conjunction with the TA Team and the GOP. The revised

plan will cover actual training planned for each year of the project allowing for completion of all activities by the PACD of August 1993. It will be formalized by issuing a countersigned Project Implementation Letter (PIL).

a. Participant Training

The Plan for participant training will be developed by the GOP Project Officer with assistance of the TA Team. This plan will list all short-term and long-term training envisioned during the project life. It will be updated annually. When the Plan is finalized, it will be submitted to USAID for action. The Plan must be completed by 1 August each year.

b. In-country Training

(1) Farm Forestry Courses

Five farm forestry courses will be designed at the PFI. Short-term TA will help write the lesson plans and lecture notes and test the courses in the classroom. The five courses are:

- (a) Farm Forestry Outreach.
- (b) Resource Planning and Economics.
- (c) Farm Forestry Systems.
- (d) Energy as a Forest Product.
- (e) Farm and Energy Forestry.

Additional courses will be developed if required.

(2) In-country Advanced Degree Targets

At least 30 foresters will be trained to M.Sc. and 50 foresters trained to B.Sc. in Farm Forestry from all provinces at the PFI.

(3) Special Short Courses

Between 1 and 3 short courses will be given in Pakistan each year. These courses will be provided from US institutions and will be tailored to the needs and requirements of Pakistan. The TA Team will develop course outline for appropriate training and will locate, where possible appropriate training sources. The TA Team and the GOP will provide all in-country logistical support and will assist the GOP in selecting the appropriate trainees.

5. Technical Assistance

Technical Assistance will be provided through a contract with Winrock, Int. Both long-term and short-term services will be scheduled. Appendix K to the PP amendment presents details of the Technical assistance that will be provided during the remainder of the Project. The TA team and the GOP will develop a schedule of short-term consultancies by January 1990 as part of the Annual Project Work Plan which will be revised at least annually.

B. Operational Activities

1. Punjab

The quantifiable outputs for Farm Forest Plantation are:

<u>ACTIVITY BY GOP FISCAL YEAR</u>	<u>AMOUNT 89/90</u>	<u>AMOUNT 90/91</u>	<u>AMOUNT 91/92</u>	<u>AMOUNT 92/93</u>	<u>TOTAL</u>
1. PERMANENT NURSERIES	20	20	20	0	60
2. SEEDLINGS PRODUCED	3 MM	3 MM	4 MM	4 MM	14 MM
3. ACRES PLANTED	3,000	2,750	3,750	4,000	13,500
4. FARMERS TRAINED	2,800	2,500	2,500	0	7,800
5. FARMERS PLANTING	3,000	3,000	3,500	4,000	13,500
6. ADV. BOARDS DIST/TEH	5/10	0	0	0	5/10

Note:

Permanent nurseries produce 50,000 trees. Additional seedling production will be from temporary nurseries. Seedlings produced, farmers trained, and acres planted are all interrelated. Each one must be accomplished in time and in order. Also of note is that more farmers will be trained than will plant trees. Three hundred motivators will be selected and trained between 1989 and 1992.

2. NWFP

The quantifiable outputs for Farm Forestry Plantations are:

<u>ACTIVITY BY GOP FISCAL YEAR</u>	<u>AMOUNT 89/90</u>	<u>AMOUNT 90/91</u>	<u>AMOUNT 91/92</u>	<u>AMOUNT 92/93</u>	<u>TOTAL</u>
1. PERMANENT NURSERIES	15	15	10	0	40
2. SEEDLINGS PRODUCED	3 MM	3 MM	3 MM	3 MM	12 MM
3. ACRES PLANTED	3,000	3,000	3,000	3,000	12,000
4. FARMERS TRAINED	2,000	2,500	2,500	0	7,000
5. FARMERS PLANTING	3,000	3,000	3,000	3,000	12,000
6. ADV. BOARDS DIST/TEH	0	0	0	0	0

Note:

Permanent nurseries produce 50,000 trees. Additional production will be from temporary nurseries. Seedlings produced, farmers trained, and acres planted are all interrelated and each one must be accomplished in time and in order. Also of note is that more farmers may be trained than plant trees. One hundred and fifty motivators will be selected and trained.

In addition, the Amendment will provide cash support for daily wages to workers planting approximately 5000 acres of private land in conjunction with the WFP supported watershed project in Mangla and Tarbela dams. The work started in January 1988 and will finish in December 1990.

3. Baluchistan

The quantifiable outputs for Farm Forestry Plantations are:

<u>ACTIVITY BY GOP FISCAL YEAR</u>	<u>AMOUNT 89/90</u>	<u>AMOUNT 90/91</u>	<u>AMOUNT 91/92</u>	<u>AMOUNT 92/93</u>	<u>TOTAL</u>
1. PERMANENT NURSERIES	5	15	10	0	30
2. SEEDLINGS PRODUCED	0.4MM	1.0MM	2.0MM	2.0MM	5.4MM
3. ACRES PLANTED	400	1,000	2,000	2,000	5,400
4. FARMERS TRAINED	400	1,000	2,000	0	3,400
5. FARMERS PLANTING	300	800	1,500	2,500	5,100
6. ADV. BOARDS DIST/TEH	2/4	0	0	0	2/4

Note:

Permanent nurseries produce 50,000 trees. Additional seedling production will be from temporary nurseries. Seedlings produced, farmers trained, and acres planted are interrelated and each one must be accomplished in time and in order. Also of note is that more farmers may be trained than plant trees. Fifty Motivators will be selected and trained between 1989 and 1992.

4. Sind

Several activities will be undertaken in Sind. The following are the targets for farm forest plantations:

<u>ACTIVITY BY GOP</u> <u>FISCAL YEAR</u>	<u>AMOUNT</u> <u>89/90</u>	<u>AMOUNT</u> <u>90/91</u>	<u>AMOUNT</u> <u>91/92</u>	<u>AMOUNT</u> <u>92/93</u>	<u>TOTAL</u>
1. PERMANENT NURSERIES	6	20	12	0	38
2. SEEDLINGS PRODUCED	0.8MM	2 MM	2 MM	2 MM	6.8MM
3. ACRES PLANTED	800	2,000	2,000	2,000	6,800
4. FARMERS TRAINED	800	1,500	2,500	0	4,800
5. FARMERS PLANTING	600	1,600	2,000	2,000	6,200
6. ADV. BOARDS DIST/TEH	3/5	0	0	0	3/5

Note:

Permanent nurseries produce 50,000 trees. Additional seedling production will be from temporary nurseries. Seedlings produced, farmers trained, and acres planted are all interrelated. Each one must be accomplished in time and in order. Also of note is that more farmers will be trained than will plant trees. One hundred motivators will be selected and trained between 1989 and 1992.

Additionally, the irrigation system for government fuel wood plantations will be improved.

This system is being designed under the supervision of the USAID Project Officer and the Office of Engineering. In addition, Irrigation System Management Project (ISM) engineers are fully involved with technical oversight for the design and construction of the irrigation system. These ISM engineers are participating in development of specifications for the system and will assist the project engineer in inspections of the civil works as completed.

The Sind Forest Department completed the design of a new irrigation system in September 1988. A PIL detailing the procedure for funding, inspecting, and accepting the completed work was issued in April 1989.

The Sind Irrigation Department is constructing a 30 cusec control structure for the Old Penah Minor as a first step to its reconstruction. The minor is approximately 3 miles long with a 30 cusec capacity. The water will be used to irrigate tree farms on GOP land. These tree farms will provide fuel wood and other minor forest products to the Cities of Karachi and Hyderabad. Providing these products now causes considerable stress on the supplies in the rural areas of the Sind. An additional benefit that will be realized is the testing of appropriate silvicultural and water management schemes that could be used on private farm wood lots without farmers risking poor designs on their land.

Land will be leveled and distribution canals constructed on approximately 5,000 acres of new and improved plantation sites as follows: (in acres)

	<u>89/90</u>	<u>90/91</u>	<u>91/92</u>	<u>92/93</u>
1. NEW SITES	350	1500	2,000	0
2. IMPROVED SITES	150	500	500	0

Trees will be planted on the irrigated plantation sites as follows: (The numbers indicate acres planted each year).

	<u>90/91</u>	<u>91/92</u>	<u>92/93</u>
1. NEW PLANTATIONS	1200	2500	150
2. IMPROVED PLANT.	400	600	150

5.	<u>Skardu</u> Acres Planted	<u>1990</u> 250	<u>1991</u> 250	Note: Farmers will be trained at Skardu.
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6. Special Studies

a. Marketing

A two-consultant team will analyze reports and data now available on the marketing of farm forest products. Special attention will be given to fuel wood, small timbers, fodder, mine pit props, posts and

poles, and pulp. The team will then outline a series of studies to define the role of timber and fuel wood in Pakistan's development. Several studies are envisioned as follows.

(1) Pulp and Paper Feasibility

Several requests have come from the Sind and Punjab Forest Departments for feasibility studies on eucalyptus plantations. Private sector groups such as Packages, Ltd. have also requested information. This represents a great opportunity to develop a high growth potential part of the forestry sector. The consultant will concentrate on 5-15 ton/day capacity mechanical and therm-mechanical pulp and paper mills. Potential for cogeneration will be considered wherever feasible.

(2) Marketing Fuel Wood in Barani

Market for wood in Nasirabad area of Baluchistan is irrigated and is very close to coal mining that uses considerable amounts of pit props. This is a very high potential market with considerable profit possible. Fuel wood is at a premium and land affected by salt and periodic shortages of water are common. The study will try to identify the best short run and long run tree crops and determine their value and demand.

(3) Sind Wood Market Study

The Sind requires studies to determine the types, specifications, and quantities of the products from plantations funded by this project. This study will set silvicultural goals for management of the plantations. The principal markets of the Sind are thought to be Karachi and Hyderabad for fuel wood and the mining industry for pit props.

b. Socio-Cultural Studies

These studies will continue the monitoring of the effects of farm forestry in model villages started in the first four years of the project. In addition, follow up studies of the role of women and children in the implementation of the project will be conducted. It is envisioned that one study every 18 months will be conducted. The actual studies will be defined by the COP and GOP project personnel in the annual work plans.

c. Nursery Manuals

A series of nursery manuals will be developed that will give detailed instructions on:

- (1) How to build a permanent nursery.

(2) A draft Nursery Production Agreement between the GOP and the nursery owner covering size of order (number of seedlings) and price.

(3) Detailed instructions each for all nursery tasks including soil mixing, seed plantings, watering and root off. A short term consultant will write this manual.

d. Farm Forestry Field Guides

A series of field guides that will assist the foresters in approaching farmers, organizing advisory boards, selecting participating farmers, selecting nursery owners, and selecting motivators will be developed by the TA Team and the GOP foresters. These field guides will be written in Urdu and English and in other languages where needed.

e. Monitoring and Evaluation Manual

As a result of the field evaluation conducted in March and April 1988 a monitoring and evaluation manual will be developed. It will tell how to collect data and what data to collect and contain a set of standardized forms that can be read into a computer program. A short-term Pakistani consultant will computerize this data collection and design the forms for the manual.

f. Standard Accounting System

A Pakistani firm will be contracted to assist the GOP in setting up a standard, computer based accounting system. The system will have formats useable with IBM AT compatible computers and designed for potential adoption by the entire forestry sector.

g. Silviculture Management of Irrigated Plantations

Irrigated forest plantations in Pakistan are the largest in the world. They are not producing at maximum efficiency and may not be fully justifiable economically. A major objective of the project is to improve the management of these plantations by developing a management system to produce wood that will produce a high percentage of products that have been identified through economic analysis of the different options and products. Optional use include pulp, particle board, sports equipment, fuel wood, fodder, and grazing. As the most economically acceptable products are identified, appropriate silvicultural techniques will be developed. In addition, water requirements for optimal growth must be defined and water management systems must be improved. These topics will also be investigated and research designed as required. The government plantations in Pakistan grow approximately 50% of the high grade timber produced in the country. They are the proving

grounds for methods that could be adopted by the private sector. But as they are now they do not demonstrate management with economic incentives a major priority. If large scale private plantations are to be adopted by the private sector, there must be better, more economical silviculture systems developed for use on large scale irrigated plantations.

C. Construction

1. Pakistan Forest Institute, Peshawar

Construction of the mens' hostel has already started and will be completed by August 1989.

A women's hostel is now being designed. Construction will start in 1989.

2. Punjab

Construction will include:

<u>TYPE</u>	<u>AMOUNT</u> <u>88/89</u>	<u>AMOUNT</u> <u>89/90</u>	<u>AMOUNT</u> <u>90/91</u>	<u>AMOUNT</u> <u>91/92</u>
1. CONSERVATOR'S OFFICE	1	0	0	0
2. DFO'S OFFICE	1	2	1	0
3. RFO'S OFFICE	4	6	1	0
4. NURSERY HUT	4	6	1	0
5. SOIL CONSERVATION*	300 AC	1000AC	1000AC	200AC
6. PERMANENT NURSERIES	7	20	12	0

* Soil conservation is done on the same land that is planted in trees. Where active erosion is moving into farm lands the project can help stabilize the soil and reclaim the area by planting trees and installing structures like check dams.

3. NWFP

Construction will include:

<u>TYPE</u>	<u>AMOUNT 89/90</u>	<u>AMOUNT 90/91</u>	<u>AMOUNT 91/92</u>	<u>AMOUNT 92/93</u>
1. DFO'S OFFICE	1	0	0	0
2. RFO'S OFFICE	1	2	0	0
3. NURSERY HUT	1	2	0	0
4. SOIL CONSERVATION*	300 AC	1000AC	1000AC	200AC
5. PERMANENT NURSERIES	5	15	10	0

* Soil conservation is done on the same land that is planted in trees. Where active erosion is moving into farm lands the project can help stabilize the soil and reclaim the area by planting trees and installing structures like check dams.

4. Baluchistan

Construction will include:

<u>TYPE</u>	<u>AMOUNT 89/90</u>	<u>AMOUNT 90/91</u>	<u>AMOUNT 91/92</u>	<u>AMOUNT 92/93</u>
1. DFO'S OFFICE	1	0	0	0
2. RFO'S OFFICE	1	2	0	0
3. NURSERY HUT	1	2	0	0
4. SOIL CONSERVATION*	100 AC	300AC	300AC	100AC
5. PERMANENT NURSERIES	5	15	10	0

* Soil conservation is done on the same land that is planted in trees. Where active erosion is moving into farm lands the project can help stabilize the soil and reclaim the area by planting trees and installing structures like check dams.

5. Sind

Construction will include:

<u>TYPE</u>	<u>AMOUNT 89/90</u>	<u>AMOUNT 90/91</u>	<u>AMOUNT 91/92</u>	<u>AMOUNT 92/93</u>
1. DFO'S OFFICE	0	1	0	0
2. RFO'S OFFICE	0	2	0	0
3. NURSERY HUT	0	3	0	0
4. SOIL CONSERVATION*	100 AC	500AC	500AC	100AC
5. PERMANENT NURSERIES	10	20	8	0

* Soil conservation is done on the same land that is planted in trees. Where active erosion is moving into farm lands the project can help stabilize the soil and reclaim the area by planting trees and installing structures like check dams.

FIGURE 1: Implementation Schedule, GOP FY 89/90 to GOP FY 93/94

ACTIVITY	1989-1990	1990-1991	1991-1992	1992-1993	1993-1994
	JASONDJFMAMJ	JASONDJFMAMJ	JASONDJFMAMJ	JASONDJFMAMJ	JAS *
1. Annual Work Plan					
a. Review Accomplishments	X	X	X	X	
b. Develop Next Work Plan	XX	XX	XX	XX	
c. Revise Implementation Plan	X	X	X	X	
c. Approve Work Plan	B	B	B	B	
2. NATIONAL FORESTRY POLICY					
a. Workshop	(Completed in March 1989)				
b. Develop Draft Policy	B				
c. Finalize Policy	XXXX				
d. Submit Policy for Official Approval		B			
3. ASSIST ADB/UNDP WITH NATIONAL FORESTRY MANAGEMENT PLAN	XXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXX	
4. DEVELOP RESEARCH PLAN					
a. Review Status of Planning	XX				
b. Develop Draft Research Plan	XXXX				
c. Approve Research Plan		B			
d. Develop incentives for Career Corps of Researchers					
i. Workshop	X				
ii. Submit Recommendations to IGF		B			
5. TRAINING					
a. Update Training Plan	B	X	X	X	
b. In-Country					
i. BSc./MSc.	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
ii. Field Technical Training	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
iii. Farmer Training	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
iv. Traveling Seminars	XX XX	XX XX	XX XX	XX XX	
v. Short Courses		XX XX	XX XX	XX XX	
c. Participant					
i. Long- or short-term					
1) Nomination and Clearance	XXXXXB	XXXXXB	XXXXXB		
2) Placement		XXXX	XXXX	XXXX	
6. TECHNICAL ASSISTANCE					
a. Development a Management Plan for All TA Scheduled During the Project	XXX				
b. Plan Approved by IGF and AID		B			

NOTES: 1. X=one month and indicates that the activity occurs during that month.
 2. B=Benchmark and indicates that the activity must be completed in that month.
 * Project ends in September, 1993.

FIGURE 1: Implementation Schedule, 30th FY 89/90 to GDP FY 93/94 (cont.)

ACTIVITY	1989-1990	1990-1991	1991-1992	1992-1993	1993-1994
	JASONDJFHAMJ	JASONDJFHAMJ	JASONDJFHAMJ	JASONDJFHAMJ	JAS *
7. OPERATIONAL ACTIVITIES					
a. Nursery development	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXX	
b. Tree Planting	XX XX	XX XX	XX XX	XX XX	XX
c. Extension/Outreach	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XX
d. Soil Conservation	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XX
e. Federal Advisory Board Meeting	B B	B B	B B	B B	B
f. Research	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
g. WFP Plantations	XXXXX				
h. Sind Government Land	XXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXX	
i. Monitoring/Evaluation Manual					
i. Develop Manual	XXXXX				
ii. Manual Requirements		B			
iii. Become mandatory for use by Project Personnel					
j. Develop Field Manuals	XXXXX	XXXXXXXXXX	XXXXXXXXXX		
h. Develop a Standard Accounting System for the Project	XXXXXXXXX				
8. CONSTRUCTION					
a. Mens' Student Hostel (PFI)	XXXXX				
b. Women's Student Hostel (PFI)					
i. Design	XXXXX				
ii. Construction		XXXXXXXXXX			
c. Project Offices	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXX	
d. Sind Irrigation System					
i. Minor Canal	XXXXX				
ii. Land Leveling	XXXXX	XXXXXXXXXX	XXXXXXXXXX		
e. Training and Research Centers					
i. Design	XXXXXXXXX				
ii. Construction		XXXXXXXXXX	XXXXXXXXXX		

NOTES: 1. X=one month and indicates that the activity occurs during that month.
2. B=Benchmark and indicates that the activity must be completed in that month.
* Project ends in September, 1993.

Forestry Planning and Development Project Amendment

Technical Discussion Outline

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FORESTRY PLANNING AND DEVELOPMENT PROJECT

TECHNICAL DISCUSSION

A. Forestry in Pakistan

1. Public Sector

The Ministry of Food, Agriculture, and Cooperatives has responsibility for developing policies and coordinating programs and budgets for the management of Pakistan's forests. Within the Ministry, these activities are directed by the Inspector General of Forests (IGF) who advises the Minister of Agriculture on forestry matters, coordinates the activities of the Provincial Forest Departments and administers the Pakistan Forest Institute. The Inspector General of Forests has two professional assistants.

The Provincial Governments implement policy decisions made at the federal level and manage government controlled forests. Their Planning and Development Departments determine the level of provincial funding available for recurring and development expenditures in forestry. These Departments must approve all projects and expenditures proposed by the Forest Departments.

A Chief Conservator of Forests directs each Provincial Forest Department. A Conservator of Forests heads each major geographic area within a province and in turn supervises Divisional Forest Officers (DFO's) with responsibility for subdivisions within the conservancy. DFO's in turn supervise more junior Forest Officers who manage smaller geographic areas. Assignments are not necessarily made in relation to the training of the individual. However, some Forest Departments have one or more specialists in such fields as sericulture (silk production), fish and wildlife management, resin production, and watershed management. Normally assignments are made in relation to seniority.

The staff level of the four Provincial Forest Departments is estimated at 8,000 - 9,000. About 2 percent have more than 2 years of professional training obtained primarily from the Pakistan Forest Institute; in some cases, this training is supplemented by one or two additional years of training abroad. An additional 3 percent have completed up to 2 years of professional training at the Pakistan Forest Institute. Roughly 15 percent of the staff completes one year of training at a technical forestry school before entering the Forest Departments while nearly two-thirds of the Forest Departments members receive only six months or less of technical training.

The Pakistan Forest Institute in Peshawar (PFI) provides Bachelors and Masters degrees in Forestry. The PFI is headed by a Director General who

reports to the Inspector General of Forests in the Federal Ministry of Food, Agriculture, and Cooperatives. Competition for entrance into PFI is severe. The first step is a written examination. A small number of those passing the examination are nominated for admission by the Provincial Forest Departments on the basis of subsequent interviews and oral examinations. In addition, provincial forestry schools offer technical training to high school graduates to become Forest Rangers and Forest Guards. These schools, of which 2 are located in NWFP and one each in the Punjab and Azad Kashmir, are administered by the Provincial Forest Departments and offer six and twelve months courses in the technical aspects of Forest management.

The PFI conducts the great majority of all forest related research, although some Provincial Forest Departments also undertake research. Most forestry research is coordinated and approved by the Technical Committee for Forests, Range and Watershed of the Pakistan Agricultural Research Council (PARC) in Islamabad.

The Cabinet of the Government of Pakistan issued a policy statement directing the Ministry of Agriculture to establish a major program for producing fast-growing trees in areas outside of traditional forests. This directive was incorporated in the Sixth Five-Year Plan where a Rs. 612 million allocation for farm and energy forestry was made. The main purpose of this program is to encourage farmers to produce tree crops on privately-owned farms and range lands.

2. The Private Sector

Privately owned farms and range lands provide about three-quarters of Pakistan's fuelwood and more than half its timber. Most of this wood, however, comes from trees that have grown naturally. In the limited instances where farmers were planting trees on their lands, prior to the PFP&D project, the trees were provided by the Provincial Forest Departments at the cost of production. Private tree nurseries outside the FP&D Project are still rare. These few non-Project nurseries provide only seedlings for the highest value trees (fruit trees, bamboo, and high yield poplar).

There are few consulting foresters to advise farmers on tree crop production. Most foresters in Pakistan are employed by the federal government, the provincial government, or by donor agencies. It is unlikely at this time whether consulting foresters, if available, would find sufficient demand for their services to sustain viable enterprises.

The private sector, however, does play a major role in timber production and use. All wood on private lands is felled by private contractors as is a substantial portion of public land timber. The private sector transports all wood moved in Pakistan. Wood cut from private lands is transported directly to private manufacturers, wholesalers, and retailers. Wood cut from public lands is transported to depots where it

is auctioned to private wholesalers buying for manufacturers such as matchstick factories, furniture producers, and fuelwood and lumber retailers. However, much of the fuelwood used in Pakistan is not subject to cash transactions. In rural areas most fuel-wood is collected directly by the consumers from their land or from the land of others. This characteristic has important implications for both the design of farm forestry programs and related economic analyses.

B. Problems and Constraints

1. Diverse Uses of Wood

In Pakistan, trees are produced in national forests, on farms, and on range land. Wood is an important element in Pakistan's economy but could play a major role if large and sustainable tree crops were available. Improved and expanded tree crop management could enhance Pakistan's energy, agricultural, and industrial development while contributing directly to the quality of life of the rural and urban poor.

The diverse uses of wood in Pakistan are discussed below:

a. Energy for Heating and Cooking

Wood supplies over half of Pakistan's domestic cooking and heating needs. Given the rapidly growing population, the increasing cost of kerosene and the lack of acceptable substitutes, the Pakistan Forest Institute expects fuelwood use to grow substantially during the next decade. Unless supplies are increased, more and more family time and money will be spent buying or collecting fire wood, rather than being put to more productive uses.

b. Cash Crop

For some farmers, trees are a valuable cash crop. Farms and range lands supply roughly three-fourths of the country's fuelwood. Most of trees grow naturally and are protected by the farmer until needed; tree crop planting is rare. There is considerable potential for the role of wood as a cash crop.

c. Land Improvement

Used as shelterbelts and windbreaks, trees reduce desiccation and wind damage to fruit trees and crops and increase the quantity and quality of production. Nitrogen fixation by leguminous trees species can increase soil productivity and agricultural production while providing much needed fodder resources. Fuel wood can substitute for dung, used now as fuel freeing it for use as fertilizer on farms lands. The appropriate use of trees could also lower water tables on waterlogged farmlands. Trees can grow in high salt areas, thereby bring land back into production.

d. Watershed Development

Some 70 percent of Pakistan's land area is severely deteriorated rangelands or completely barren. Much of this land is located in important watersheds (e.g. Tarbela, Mangla, Kalabagh) that will support tree growth. Afforestation of these lands will reduce soil erosion and extend water runoff over a longer period of time. Consequently, the rate of siltation of reservoirs behind dams would diminish; the seasonal generation of hydroelectric power would be extended; and the lives of hydroelectric facilities would increase. In addition, the watershed development will bring these lands into a more productive use for the production of fuel wood and fodder.

e. Pit Props in Coal Mines

Large quantities of wood are used to support the roofs of underground coal mines in Baluchistan and Sind. A U.S. engineering firm notes that dramatically increased supplies of timber will be required to meet Pakistan's plans for expanded coal development. Alternately, much costlier steel beams that require 25 times more energy to produce will have to be used. Farm produced timbers from Sind and Punjab now produce a majority of the small diameter pit-props used in coalmining in Pakistan.

f. Construction and Wood-Based Industries

Currently, Pakistan's per capita consumption of forest products is ranked among the lowest in the world not because of lack of demand but because of low domestic production levels. Approximately 65 million U.S. dollars worth of forest products (primarily pulp, paper, logs and sawn timber) was imported in PFY 1978/79, the last year for which data are available. In the same year, Pakistan exported about 10 million U.S. dollars worth of forest products, primarily sporting goods and furniture. Increased domestic supplies of wood for construction and paper manufacturing will be needed to supply internal requirements to support a viable export market.

2. Limited Land, High Fuelwood Demand

Forest land occupies about 4.3 million hectares or roughly 5 percent of the country's total area. However, most is poorly stocked, largely scrub vegetation or inaccessible forests in high, mountainous locations. Consequently, only 1.2 million hectares (less than 3 percent of the country's total land base) is classified as productive forest. These lands belong primarily to the provincial governments or to relatively wealthy landowners. They have survived exploitation either because they have been reserved by government edict that has been strictly enforced for centuries and/or because they are located outside of access to markets.

These reserved natural forests provide less than 20 percent of the timber used in manufacturing and only about 25 percent of the fuelwood. Trees

harvested from widely scattered locations on Pakistan's farm and range lands supply three-fourths of the fuelwood consumed in the country as well as over half the timber for manufacturing forest products. Much of this harvesting is from private farm lands. The remainder of the forest products consumed in Pakistan are imported.

Despite the limited forest area and poor forest productivity, fuelwood is major source of cooking and heating in rural areas of the country. The great majority of Pakistanis depend on traditional fuels including fuelwood, animal wastes, and crop residues for heating and cooking. According to the Pakistan Forest Institute, roughly 90 percent of the rural population and 50 percent of the urban population use these traditional fuels. Donors estimate that in excess of 16 million cubic meters of wood or more than 95 percent of all wood harvested in Pakistan is used as fuelwood. Nonetheless, the World Bank ranks Pakistan's per capita consumption of fuelwood as one of the lowest in the world, as shown in the table below:

Table 1

PER CAPITA FUELWOOD CONSUMPTION IN
DEVELOPING COUNTRIES

	<u>In Cubic Meters (m3)</u>
Nepal	0.73
Burma	0.63
Republic of Korea	0.34
Afghanistan	0.33
Sri Lanka	0.31
Bangladesh	0.21
India	0.20
Pakistan	0.20

Table 2 shows that fuelwood prices have increased by a factor between 4 and 5 over the decade from 1972-82 and more than doubled in real terms. This trend is continuing and may be accelerating. Rural people are consequently turning to crop residues and cow dung as wood supplies become exhausted and prices go up. This change reduces the quantities of material available as fertilizer which in turn reduces agricultural productivity. Rising fuelwood prices reflect both increased demand and decreased supply. The population growth of 3 percent per year is

contributing significantly to the increasing demand for all products of the forest.

Table 2

AVERAGE RETAIL PRICES OF FUELWOOD FOR SELECTED PAKISTAN MARKETS
(Rupees/40 Kg Unit).

<u>Market</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1982</u>	<u>%Increase</u>
Sind	5.28	6.29	9.39	N.A.	13.7	13.6	15.9	16.1	17.0	222%
Punjab	6.43	7.0	12.3	13.5	14.5	15.7	16.6	16.8	31.0	382%
NWFP	5.55	6.22	10.1	12.8	17.8	20.3	21.6	22.4	33.0	495%
Balu- chistan	4.96	5.44	10.0	12.3	12.4	14.8	15.7	15.6	26.0	424%
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Average	5.55	6.24	10.4	12.9	14.6	16.1	17.5	17.7	26.7	382%
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Source: Pakistan Statistical Year Book (1979) and USAID/Pakistan (1982)

Table 4

ESTIMATED ANNUAL WOOD GROWTH IN PAKISTAN

<u>Land Category</u>	<u>Area (000 ha)</u>	<u>Approximate Growth Rate (m3/ha/yr)</u>	<u>Total Growth (mm M3/yr)</u>
Forest Plantation	198	6.4	1.3
Govt. Forest Lands	4,100	2.0	8.2
Farmland Trees <u>a./</u>	1,830	2.0	3.7
TOTAL	6,128		13.2

Source: Adapted from reports published by the Pakistan Forest Institute, World Bank, and the Pakistan Ministry of Food, Agriculture, and Cooperatives.

a./ Assume 10 percent of Pakistan's farmland is occupied by productive trees which is the most optimistic estimate.

3. Tree Crop Management

Today, privately owned farm and range lands provide about three-quarters of Pakistan's total fuelwood production and more than half its timber, largely from trees that have grown naturally on unused lands. Farm lands have the potential to supply vastly increased quantities of fuelwood and other forest crops with potential for providing substantial supplemental income for the rural farmer. Because of limited public productive land and the cost of developing government plantations, private farms and range lands hold the best promise (and in some areas the only opportunity) for the expansion of tree crops.

Some farmers have already begun raising profitable tree species as supplemental crops. NWFP farmers are growing popular on field bunds and in block plantations. Private nurseries are supplying seedlings to the farmers. Other NWFP farmers, with support from the Forest Department and the World Food Program, have planted trees for timber, fuelwood, and fruit production throughout the valleys of Kaghan, Swat, and Dir. In the Punjab and Sind, farmers have planted trees in hedgerows and protected trees that have sprung up at random, to provide shade, fuel, fodder and protection for crops.

These efforts and those of the FP&D Project prove that the farmers are willing to plant trees. However, the scale need to be dramatically increased to reverse the decline in tree inventories. An infrastructure to develop afforestation policies and programs will be essential. Farmers will require demonstrations and training in how to co-produce agricultural and tree crops. Adaptive research covering Pakistan's various agro-climatic regions will also be needed. All this implies substantial financial investment.

4. Constraints

Pakistan has one of the most capable traditional forestry establishments in the developing world. A.I.D. supported Pakistani forestry from 1953 to 1968. The legacy of this support, which provided study and work opportunities in the United States and resident technical advisors in Pakistan, is apparent in the quality of the senior staff of the forestry institutions. Further, P.L. 480 funds supported forestry research in Pakistan from 1961 to 1987. However, these capable foresters have to contend with several constraints, described below. The FP&D project has begun to address these constraints. More will be done during the amendment period:

a. Institutional Constrains

(1) Inadequate Federal Staffing and Training

The Office of the Inspector General of Forests (O/IGF) is inadequately staffed for developing effective afforestation policies and budgets.

Also, the IGF and his two professional assistants lack experience and training in the design of outreach programs or in preparing effective assessments of the costs, benefits, and financial viability of alternative afforestation strategies.

(2) Insufficient Provincial Planning Skills

The personnel of the Provincial Forest Departments lack the systematic analysis and planning skills needed to develop and justify afforestation programs in the provincial planning and budgetary process and design and assess the feasibility of site-specific afforestation projects.

(3) Lack of Outreach Experience

With some exceptions in NWFP and Punjab, the Forest Departments have not managed programs to encourage farmers to grow trees as a supplemental cash crop. Foresters need to learn to work with farmers.

(4) Lack of Monitoring and Evaluation Capability

Pakistani foresters are just now being trained to evaluate the technical and economic lessons of forest research and economic lessons of forest research and projects. The concept of accountability needs to be introduced.

(5) Outdated Training

Because of the hiatus in A.I.D. assistance to forestry between 1968 and 1983, Pakistani foresters have not had access to U.S. advances in systematic, interdisciplinary planning and techniques for involving demographic and sociological considerations in project design and implementation. If forest departments are to develop from reactive organizations whose raison d'etre is protecting government resources to active organizations that design and implement effective resource development strategies, new ideas are needed.

(6) Inadequate Support Infrastructure

Pakistan has a well established support infrastructure for the management and protection of the government forests. Regional and field offices are adequately staffed, storage facilities are available, nurseries are established, and employees have access to vehicles when needed. The encouragement of private sector tree farming will require reappraisal of the role of this infrastructure and reassignment to new tasks view as priority. Provincial Forest Departments have indicated willingness to make such changes but look to the FP&D Project to assist with training and planning.

b. Research Deficiencies

(1) Lack of Research in Combining Agricultural Cropping with Tree Crops (Agroforestry)

Research into trees as a crop to enhance agricultural productivity and farm profitability is in its infancy, and has focused primarily on optimizing tree yields while maintaining agricultural productivity. The research program needs to examine the joint production of agricultural and tree crops (Agroforestry) with alternative management regimes in different agro-climatic zones throughout the country. This research will not only evaluate tree and crop yields under alternative strategies but also the economic returns to the farm family. The biological and economic potential for using trees to rejuvenate soils must also be examined. This research must be done in cooperation and coordination between the Forestry Research Institutes and the Agriculture Research Institutes.

(2) Lack of Applied Social Science Research

The success of Pakistan's afforestation efforts will depend on the development of sociologically and economically sound strategies to encourage farmers to plant tree crops. Farm Systems Research is attempting to find relative values for different farm crops including tress. FP&D Project will assist with technical assistance in this area.

(3) Lack of Appropriate Technology

(a) Inadequate Genetic Management and Seed Storage Equipment

Pakistani foresters can select superior quality trees as seed sources but lack the experience and equipment needed to collect, store and distribute seed from superior trees. Additionally, the development of tissue culture techniques to provide rapid production of genetically superior plant needs to be hastened and expanded. FP&D Project will assist the PFI in establishing a seed procesing and storage facility for Pakistan in Peshawar.

(b) Outdated Technology for Nursery Establishment

Pakistan could benefit from the transfer of techniques of nursery management developed in the United States during the last 15 years. The T.A. Team from Winrock will provide assistance in Nursery management for small farm Nurseries. Other donors are providing assistance for larger Nursery management.

(c) Insufficient Computer Equipment

Forest planning is constrained by the absence of computer hardware and software. Some equipment has been supplied and is now in use. Under the

amended project, additional computer equipment will be supplied to support research, planning, and budgeting and inventory control. Still needed is additional training so that the equipment can be more effectively used.

C. Policy Options and Opportunities

The FP&D project to date has focused on:

1. Federal Advisory Committee

A Federal Advisory Committee for Farm and Energy Forestry has been established with senior representatives from the Ministries responsible for agriculture, planning, and energy as well as representatives from each province and observers from USAID. The Committee reviews farm and forest energy policy and plans on an annual bases. They make recommendations on how to improve effectiveness of the Project and how to resolve problems.

2. Forest Plans

The project is designed to encourage provincial and federal forest management plans. Project technical advisors are spurring debate over the appropriateness of existing policies and the potential usefulness of new or alternative approaches. The Project has produced comprehensive annual work plans from the Provincial and Federal Forest Offices in the last two years. These are the first such work plans the Forest Departments have made. The T.A. Team will continue to assist the Forest Department in improving and using these plans for monitoring and evaluating progress.

3. Policy Analysis and Planning

The project provides both in-country and U.S. training in Policy as well as Technical Assistance. These programs allow foresters to develop and test ideas for appropriate forest policies.

Specific policy topics fall into three areas:

a. The Forest Sector in General

What relative emphasis should the government place on managing public forest versus encouraging tree production on private lands? What are ideal GOP timber and fuelwood marketing policies? What type of products should be produced on government forest lands? How should forestry planning and management be divided between federal and provincial responsibilities?

b. Fuelwood

Fuelwood as an energy resource has been largely ignored by the energy sector to date. Little attention has been given to the effect of gas and kerosene pricing policy and coal development plans will affect fuelwood prices and use. There has not been analysis of the advantages and disadvantages of encouraging fuelwood development as opposed to the other energy alternatives.

Farm forestry practices can help rejuvenate degraded farm and range lands and increase and diversify farm production. To date this topic has been given almost no consideration by the agricultural sector.

D. Lessons Learned

1. USAID/Pakistan

During the 1960's, an A.I.D. supported forestry program provided long-term training at U.S. universities for 39 Pakistani foresters and fielded a long-term forestry expert. Inter alia, the project successfully introduced fruit trees into the Murree Hills watershed and improved irrigated tree plantation management.

Despite the hiatus in A.I.D. support for forestry between 1968-1983, the impact of the 1960's assistance is evident today. Under prior projects, five Pakistanis attended the watershed management programs at Colorado and Utah State Universities. Throughout the 1970's, these five individuals designed watershed programs, incorporated watershed training into the PFI program, and trained DFO's and foresters in watershed management. Today, the watershed management program is recognized as one of the strongest divisions of the GOP Forestry Departments. Examples of successful watershed work include the management of the Mangla and Tarbela watershed and the highly successful NWFP/World Food Program watershed management project.

The lesson to learn is the very significant impact U.S. degree training can have. The FP&D project has a substantial training component.

2. Lessons From Other LDC's

AID and other donors have identified the following elements as contributing to success in LDC forestry projects:

a. Political Will

Strong government policy commitments to reforestation and allocation of resources were critical to successful farm forestry projects in India (Madhya Pradesh Social Forestry Project Paper, USAID/India, 1981), Korea, Korean Village Forestry Case Study, FAO, 1981) and China.

b. Social Surveys

Data from household and community surveys measuring the population's likely response to tree planting, attitudes towards species selection and other critical issues were incorporated into the early implementation of the FAO Village Forestry Project in Nepal (Nepal Village Forestry Project Mid-Term Review, FAO, 1982). Surveys have been undertaken by the FP&D project to shape Forest Department outreach approaches, farmer training program designs, and methods of monitoring and evaluating project objectives. These show that farmers have relatively high interest in tree planting but are also relatively reluctant to commit resources until there is proof of success. In areas where trees have been established by demonstrations from the FP&D Project, farmers are adopting tree cropping in ever increasing numbers.

c. Incentives

Individual farmers and communities respond positively to the commercial incentive of rising prices for fuelwood and poles and will substitute wood for traditional cash crops. Private ownership of trees is a decisive incentive for farmers to protect trees from grazing as has been proven in India, Africa, and through the FP&D Project in Pakistan. Except in Sind, for planting the Government land tree planting supported by components of the FP&D Project will be privately owned.

d. Availability of Seedlings

A adequate rural network of tree nurseries is essential for successful afforestation. The willingness of rural afforestation agencies to sub-contract nursery operations to private farmers, schools and non-government institutions under the Indian Gujrat Social Forestry Program reduced the ration of nurseries to rural villages from 1:83 at the outset of the project in 1979 to one nursery per every 10 villages in 1982. This project supports the establishment privately-owned and operated tree nurseries; the intent is to create private nurseries that can operate economically.

e. Village Involvement

Experience from several countries shows that outreach forestry programs can be most effectively established by technical forest officers working with local village people as extension agents (West Bengal Social Forestry extension Report, World Bank, 1982). The FP&D amendment activities will rely heavily on village advisory committees and project motivators.

f. Proven Methods and Species

The use of techniques and trees that have been well tried and tested in the project area is essential. The FP&D project will emphasize Acacia arabica, a popular all-purpose species. At the same time, testing of other species will continue as a part of the PFI's ongoing research program, and other species may be demonstrated.

g. Flexibility of Design and Implementation .

Flexibility allows both farmers and forestry departments to shift from one type of planting activity to another in accordance with farmers' desires, fluctuating demand, supply, prices, etc. This flexibility is an important element of the FP&D amendment design.

LOGICAL FRAMEWORK

Project Title & Number: Forestry Planning and Development (391-0481) - Project Paper Amendment
(Note: Supersedes PP Log Frame)

NARRATIVE SUMMARY	OBJECTIVE VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>PROGRAM OR SECTOR GOAL: THE BROADER OBJECTIVE TO WHICH THIS PROJECT CONTRIBUTES:</p> <ul style="list-style-type: none"> -To increase Pakistan's energy self-sufficiency. -To reverse the process of deforestation. 	<p>MEASURES OF GOAL ACHIEVEMENT:</p> <ul style="list-style-type: none"> -Approximately 60,000 farm families achieve fuelwood self-sufficiency for domestic energy needs -The equivalent of 70,000 acres of farm woodlots established on the lands of poor farmers and on Sind Irrigated Plantations 	<ul style="list-style-type: none"> *Project Evaluations *Data collected by F.D. Monitoring and Evaluation Units *Forest and Fuelwood Development Plan and Related Studies *Field inspections *Records kept by Ministry of Food, Agriculture & Cooperatives *Progress Reports 	<p>ASSUMPTION FOR ACHIEVING GOAL TARGETS:</p> <ul style="list-style-type: none"> *Farm Forestry will gain support of farmers *GOP will continue to support farm and energy forestry activities *GOP will develop appropriate policies that enhance support to private forestry activities
<p>PROJECT PURPOSE:</p> <ul style="list-style-type: none"> -To enhance the capabilities of GOP institutions and PVOs in designing and implementing plans and programs for increasing the production of fuelwood and timber in Pakistan. -To demonstrate the economic, technical and social feasibility of producing tree crops on privately-owned farm and range lands. 	<p>CONDITIONS THAT WILL INDICATE PURPOSE HAS BEEN ACHIEVED:</p> <p>End of Project Status:</p> <ul style="list-style-type: none"> -Forest Planning activities are fully staffed at both federal and provincial levels and progress is being made in relating forest development to overall development needs of Pakistan. -Private nurseries established, operating profitably, and supplying seedlings in quantity with acceptable quality and on time. -Approximately 60,000 farm families establish the equivalent of about 70,000 acres of farm woodlot -5-10 indigenous PVOs managing natural resource progress throughout the country 	<ul style="list-style-type: none"> *Project Evaluations *Data collected by F.D. Monitoring and evaluation units *Forest and Fuelwood Development Plan and Related Studies * Field inspections *Records kept by Ministry of Food Agriculture, and Cooperative *Progress reports 	<p>ASSUMPTIONS FOR ACHIEVING PURPOSE:</p> <ul style="list-style-type: none"> -Land in private sector is available for afforestation -GOP policies will continue to support farm & energy forestry -GOP will utilize forest plan & related studies -Motivated & qualified indigenous personnel can be recruited & trained in sufficient numbers -Farmers believe fuelwood, fodder, timber will accrue to them -Sufficient annual budget allocations by GOP Finance Ministry -Sufficient staffing in Provincial Forest Department Project Offices.

Project Title & Number: Forestry Planning and Development (391-0481) - Project Paper Amendment

NARRATIVE SUMMARY	OBJECTIVE VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>PROJECT PURPOSE:</p>	<p>CONDITIONS THAT WILL INDICATE PURPOSE HAS BEEN ACHIEVED:</p> <ul style="list-style-type: none"> -Number of farmers adopting on-farm-tree crop management is increasing -Farm Energy Forestry Unit is fully staffed and operational at all levels -Demand for seedlings for private lands is rising 		<p>ASSUMPTIONS FOR ACHIEVING PURPOSE:</p> <ul style="list-style-type: none"> -Farmers consider farm forestry an economic addition to their farming system -Govt. will not tax farm forestry system -Increased fuel wood availability leads to reduction in use of alternate fuels
<p>OUTPUTS:</p> <p><u>Component 1: Institutional Capability and Manpower Development</u></p> <ul style="list-style-type: none"> -A permanent GOP Forest Planning Group within the Ministry of Food, Agriculture and Cooperatives, Office of Inspector General of Forests (O/IGF) -A permanent Forest Planning Group established in each of the four provinces -A series of studies completed on the role of timber and fuelwood in Pakistan's development -A permanent monitoring and Evaluation group in the O/IGF and each of the Provincial Forest Departments -A permanent Farm and Energy Forestry Unit within the O/IGF and in each of 3 provinces -Establishment of a professional curriculum in farm and energy forestry studies -Establishment of a career corps in forest research <p>Construction:</p> <ul style="list-style-type: none"> -PFI Hostels -Conservators Office -DFO/RFO Offices -Nursery Huts -Nurseries -Training Facilities -Research Center Upgrade 	<p>MAGNITUDE OF OUTPUTS:</p> <ul style="list-style-type: none"> -An operational planning group exists in O/IGF -Four operational planning groups exist comprised of 2-4 persons each -Five or more studies completed on the role of wood in Pakistan's development -Five operational M&T groups exist comprised of 1-3 persons each -Farm and energy forest units established in O/IGF and in Punjab, NWFP and Baluchistan -Curricula established at the BSc and Msc level at PFI and training 10-14 students/year -1 for men, 1 for women -Upgrading of main building -1 in Punjab -26 (for details see Annex D, Table 3) -20 -137 -1 in each province -1 in each province 	<p>ASSUMPTIONS FOR ACHIEVING OUTPUTS</p> <ul style="list-style-type: none"> *Project Evaluations *Data collected by F.D. Monitoring and Evaluation Units *Forest and Fuelwood Development Plan and Related Studies *Field inspections *Records kept by Min. of Food, Agriculture and Cooperatives *Progress Reports 	<ul style="list-style-type: none"> -Qualified participants are selected for training -Technical consultants are effective in working with their counterparts -Training programs will effectively transfer skills and technology -Adequate personnel and budget support will be provided by GOP -Farm families are willing to use their labor to plant seedlings on their lands -Severe climate conditions (draught etc.) do not occur

LOGICAL FRAMEWORK

Project Title & Number: Forestry Planning and Development (391-0481) - Project Paper Amendment

NARRATIVE SUMMARY	OBJECTIVE VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
OUTPUTS: (Continued)	MAGNITUDE OF OUTPUTS: (Continued)		ASSUMPTIONS FOR ACHIEVING OUTPUTS
<p><u>Component 2: Research Program in support of Farm and Energy Forestry</u></p> <p>-A completed assessment of alternative farm and energy forestry systems</p> <p>-A completed assessment of fuelwood demand, supply, and marketing systems</p>	<p>-Five full time researchers trained and working full time at PFI and various provincial locations</p> <p>-A series of field research experiments and analyses that identify most promising strategies for on-farm tree crop management to contribute to the farm enterprise.</p> <p>-A series of studies for rural, village, and urban settings in various regions of Pakistan.</p>		
<p><u>Component 3: Farm Forestry Field Operations</u></p> <p>-Establishment of farm woodlots</p> <p>-Improvement of Sind Forest Plantations</p> <p>-Conversion of Sind Forest Plantations</p> <p>-Extension of Sind Forest Plantations</p> <p>-Production of fuelwood</p> <p>-Production of Timber</p> <p>-Production of Fodder</p> <p>-Irrigation Improvements</p> <p>-Soil Conservation Activities</p>	<p>The equivalent of 70,000 acres in all provinces</p> <p>About 5000 acres</p> <p>About 1000 acres</p> <p>About 2000 acres</p> <p>About 126 million cubic feet</p> <p>About 9.2 million cubic feet</p> <p>About 5.0 million Tons</p> <p>3 miles of Forest Minor</p> <p>5000 acres of land-leveling distribution canals, etc.</p> <p>2500 acres in Punjab and NWFP; 1200 acres in Sind; 800 acres in Baluchistan</p>		
<p><u>Component 4: PVO Grants</u></p> <p>-Indigenous PVOs strengthened and managing farm forestry, natural resource programs</p>	<p>10-20 PVOs supported and managing project-funded grants</p>		

LOGICAL FRAMEWORK

Project Title & Number: Forestry Planning and Development (391-0481) - Project Paper Amendment

NARRATIVE SUMMARY	OBJECTIVE VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
INPUTS	IMPLEMENTATION TARGET (TYPE AND QUANTITY)		ASSUMPTIONS FOR PROVIDING INPUTS:
Financial	\$35 million (AID Contribution)	USAID Contractor and GOP	- Highly motivated persons with technical skills can be recruited, when needed
Technical Assistance	\$14.3 million (GOP Contribution)		
Long-Term	251 person months		- Qualified candidates can be placed in appropriate training programs
Short-Term	199 " "(includes 12 for evaluation)		
Professional Training			
Long-Term	2,520 person months		- GOP provides clearances for TA Consultant on a timely manner
Short-Term	1,265 person months		
Farmer Training	400 person months		

TABLE I

SUMMARY OF USAID FUNDING
BY EXPENSE CATEGORY, FOREIGN EXCHANGE, LOCAL COST, AND FISCAL YEAR. (a)
(in 000 US Dollars)

Expense Category (d)	Cumulative		FY89		FY90		FY91		FY92		FY93		TOTAL	
	to March 89		04-08, 89		FX	LC	FX	LC	FX	LC	FX	LC	FX	LC
	FX	LC	FX	LC										
Technical Assistance														
Expatriate Long-term	2760	350	200	35	635	333	635	333	635	333	635	333	5500	1715
Expatriate Short-term	500	140	50	10	135	63	135	63	135	63	135	63	1088	400
Local		250		20		68		68		68		68	0	540
Inflation (d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)
SUB-TOTAL	3260	740	250	65	770	463	770	463	770	463	770	463	6588	2655
Training														
Overseas Long-term	220	30	55	10	681	20	681	20	681	20	681	20	3000	120
Overseas Short-term	150	100	35	10	253	20	253	20	253	20	253	20	1197	190
In-country		33		15	150	317	150	317	150	317	150	317	600	1314
Inflation (d)	(d)	(d)	(d)	(d)	26	10	27	12	31	19	34	20	118	61
SUB-TOTAL	370	163	90	35	1110	367	1111	369	1115	375	1118	377	4915	1685
Commodities														
Vehicles	1000	15			720		170		15				1905	15
Other	300	435	35	20	25	25	10	25	20	23	10	30	400	558
Inflation (d)	(d)	(d)	(d)	(d)	42	2	15	3	3	2	1	4	61	11
SUB-TOTAL	1300	450	35	20	787	27	195	28	38	25	11	34	2366	584
Field Operations														
Research	0	100	0	35	0	112	0	112	0	112	0	112	0	585
Field Activities														
Forestry														
Tree Plantation	0	1275	0	125	0	761		761		761		761	0	4444
Nurseries	0	27	0	10	0	30		40		26		0	0	133
Soil Conservation	0	50	0	35	0	664		664		664		664	0	2742
Watershed (MFO)	0	0	0	0	0	442							0	442
Irrigation Upgrade	0	50	0	50	0	300		300		300			0	1000
Building Construction	0	250	0	35	0	1050		708		600		250	0	2893
NGO/PVO Operations	0	0	0	0	95	90	90	744					185	434
Inflation (d)	(d)	(d)	(d)	(d)	5	115	10	140		153		125	15	533
SUB-TOTAL	0	1752	0	290	100	3565	100	3069	0	2616	0	1913	200	13205
Evaluation	215	35			150	34					150	34	515	103
Inflation (d)	(d)	(d)			10	3					14	5	24	8
SUB-TOTAL	215	35	0	0	160	37	0	0	0	0	164	39	539	111
Contingency (e)													1500	652
GRAND TOTAL	5145	3140	375	410	2927	4459	2176	3928	1923	3479	2063	2825	16108	18892

- (a) Inflation = 5% of FX costs and 10% of local costs.
 (b) Expressed as dollar equivalents at the exchange rate of US\$1.00=Rs 19.00.
 (c) Project costs are defined as anticipated earnings or commitments of funding through, for example, PIDs, contracts, purchase orders, or PILs.
 (d) Costs estimates for the original FP include inflation.
 (e) As the project is well underway, costs factors are fairly firm therefore contingency is calculated as approximately 6%.

TABLE 2

BREAKDOWN OF CONSTRUCTION
GOP FY 83180 TO 83194

LOCATION	TYPE	QUANTITY	UNIT COST	TOTAL COST	
PAKISTAN FOREST INSTITUTE	MENS' HOSTEL*	1	\$260,000	\$260,000	
	WOMENS' HOSTEL*	1	\$160,000	\$160,000	
	UPGRADE FOR WOMEN STUDENTS	N/A	\$75,000	\$75,000	
PUNJAB	CONSERVATORS' OFFICE*	1	\$75,000	\$75,000	
	DFO'S OFFICE*	4	\$50,000	\$200,000	
	RFO'S OFFICE*	11	\$25,500	\$280,500	
	NURSERY HUT*	11	\$18,500	\$203,500	
	NURSERIES*	39	\$1,000	\$39,000	
	TRAINING FACILITY	1	\$100,000	\$100,000	
	RESEARCH CENTER UPGRADE	1	\$100,000	\$100,000	
	SOIL CONSERVATION (1)*	2500 ACRES	\$395	\$987,500	
NWFP	DFO'S OFFICE*	1	\$50,000	\$50,000	
	RFO'S OFFICE*	3	\$25,500	\$76,500	
	NURSERY HUT*	3	\$18,500	\$55,500	
	NURSERIES*	30	\$1,000	\$30,000	
	TRAINING FACILITY	1	\$100,000	\$100,000	
	RESEARCH CENTER UPGRADE	1	\$100,000	\$100,000	
	SOIL CONSERVATION (1)*	2500 ACRES	\$395	\$987,500	
	BALUCHISTAN	DFO'S OFFICE*	1	\$50,000	\$50,000
RFO'S OFFICE*		3	\$25,500	\$76,500	
NURSERY HUT*		3	\$18,500	\$55,500	
NURSERIES*		30	\$1,000	\$30,000	
TRAINING FACILITY		1	\$100,000	\$100,000	
RESEARCH CENTER UPGRADE		1	\$100,000	\$100,000	
SOIL CONSERVATION (1)*		800 ACRES	\$395	\$316,000	
SIND		A. FARM FORESTRY	DFO'S OFFICE	1	\$50,000
	RFO'S OFFICE		2	\$25,500	\$51,000
	NURSERY HUT		3	\$18,500	\$55,500
	NURSERIES		38	\$1,000	\$38,000
	TRAINING FACILITY		1	\$100,000	\$100,000
	RESEARCH CENTER UPGRADE		1	\$100,000	\$100,000
	SOIL CONSERVATION (1)		1200 ACRES	\$395	\$474,000
	B. GOVERNMENT LAND		FOREST MINOR*	3 MILES	\$100,000
		IRRIGATION SYSTEM (2)*	5000 ACRES	\$160	\$800,000
		TOTAL FOR CONSTRUCTION			\$6,576,500

* THESE STARRED ACTIVITIES ARE FROM THE AUG. 1983 PP.

(1) SEE TABLE 3B FOR BREAKDOWN OF COSTS OF SOIL CONSERVATION.

(2) IRRIGATION SYSTEM INCLUDES THE PER ACRE COSTS OF LAND LEVELING,
INSTALLING DISTRIBUTION CANNALS. DOES NOT INCLUDE COST OF PLANTING TREES.

TABLE 3

BREAKDOWN OF SOIL CONSERVATION COSTS
PER ACRE

1. GULLY PLUGGING AND CHECKDAM CONSTRUCTION	
A. LABOR	\$50.00
B. MATERIALS	\$50.00
2. HILLSIDE TRENCHES	
A. LABOR	\$50.00
B. MATERIALS	\$20.00
3. EROSION DIVERSIONS	
A. LABOR	
B. MATERIALS	\$50.00
	\$45.00
5. EARTH MOVEMENT	
A. LABOR	\$60.00
B. EQUIPMENT COSTS (POL	\$40.00
C. MATERIALS	\$30.00
TOTAL COST PER ACRE	\$395.00

5C(2) - PROJECT CHECKLIST

Listed below are statutory criteria applicable to projects. This section is divided into two parts. Part A includes criteria applicable to all projects. Part B applies to projects funded from specific sources only: B(1) applies to all projects funded with Development Assistance; B(2) applies to projects funded with Development Assistance loans; and B(3) applies to projects funded from ESF.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT? Yes
Yes

A. GENERAL CRITERIA FOR PROJECT

1. FY 1989 Appropriations Act Sec. 523; FAA Sec. 634A. If money is sought to obligated for an activity not previously justified to Congress, or for an amount in excess of amount previously justified to Congress, has Congress been properly notified? Congressional Presentation
2. FAA Sec. 611(a)(1). Prior to an obligation in excess of \$500,000, will there be (a) engineering, financial or other plans necessary to carry out the assistance, and (b) a reasonably firm estimate of the cost to the U.S. of the assistance? (a) Yes
(b) Yes
3. FAA Sec. 611(a)(2). If legislative action is required within recipient country, what is the basis for a reasonable expectation that such action will be completed in time to permit orderly accomplishment of the purpose of the assistance? No further legislative action is required.

4. FAA Sec. 611(f); FY 1989 Appropriations Act Sec. 501. If project is for water or water-related land resource construction, have benefits and costs been computed to the extent practicable in accordance with the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962, et seq.)? (See A.I.D. Handbook 3 for guidelines.)
- N/A
5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and total U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability to maintain and utilize the project effectively?
- Yes, Mission Director's 611(e) certification is included in the Project Paper.
6. FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs.
- No. Complementary projects by the World Food Program, World Bank, UNHCR, ADB, Germany, Switzerland, and FAO have already been approved. However, no project specifically addresses the importance of wood in Pakistan's energy sector; and, no project provides the training and technical assistance essential for the development of forestry on private lands. The A.I.D. project provides assistance to fill these gaps. It will be monitored by World Bank and FAO who may provide complementary assistance in these areas later in the decade.

7. FAA Sec. 601(a). Information and conclusions on whether projects will encourage efforts of the country to:
(a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.

(a) Yes. Project will reduce time and/or money spent by rural families on their domestic energy needs. This will allow them increased time to produce exportable goods and increase their disposable income available to purchase imported goods. Additionally, the planning component of the project will assist the GOP in identifying areas of comparative advantage in international wood products trade.

(b) Yes. Project will encourage the production of wood on private lands. Project will encourage the establishment of privately owned nurseries to meet farmers' needs for seedlings.

(c) No

(d) Yes. The project will increase knowledge and awareness of wood marketing systems and could thus increase free competition in these areas.

(e) Yes. The project will increase the efficiency of agricultural production by developing, demonstrating, and encouraging the use of on-farm tree crop management systems to enhance agricultural productivity. A major increase in agricultural productivity could occur simply as a result of substituting fuelwood for cow dung, thus making the latter available for use as fertilizer.

(f) No.

8. FAA Sec. 601(b). Information and conclusions on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

U.S. private enterprises will participate as suppliers of commodities, technical assistance, and training under the project.

9. FAA Secs. 612(b), 616(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars.
- This project is financed by ESF funds. Nevertheless, the GOP will contribute the equivalent of \$14.3 million over the life of the project to help finance the local costs of the project. The Mission Director has certified the disbursement of U.S. dollars in lieu of U.S. Treasury-owned excess rupees to cover some of the local costs under this project. This action is consistent with one of the major objectives of the economic assistance program to Pakistan which is to maximize the balance of payments impact of the program.
10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?
- Pakistan is a near-excess currency country. No local currency can be made available for this project.
11. FY 1989 Appropriations Act Sec. 521. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity?
- N/A
12. FY 1989 Appropriations Act Sec. 549. Will the assistance (except for programs in Caribbean Basin Initiative countries under U.S. Tariff Schedule "Section 807," which allows reduced tariffs on articles assembled abroad from U.S.-made components) be used directly to procure feasibility studies, prefeasibility studies, or project profiles of potential investment in, or to assist the establishment of facilities specifically designed for, the manufacture for export to the United States or to third country markets in direct competition with U.S. exports, of textiles, apparel, footwear, handbags, flat goods (such as wallets or coin purses worn on the person), work gloves or leather wearing apparel?
- No
13. FAA Sec. 119(d)(4)-(6) & (10). Will the assistance (a) support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity; (b) be provided under a long-term agreement in which the recipient country agrees to protect ~~ecosystems~~ or other
- No

wildlife habitats; (c) support efforts to identify and survey ecosystems in recipient countries worthy of protection; or (d) by any direct or indirect means significantly degrade national parks or similar protected areas or introduce exotic species into such areas?

14. FAA Sec. 121(d). If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (either dollars or local currency generated therefrom)? N/A
15. FY 1989 Appropriations Act. If assistance is to be made to a United States PVO (other than a cooperative development organization), does it obtain at least 20 percent of its total annual funding for international activities from sources other than the United States Government? N/A
16. FY 1989 Appropriations Act Sec. 538. If assistance is being made available to a PVO, has that organization provided upon timely request any document, file, or record necessary to the auditing requirements of A.I.D., and is the PVO registered with A.I.D.? N/A
17. FY 1989 Appropriations Act Sec. 514. If funds are being obligated under an appropriation account to which they were not appropriated, has prior approval of the Appropriations Committees of Congress been obtained? N/A
18. State Authorization Sec. 139 (as interpreted by conference report). Has confirmation of the date of signing of the project agreement, including the amount involved, been cabled to State L/T and A.I.D. LEG within 60 days of the agreement's entry into force with respect to the United States, and has the full text of the agreement been pouched to those same offices? (See Handbook 3, Appendix 6G for agreements covered by this provision). This will be done.

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

This is an ESF-funded project.

a. FY 1989 Appropriations Act Sec. 519
(as amended by conference report for original enactment). If assistance is for agricultural development activities (specifically, any testing or breeding feasibility study, variety improvement or introduction, consultancy, publication, conference, or training), are such activities (a) specifically and principally designed to increase agricultural exports by the host country to a country other than the United States, where the export would lead to direct competition in that third country with exports of a similar commodity grown or produced in the United States, and can the activities reasonably be expected to cause substantial injury to U.S. exporters of a similar agricultural commodity; or (b) in support of research that is intended primarily to benefit U.S. producers?

N/A

b. FAA Secs. 102(b), 111, 113, 281(a). Describe extent to which activity will (a) effectively involve the poor in development by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, dispersing investment from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward a better life, and otherwise encourage democratic private and local governmental

N/A

institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries.

- c. FAA Secs. 103, 103A, 104, 105, 106, 120-21; FY 1989 Appropriations Act (Development Fund for Africa). Does the project fit the criteria for the source of funds (functional account) being used? N/A
- d. FAA Sec. 107. Is emphasis placed on use of appropriate technology (relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)? N/A
- e. FAA Secs. 110, 124(d). Will the recipient country provide at least 25 percent of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)? N/A
- f. FAA Sec. 128(b). If the activity attempts to increase the institutional capabilities of private organizations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority? N/A

Best Available Document

g. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental processes essential to self-government.

N/A

h. FY 1989 Appropriations Act Sec. 536. Are any of the funds to be used for the performance of abortions as a method of family planning or to motivate or coerce any person to practice abortions?

N/A

Are any of the funds to be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any person to undergo sterilizations?

Are any of the funds to be used to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning?

i. FY 1989 Appropriations Act. Is the assistance being made available to any organization or program which has been determined to support or participate in the management of a program of coercive abortion or involuntary sterilization?

N/A

If assistance is from the population functional account, are any of the funds to be made available to voluntary family planning projects which do not offer, either directly or through referral to or information about access to, a broad range of family planning methods and services?

- j. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? N/A
- k. FY 1989 Appropriations Act. What portion of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and universities, colleges and universities having a student body in which more than 40 percent of the students are Hispanic Americans, and private and voluntary organizations which are controlled by individuals who are black Americans, Hispanic Americans, or Native Americans, or who are economically or socially disadvantaged (including women)? N/A
- l. FAA Sec. 118(c). Does the assistance comply with the environmental procedures set forth in A.I.D. Regulation 16? Does the assistance place a high priority on conservation and sustainable management of tropical forests? Specifically, does the assistance, to the fullest extent feasible: (a) stress the importance of conserving and sustainably managing forest resources; (b) support activities which offer employment and income alternatives to those who otherwise would cause destruction and loss of forests, and help countries identify and implement alternatives to colonizing forested areas; (c) support training programs, educational efforts, and the establishment or strengthening of institutions to improve forest management; (d) help end destructive slash-and-burn agriculture by supporting stable and productive farming practices; (e) help conserve forests which have not yet been degraded by helping to increase N/A

production on lands already cleared or degraded; (f) conserve forested watersheds and rehabilitate those which have been deforested; (g) support training, research, and other activities which lead to sustainable and more environmentally sound practices for timber harvesting, removal, and processing; (h) support research to expand knowledge of tropical forests and identify alternatives which will prevent forest destruction, loss, or degradation; (i) conserve biological diversity in forest areas by supporting efforts to identify, establish, and maintain a representative network of protected tropical forest ecosystems on a worldwide basis, by making the establishment of protected areas a condition of support for activities involving forest clearance or degradation, and by helping to identify tropical forest ecosystems and species in need of protection and establish and maintain appropriate protected areas; (j) seek to increase the awareness of U.S. government agencies and other donors of the immediate and long-term value of tropical forests; and (k) utilize the resources and abilities of all relevant U.S. government agencies?

N/A

- m. FAA Sec. 118(c)(13). If the assistance will support a program or project significantly affecting tropical forests (including projects involving the planting of exotic plant species), will the program or project (a) be based upon careful analysis of the alternatives available to achieve the best sustainable use of the land, and (b) take full account of the environmental impacts of the proposed activities on biological diversity?

N/A

- n. FAA Sec. 118(c)(14). Will assistance be used for (a) the procurement or use of logging equipment, unless an environmental assessment indicates that all timber harvesting operations involved will be conducted in an environmentally sound manner and that the proposed activity will produce positive economic benefits and sustainable forest management systems; or (b) actions which will significantly degrade national parks or similar protected areas which contain tropical forests, or introduce exotic plants or animals into such areas? N/A
- o. FAA Sec. 118(c)(15). Will assistance be used for (a) activities which would result in the conversion of forest lands to the rearing of livestock; (b) the construction, upgrading, or maintenance of roads (including temporary haul roads for logging or other extractive industries) which pass through relatively undegraded forest lands; (c) the colonization of forest lands; or (d) the construction of dams or other water control structures which flood relatively undegraded forest lands, unless with respect to each such activity an environmental assessment indicates that the activity will contribute significantly and directly to improving the livelihood of the rural poor and will be conducted in an environmentally sound manner which supports sustainable development? N/A
- p. FY 1989 Appropriations Act. If assistance will come from the Sub-Saharan Africa DA account, is it (a) to be used to help the poor majority in Sub-Saharan Africa through a process of long-term development and economic growth that is equitable, participatory, environmentally sustainable, and self-reliant; (b) being provided in accordance with the policies contained in section 102 of the FAA; N/A

(c) being provided, when consistent with the objectives of such assistance, through African, United States and other PVOs that have demonstrated effectiveness in the promotion of local grassroots activities on behalf of long-term development in Sub-Saharan Africa;

(d) being used to help overcome shorter-term constraints to long-term development, to promote reform of sectoral economic policies, to support the critical sector priorities of agricultural production and natural resources, health, voluntary family planning services, education, and income generating opportunities, to bring about appropriate sectoral restructuring of the Sub-Saharan African economies, to support reform in public administration and finances and to establish a favorable environment for individual enterprise and self-sustaining development, and to take into account, in assisted policy reforms, the need to protect vulnerable groups;

(e) being used to increase agricultural production in ways that protect and restore the natural resource base, especially food production, to maintain and improve basic transportation and communication networks, to maintain and restore the renewable natural resource base in ways that increase agricultural production, to improve health conditions with special emphasis on meeting the health needs of mothers and children, including the establishment of self-sustaining primary health care systems that give priority to preventive care, to provide increased access to voluntary family planning services, to improve basic literacy and mathematics especially to those outside the formal educational system and to improve primary education, and to develop income-generating opportunities for the unemployed and underemployed in urban and rural areas?

N/A

9. FY 1989 Appropriations Act Sec. 515. If deob/reob authority is sought to be exercised in the provision of DA assistance, are the funds being obligated for the same general purpose, and for countries within the same general region as originally obligated? Appropriations Committees of both Houses of Congress been properly notified?

N/A

2. Development Assistance Project Criteria (Loans Only)

This is an ESF grant funded project.

- a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan at a reasonable rate of interest.

N/A

- b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20 percent of the enterprise's annual production during the life of the loan, or has the requirement to enter into such an agreement been waived by the President because of a national security interest?

N/A

- c. FAA Sec. 122(b). Does the activity give reasonable promise of assisting long-range plans and programs designed to develop economic resources and increase productive capacities?

N/A

3. Economic Support Fund Project Criteria

- a. FAA Sec. 531(a). Will this assistance promote economic and political stability? To the maximum extent feasible, is this assistance consistent with the policy directions, purposes, and programs of Part I of the FAA? Yes. This project will increase the productivity of the rural poor, thus effecting a more equitable income distribution conducive to political and economic stability.
- b. FAA Sec. 531(e). Will this assistance be used for military or paramilitary purposes? No.
- c. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made? N/A



UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
MISSION TO PAKISTAN

Cable: USAIDPAK

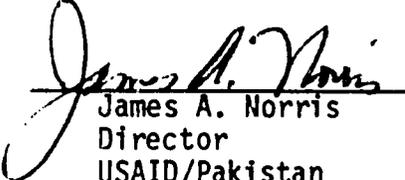
HEADQUARTERS OFFICE
ISLAMABAD

FORESTRY PLANNING AND DEVELOPMENT PROJECT
(391-0481)

FAA Section 611 (e) Certification

I, James A. Norris, the principal officer of the Agency for International Development in the Islamic Republic of Pakistan, having taken into account, among other things, the maintenance and utilization of projects in the Islamic Republic of Pakistan, previously financed or assisted by the United States, do hereby certify, pursuant to Section 611(e) of the Foreign Assistance Act of 1961, as amended, that, in my judgment, the Islamic Republic of Pakistan has both the financial capability and the human resources capability effectively to implement, utilize and maintain the proposed Forestry Planning and Development Project.

This judgment is based upon the project analysis as detailed in Forestry Planning and Development Project and is subject to the conditions imposed herein.


James A. Norris
Director
USAID/Pakistan

6/26/89
Date



UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
MISSION TO PAKISTAN

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HEADQUARTERS OFFICE
ISLAMABAD

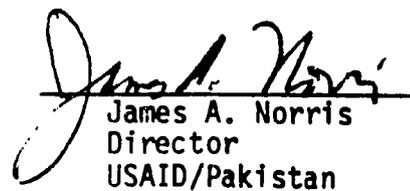
FORESTRY PLANNING AND DEVELOPMENT PROJECT
(391-0481)

FAA Section 612 (b) Certification

A major purpose of \$2.280 billion economic assistance program negotiated between the governments of the U.S. and Pakistan, acknowledged by both governments and a primary reason for both governments having decided to develop an economic assistance package, is to provide balance of payments assistance to Pakistan.

I have carefully reviewed the advisability of disbursing U.S. dollars in lieu of U.S.-owned excess foreign currency to pay for local costs of projects being implemented in Pakistan. In light of the U.S. Government's objectives concerning the program, I have determined that it would be prejudicial to U.S. interests and goals to pay for all local currency costs with U.S.-owned rupees. Such a procedure would prevent the U.S. from providing the maximum amount of balance of payments support under the economic assistance package, and would consequently undercut one of the basic objectives of the program. The objective of providing balance of payments assistance to Pakistan can best be achieved by disbursing U.S. dollars to pay for local costs of the program. Section 612(b) of the Foreign Assistance Act of 1961, as amended, authorizes the administrative official approving the voucher to determine that local costs will be funded with direct payment of dollars for the program. Pursuant to this provision, Handbook 19 requires that the Mission Director (or his designee) make a determination as to the reason in any instance where U.S. dollars are used (disbursed) when U.S.-owned foreign currency is available. Where dollars used for local costs financing, therefore, USAID/Pakistan will make disbursements to the GOP in U.S. currency.

In view of the above rationale, I, James A. Norris, principal officer of the Agency for International Development in Pakistan, pursuant to Section 612(b) of the Foreign Assistance Act of 1961, as amended, do hereby certify the need to disburse dollars to cover local currency costs in lieu of using U.S.-owned excess rupees under the Forestry Planning and Development Project.


James A. Norris
Director
USAID/Pakistan

6/26/89
Date



UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
MISSION TO PAKISTAN

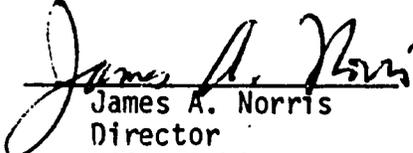
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HEADQUARTERS OFFICE
ISLAMABAD

FORESTRY PLANNING AND DEVELOPMENT PROJECT
(391-0481)

Certification for Compliance With Gray Amendment

I, James A. Norris, the principal officer of the Agency for International Development in the Islamic Republic of Pakistan, do hereby certify that the acquisition plan in the Project Paper was developed with full consideration of maximally involving the Minority and Women-Owned Firms, or Gray Amendment Organizations, in the provision of required goods and services. Set-aside opportunities for such organizations to participate in this project have been assessed and deemed inappropriate at this stage. However, such organizations are encouraged to compete or contract awards, and prime contractors are expected to make an effort to sub-contract, as appropriate, with these entities. During the course of implementation, opportunities for such organizations to participate in the project will be further considered.


James A. Norris
Director
USAID/Pakistan

6/26/89
Date



UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
MISSION TO PAKISTAN

Cable: USAIDPAK

HEADQUARTERS OFFICE
ISLAMABAD

FORESTRY PLANNING AND DEVELOPMENT PROJECT
(391-0481)

USAID/PAKISTAN MISSION DIRECTOR'S WAIVER FOR A.I.D.
PAYMENT OF INTERNATIONAL PARTICIPANT TRAVEL COSTS

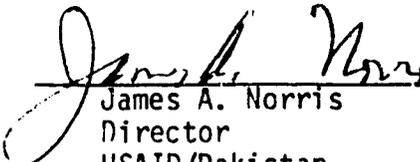
A.I.D. Handbook 10, Chapter 15b1, provides that the cost of international travel, including incidental costs en route as well as the cost of travel between the participant's city and the points of departure and return in the participant's home country, shall be paid by the host government or other sponsor unless, in the case of Mission-funded programs, the Mission Director has justified and authorized full or partial waivers and has so notified S&T/IT.

Training and institution-building are important components of the economic assistance programs negotiated between the Governments of the U.S. and Pakistan. USAID/Pakistan's experience, however, has been that the Government of Pakistan (GOP), due to serious foreign exchange and budgetary constraints, has been historically unable to fund international travel costs for short-term training programs. The consequences have been that Pakistani participants have, on numerous occasions, been denied worthwhile and much needed training, inhibiting the achievement of project targets.

I have carefully reviewed the advisability of requiring full GOP funding for travel costs for participant training of one year or less and the alternative of funding such travel with grant and loan funds provided through USAID/Pakistan to the GOP. Recognizing the objectives of many of our projects and the fact that project success will be enhanced by encouraging opportunities for short-term training, I have determined that it would be prejudicial to U.S. interests to require that the GOP pay the entire international participant travel costs for training programs of one year or less.

Therefore, on all Mission-funded training programs up to and including one year, USAID/Pakistan shall be responsible for the entire cost of the round-trip economy class air ticket and other necessary incidental costs en route. Where a PIO/P has been originally written for a program of one year or less, but, after the participant has initiated his or her program, the program is extended so that it exceeds one year in total, USAID/Pakistan shall also fund the round-trip ticket. The justification for funding programs that are extended is to minimize administrative problems which are otherwise likely to occur.

On the basis of the above justification and pursuant to handbook 10, Chapter 15B1a, I, James A. Norris, principal officer of the Agency for International Development in Pakistan, do hereby waive the requirement that the host government fully fund international travel for training courses of one year or less and authorize payment with USAID/Pakistan loan and grant funds for travel costs as specified above.


James A. Norris
Director
USAID/Pakistan

6/26/99
Date

IDENTIFIED AS NOT BEING MANUFACTURED IN THE U.S. AND--A SECOND FOR THOSE VEHICLES WHICH WILL HAVE TO BE IDENTIFIED CASE-BY-CASE. THE PROCEDURES ARE AS FOLLOWS:

A. FOR THE CATEGORIES OF VEHICLES IN PARAGRAPH 1A AND 1B ABOVE, ONCE THE MISSION OR A.I.D./W BUREAU RESPONSIBLE FOR A PROJECT DETERMINES THAT THE VEHICLES ARE NEEDED FOR THE PROJECT, NO FURTHER WAIVER IS NECESSARY.

B. FOR THE CATEGORIES OF VEHICLES IN PARAGRAPH 1C ABOVE, IF THE MISSION OR A.I.D./W BUREAU DETERMINES A NEED FOR A RIGHT-HAND-DRIVE VEHICLE OR MOTORCYCLE THAT MAY NOT BE MANUFACTURED IN THE UNITED STATES, THE MISSION/BUREAU WILL SEND A REQUEST TO THE COMMODITY SUPPORT DIVISION OF THE OFFICE OF PROCUREMENT (M/SER/OP/COMS) SPECIFYING THE TYPE OF VEHICLE NEEDED. M/SER/OP/COMS WILL DETERMINE WHETHER ANY VEHICLES MEETING THE SPECIFICATIONS ARE MANUFACTURED IN THE UNITED STATES. IF IT DETERMINES THAT THERE ARE NONE, IT WILL NOTIFY THE REQUESTOR AND THE BLANKET WAIVER AUTHORITY MAY BE USED TO COVER THE PROCUREMENT OF THOSE VEHICLES FROM OUTSIDE THE UNITED STATES.

C. IN EITHER 3A OR 3B ABOVE, SPARE PARTS SETS FOR THESE VEHICLES THAT ARE PURCHASED IN THE SAME CONTRACT OR ORDER ARE ALSO INCLUDED IN THE WAIVER.

D. MISSIONS/BUREAUS USING THIS WAIVER AUTHORITY WILL MAINTAIN A RECORD OF THE NUMBER, TYPE AND VALUE OF VEHICLES PURCHASED UNDER THIS AUTHORITY. THE INFORMATION WILL BE SUBMITTED TO A.I.D./W FOR REVIEW WHEN WAIVER RENEWAL IS CONSIDERED. BAKER

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DRAFT PROJECT DESCRIPTION FOR INCLUSION IN THE PROJECT AGREEMENT

A. Project Goal and Purpose

During the Amendment period, the goals and purposes of the project will remain the same as stated in the August 1983 Project Paper.

The primary goal of the project is to help Pakistan increase its energy supplies to achieve energy self-sufficiency. The secondary goal is to reverse the process of deforestation in Pakistan and to expand the extremely limited forest resource base.

The primary purpose of the project is to strengthen the capacity of institutions at the federal, provincial and local levels to design, implement and evaluate policies and programs for increasing the production of fuel wood and timber in Pakistan. The secondary purpose of the project is to demonstrate the economic, technical and social feasibility of producing tree crops on privately owned farm and range land.

B. Project Components

The amended project will consist of four inter-related components: 1. institutional and manpower development, 2. farm and energy forestry research, 3. farm and energy forestry field operations and 4. grants to non-governmental organizations (NGOs) and private voluntary organizations (PVOs) to develop indigenous ability to enhance the public awareness of conservation and natural resource management.

1. Expanded Field Operations

During the early years of the project, activities to encourage on-farm production of fuel wood, fodder and subsistence timber was concentrated in barani areas of NWFP and Punjab and irrigated farmlands in Baluchistan. Following the recommendations of a 1987 evaluation, during the Amendment period, demonstrations of farmer-owned and operated nurseries and wood lots will be expanded to the irrigated areas of Punjab and Sind.

2. Construction

The Amendment budget will finance additional construction in support of the institutional development and the field operations components. The following will be financed:

- upgrading of the PFI for women students
- new training facilities in all provinces
- upgrading of research centers in all provinces
- construction of offices, nurseries and huts in Sind
- limited additional soil conservation activities in Sind

3. NGO/PVO Activities

The Amendment provides funding for the development of indigenous NGOs and PVOs working in the area of natural resource development and conservation. NGOs play significant roles in extending farm forestry and energy conservation to the rural poor in neighboring and other Asia countries, but in Pakistan their role is severely limited.

By providing small grants to fledgling organizations, a cadre of groups able to plan, operate and finance sustainable programs in natural resource development and conservation will be developed.

Over the life of the Amendment, some 10 - 20 organizations will be helped with grants ranging from \$5,000 to \$50,000 each. These grants will be used for institutional strengthening (e.g. hiring staff, purchasing equipment or field operations (procurement of seed, tools, field vehicles, etc)).

4. Additional Support for the IGF

Training, technical assistance and equipment will be provided to the Office of the Inspector General of Forests to help it become the country's strong central data and policy center.

5. Institutionalization

When A.I.D. support for the project comes to an end in 1993, the activities will continue with funding and implementation by the provincial forest departments. Some transfer has already taken place in Punjab and Sind with the assignment of non-project personnel to FP&D work. This process will be encouraged in all provinces by the provision of technical assistance, training and construction financed by the Amendment budget.

C. Implementation Plan

The Amendment implementation schedule shows all project activities flowing smoothly, with no interruption between the current and Amendment-financed activities.

1. Technical Assistance

The technical assistance team (TAT) is in place; the Mission has exercised its option to renew the Winrock contract for an additional four years and at a cost of \$4.2 million which includes \$400,000 in commodities. The composition of the team has been changed; during the Amendment period the TAT will consist of:

- Senior Policy and Management Advisor (expatriate)
- Farm Demonstration/Outreach Forester (expatriate)
- Training/Education/Research Advisor (expatriate)
- Training/Logistics Coordinator (local hire)
- Policy and Management Specialist (local hire)

In addition 64 person months of short-term technical assistance, both expatriate and local hire, will be provided by the contractor.

2. Training

The TAT and GOP counterparts will revise the existing Training Plan as one of the first Amendment activities. The Amendment budget provides \$4 million for in-country and participant training. Over the four year period, 645 person months of overseas training and almost 3000 person months of in-country training is envisaged. Beneficiaries will include federal and provincial forestry officials, young people who are potential forestry professionals and actual and potential forestry farmers.

3. Commodities

Amendment commodities include items to be purchased by AID (trucks, motorcycles and other overseas equipment, the TAT (computer hard and software and specialized research equipment) and GOP (office furniture, field work tools and other locally available equipment). A total of \$1.3 million has been set aside for this commodity procurement.

4. Evaluation

The Amendment design calls for two evaluations over the four year period. The first will take place in September 1990 and will allow strategies to be refined and results assessed. The World Bank, having expressed interest in the project, will be invited to participate in this evaluation, which is scheduled for a time when the full range of plantations from harvest-ready to recently planted can be examined.

The final evaluation will be in June 1993 to coincide with the completion of the AID sponsored project activities. For AID this evaluation will provide an important opportunity to examine lessons that may be applicable to other AID supported forestry and rural development projects. For the GOP the evaluation will make recommendations for the continuation of project activities either under full GOP sponsorship or with the support of one or more other donors.

5. AID and GOP Responsibilities

a. AID Responsibilities

AID will be responsible for administration of the TAT contract, purchasing directly all project vehicles and selected other imported items, arranging for all participant training, providing sufficient staff to participate in evaluations and inspection and certification of construction for reimbursement.

b. GOP Responsibilities

The major GOP implementing agency will continue to be the O/IGF within the Ministry of Food, Agriculture and Cooperatives. At the provincial level, the Forest Departments will be the executing agents, and the Conservator of Forests or his designee will serve as the Project Director within the province.

The Federal Advisory Committee will continue to provide overall leadership, establish policy and program guidelines, review and resolve major implementation issues and serve as a monitoring and evaluation forum. The Committee composition is made up of representatives from Ministry of Food, Agriculture and Cooperatives, Ministry of Planning, Ministry of Finance and from the Ministry of Petroleum and Natural Resources.

The GOP shall be responsible for provision of: appropriate training nominations, office space for the TAT, local commodities procurement, the GOP contribution to the project budget (see below), adequate project staffing as defined in the original Project Grant Agreement and timely project reports to AID as required in Project Implementation Letters.

D. Amendment Budget

The Amendment costs are summarized in the following table. While the AID contribution is increased by \$10 million, the GOP contribution remains unchanged from the \$14.3 million called for in the original project paper.

A.I.D. Project No. 391-0481
Forestry Planning and Development

SUMMARY OF PROJECT COSTS BY EXPENSE CATEGORY AND SOURCE OF FUNDING ^{1/} ^{4/}

(in 000s)

ILLUSTRATIVE

Expense Category	^{2/} Cumulative FY-83 to date		^{3/} Life of Project Funding	
	A.I.D. Grant (in \$)	G.O.P. (in Rs)	A.I.D. Grant (in \$)	G.O.P. (in Rs)
Technical Assistance	5,386	0	9,243	0
Training	3,000	3,100	6,600	7,544
Commodities	2,300	0	2,950	2,284
Field Operations	7,200	65,600	13,405	160,413
Evaluation	114	0	650	0
Sub-Total	18,000	68,700	32,848	170,241
Contingency	0	5,400	2,152	13,228
GRAND TOTAL	18,000	74,100	35,000	183,469

^{1/} Either party may unilaterally, with written notice to the other, adjust line items in this budget to a maximum of 15% per line item, provided, however, that the total obligated amount as shown in the budget is not exceeded.

^{2/} These funds were obligated under the original PP. The category now called "Field Operations" was called "Other Costs" in the original Project Grant Agreement.

^{3/} Subject to the availability of funds to A.I.D. for this purpose and to the mutual agreement of both parties to proceed at the time of each subsequent increment.

^{4/} Rupee exchange rate does not change from the original Project Grant Agreement for this table.

Technical Assistance Scope of Work

A. Technical Services

The activities of the contractor will concentrate on assisting the GOP with institution building, support for infrastructure development, delivery of training, establishment of local training capacity, research program development, and operational field design, testing, and demonstration of appropriate farm forestry methods. The Project Paper will be the principal guide for project implementation.

The Contractor shall assist the, Office of the Inspector General of Forests(O/IGF), the Provincial Forest Departments, the Pakistan Forest Institute (PFI), and related institutions to implement all aspects of the Forestry Planning and Development Project. Specific areas and activities in which the Contractor shall be required to assist these institutions include but are not limited to the following:

1. Planning, Policy, Program, Budget

- a. the introduction and initial execution of systematic forest planning process using economic, financial, sociological, technical, and related analytical techniques to identify and establish priorities for development opportunities in the forest and farm forestry sectors at the community, provincial and federal levels;
- b. the analysis of alternative afforestation and fuelwood development policies including a comparison of the direct and indirect returns to investments in forestry on government versus private lands, the division of federal and provincial responsibilities for forestry and fuelwood development, the role of fuelwood as an energy resource, and the role of farm forestry in enhancing the productivity of agricultural land;
- c. the preparation, analysis, and justification of federal and provincial budgets in support of private sector wood production and use, fuelwood production, afforestation, and farm forestry;
- d. the analysis of individual afforestation, farm forestry, and fuelwood development projects to determine their technical, economic, and development impact on natural resources management in Pakistan;
- e. the introduction and initial operation of computers and other analytical techniques in the O/IGF for data processing and analysis of the forestry sector, public and private, to determine the economic importance of forestry in the national product and to develop a database to amass statistics of the sector for use by the O/IGF and others;

f. the design and implementation of short-term, in-country training programs in support of items a. through e. above.

g. the identification of long and short-term overseas training opportunities in support of items a. through f. above and the identification and screening of individuals who will participate in the training activities identified;

h. the coordination of farm and energy forestry activities conducted in the forestry sector with related policies and programs in the energy and agricultural sectors;

2. Farm and Energy Forestry Research

a. Assists the PFI, Provincial Forest Departments and agricultural universities with the development and initial implementation of a research program in support of farm and energy forestry activities to examine:

(1) the design and yields of farm forestry systems with respect to both tree crops and conventional agricultural crops;

(2) the economics of alternative farm forestry systems;

(3) the sociological and cultural factors that affect the design and management and local acceptance of farm forestry outreach programs;

(4) ecological analysis to facilitate farm forestry prescriptions to be made by field foresters;

(5) species trials and provenance testing for farm and energy forestry applications;

(6) hydrological analyses in support of both farm and energy plantation forestry; and

(7) the interactions of tree crops with other crops on irrigated agricultural lands in the Punjab and Sind.

b. the identification of long-term and short-term overseas training opportunities to prepare Pakistani professionals to effectively plan and implement the research activities described above.

c. the facilitation of GOP participation in and coordination with related internationally sponsored forestry research projects and programs.

i. assists the Provincial Forest Departments with the design and initial implementation of a series of on-farm forestry demonstrations using techniques and technology proven successful in other similar conditions and of training outreach foresters and farmers in these techniques; and,

j. assists the Provincial Forest Departments with the preparation of a silvicultural plan for the irrigated forest plantations in Sind and Punjab, and the improvement and expansion of the irrigated forest plantations in Sind.

4. General

a. the identification and direct procurement of selected smaller items of equipment and materials in support of items a. through j. of paragraph 3. above, and, identification of other equipment and commodity needs for separate procurement through the USAID commodity office or directly by the GOP;

b. participation as resource personnel in periodic and special project evaluations;

c. conduct an annual survey of training completed during each calendar year to include in-country and out of country training. Submit a report to the GOP and USAID with observations and suggestions, if any; and,

d. keep AID informed of the progress of the project and of activities of the technical assistance team through periodic reports as set forth in the contract..

ID 9052Q/0044Q

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ACTION: PDM

TAGS:

INFO: D, DD, PRO, ARD,

SUBJECT: PAKISTAN FORESTRY PLANNING AND DEVELOPMENT
PROJECT (391-0491) PP SUPPLEMENT

RF, CH

REF: ISLAMAPAD 5257

1. AUTHORIZATION IS HEREBY GRANTED FOR MISSION TO
PROCEED WITH DESIGN AND APPROVAL OF PP SUPPLEMENT
PURSUANT TO REFTEL REQUEST AND SUPPORTING DESCRIPTION
AND JUSTIFICATION. PACE SHOULD NOT BE EXTENDED BEYOND
AUGUST 27, 1993, AS EXTENSION BEYOND A TOTAL PROJECT
LIFE OF 10 YEARS WOULD REQUIRE APPROVAL OF A/AID.
SEULTZ

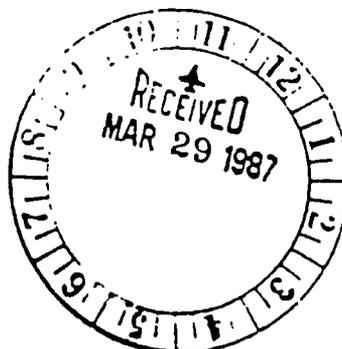
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INITIAL ENVIRONMENTAL EXAMINATION (IEE)
FOR
FORESTRY PLANNING AND DEVELOPMENT PROJECT

- 1. Project Country : Islamic Republic of Pakistan
- 2. Project Title and Number : Forestry Planning and Development Project 391-0481
- 3. Project Funding : \$35 Million in ESF Grant Funds over 10 years
- 4. Life of Project : FY 1983 - FY 1993 (10 Years)
- 5. Reviewed and Concurred by : Waldemar Albertin
Mission Environmental Officer (A)

Signature: W. Albertin
Date : 7-25-89

- 6. Recommended Environmental Action : Positive Determination

- 7. Mission Director's Concurrence

Signature: James A. Morris
Date: 2/31/89

- 8. Decision of Environmental Coordinator, Bureau for Asia and the Near East

Approved: [Signature]
Disapproved: _____
Date: 8-25-89

E&E: CLAT
FPDIEE: 6/18/89

Best Available Document

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INITIAL ENVIRONMENTAL EXAMINATION (IEE)
FOR
FORESTRY PLANNING AND DEVELOPMENT PROJECT

1. Project Country : Islamic Republic of Pakistan
2. Implementation Agency : Office of Inspector General of Forests,
Ministry of Food, Agriculture and
Cooperatives, Government of Pakistan.
3. Project Title and Number : Forestry Planning and Development
Project 391-0481
4. Amendment Number : One
5. Life of Project : FY 1983 - FY 1993 (10 Years)
6. Project Funding : \$35 Million in ESF Grant Funds over 10
years
7. Goal and Purpose of Project:

This project will contribute to important development goals in two sectors of Pakistan's economy. The primary goal of the project is to help Pakistan increase its energy supplies to achieve energy self-sufficiency. The secondary goal is to reverse the process of deforestation in Pakistan and to expand the extremely limited forest resource base. The primary purpose of the project is to strengthen the capacity of institutions at the federal, provincial, and local levels to design, implement, and evaluate policies and programs for increasing the production of fuel wood and timber in Pakistan. The secondary purpose of the project is to demonstrate the economic, technical, and social feasibility of producing tree crops on privately-owned farm and range lands.

8. Project Description

The revised project is expected to produce the following results:

- a. The strengthening of a federal forest policy and planning team with professional staff responsible for integration of farm and energy forestry activities, private forest product sector needs, and other non-traditional forestry activities into federal policies, plans, and budgetary allocations. This will include the ability to collect and analyze data about the forestry sector.

- b. The establishment of provincial forestry planning teams with skills necessary for provincial program planning and evaluation.
- c. The strengthening of Federal and Provincial Forest Department infrastructure as required to implement tree crop management on outreach programs.
- d. The demonstration of tree crop management on approximately 70,000 acres of privately owned farm and range land leading directly to the production of approximately 126 million cubic feet of fuel wood, 9.2 million cubic feet of timber, and \$5.5 million worth of minor forest products including fodder, thorn fencing material, and mine pit props.
- e. The improved management of about 5,000 acres of irrigated forest plantations on government land in the Sind Province.
- f. The training of 550 forestry and related professionals to improve their skills of decision-making, to develop farm and energy outreach training specialists, researchers, economic and marketing analysts, and to train planners for developing strategies to implement national policies on forestry and renewable natural resource management.
- g. Approximately 40,000 farmers and their families training in on-farm tree crop management.
- h. The development of comprehensive forest management planning systems for federal and provincial management plans giving on farm and energy forestry special emphasis, in cooperation with the UNDP and ADB.
- i. The expansion of the research program supporting farm forestry and a cooperative program with Agricultural researchers in Agroforestry.
- j. The improvement in operations of the Tarbela Watershed Project as well as reforestation of approximately 20,000 acres of the watershed.
- k. Assistance to Pakistani NGOs and PVOs in the natural resource management and conservation areas through a grant program. Approximately 10 such grants of between \$5,000 and \$50,000 will be given.
- l. Improvement of Provincial Research Stations and Training Centers. Four training centers and four research stations will be improved, one in each province.
- m. The role of women in forestry will be enhanced by the construction of a women's hostel at PFI and funding the main building for renovation to include women's studies and wash-rooms.
- n. Continuance with the project activities discussed in the original IEE, Annex M of the Project Paper of August 1983.

9. Construction Activities

A. Pakistan Forest Institute, Peshawar

- (i) A men's hospital is already under construction and about 75% of the construction is complete.
- (ii) A women's hostel is now being designed. Construction is expected to start in December, 1989.

B. Under Reimbursement Agreement (RA), dated May, 2, 1988, AID will provide the funds for construction of the following (41) buildings:

Office of Coservator: One in Punjab, design complete, site not decided yet.

Offices of Divisional Forest Officers: Four in Punjab, one in NWFP and one in Baluchistan. Design complete, some of the sites known.

Range Offices: Eleven in Punjab, three in NWFP and three in Baluchistan. Design complete, some of the sites known.

Nursery Huts: Eleven in Punjab, three in NWFP and three in Baluchistan. Design complete, some of the sites known.

C. Under Reimbursement Agreement (RA), dated April 4, 1989, AID is funding the reconstruction and upgrading of the Old Penah Minor under the Penah Forest irrigation system. The Old Penah Minor is an existing three mile irrigation channel branching to the North West off the Daro Branch Canal in Tando Muhammad Khan, Sind. The minor in its present deteriorated condition, cannot provide irrigation water to most of its original design command area. Rehabilitation work will allow more water to be conveyed to an increased command area and the upgrading work will increase conveyance efficiency. The completed work will ensure an adequate supply of irrigation water to the entire 2900 acre command area of the Old Penah Minor. Overall command area is 4500 acres. The work includes, concrete lining, expansion of sections and silt removal. It is expected to complete in October, 1989.

10 Project Officer's Observations

"The activities listed for this project as amended will positively affect the environment. The reforestation will be undertaken exclusively on farm land that has already been effected by agricultural production and grazing for many years. The action of planting trees and repairing degraded soils and mitigating erosion on farm lands will improve the sustainability of the agricultural lands as well as increasing the productivity of degraded lands. The establishment of tree cover on lands that have been barren will provide habitat for a wide range of species such as birds, small mammals, and reptiles. The project will rehabilitate one small irrigation system allowing irrigation of about 4,000 acres of tree plantations. These areas have been irrigated in the past. The project is improving the system as well as the method of irrigation with the objective of minimizing the use of water while

obtaining the most economic growth of the trees. Both technical assistance and research are being allocated to this task. The results and experience obtained will be utilized to improve the other irrigated plantations in Pakistan. Institutional development and research planned in the project will have no adverse impact on the environment. NGO/PVO activities will have positive results in influencing improvement of environmental conditions in Pakistan."

10. Recommendation

The primary goal of the project is to help Pakistan increase its energy supplies to achieve energy self-sufficiency with the purpose to strengthen the capacity of institutions at the federal, provincial, and local levels to design, implement, and evaluate policies and programs for increasing the production of fuel wood and timber in Pakistan. The secondary goal is to reverse the process of deforestation in Pakistan and to expand the extremely limited forest resource base with the purpose to demonstrate the economic, technical, and social feasibility of producing tree crops on privately-owned farms and range lands. To achieve project objectives, construction of a men's hostel in Pakistan Forest Institute, Peshawar is under way and about 75% construction is complete. A considerable amount of construction of offices, nurseries, research and training facilities is expected to take place. Also a considerable amount of land leveling, canal construction, tree plantation and soil conservation is involved.

- A. It is recommended that as soon as possible an environmental review be carried out for the following:
 - a. Mens Hostel at Pakistan Forest Institute, Peshawar (12,300 ft² covered area).
 - b. Irrigation Scheme in Sind.
 - c. Soil Conservation techniques and plan.

- B. It is further recommended that an environmental assessment be performed, in the early part of the Project Implementation, for the forthcoming following construction activities:
 - a. Conservator's Office, (3,530 ft² covered area).
 - b. DFO Offices, (Each office has 2,310 ft² covered area).
 - *c. Range Offices, (Each office has 1,360 ft² covered area).
 - *d. Nursery Huts, (Each NH has 740 ft² covered area, involves 5-rooms, tractor workshop, kitchen, bath room etc.).
 - e. Women's Hostel at PFI.
 - f. Training and research buildings.

This recommendation is in consistence with AID Regulation 22 CFR Part 216, Section 216.2(a) and Section 216.2(d)(ii),(iii)&(vi).

* These are small buildings. It is recommended that the EA should be limited to a review of design criteria and visits to 10% of the construction sites, as all the buildings will have a similar design.

11. Environmental Action : Positive Determination
Recommended
12. Prepared by : Ch. Laiq Ali
Mission Environmental Engineer
13. Reviewed by : 1. Waldemar Albertin
Mission Environmental Advisor
2. Alberti Merke
Project Officer, ARD
14. Concurred by : Gary Adams
Chief(A), Office of Energy and Environment
15. Bureau Environmental Coordinator's Approval/Disapproval requested