

UNCLASSIFIED

AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

PROJECT PAPER AMENDMENT
PAKISTAN - ON-FARM WATER MANAGEMENT
391-0413

MAY 1982

UNCLASSIFIED

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT DATA SHEET		1. TRANSACTION CODE C A = Add C = Change D = Delete	Amendment Number <u>1</u>	DOCUMENT CODE 3
2. COUNTRY/ENTITY Pakistan		3. PROJECT NUMBER 391-0413		
4. BUREAU/OFFICE Asia		5. PROJECT TITLE (maximum 40 characters) On-Farm Water Management		
6. PROJECT ASSISTANCE COMPLETION DATE (PACD) MM DD YY 06 30 85		7. ESTIMATED DATE OF OBLIGATION (Under 'B.' below, enter 1, 2, 3, or 4) A. Initial FY 77 B. Quarter <input type="checkbox"/> C. Final FY 83		

8. COSTS (\$000 OR EQUIVALENT \$1 = Rs 9.9)						
A. FUNDING SOURCE	FIRST FY <u>77</u>			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	-	7,500	7,500	5,282	13,135	18,417
(Grant)	(-)	(-)	(-)	(5,282)	(5,635)	(10,917)
(Loan)	(-)	(7,500)	(7,500)	(-)	(7,500)	(7,500)
Other U.S.	1.					
	2.					
Host Country	-	5,400	5,400	-	16,200	16,200
Other Donor(s)	-	-	-	-	-	-
TOTALS	-	12,900	12,900	5,282	29,335	34,617

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) DA	120	022	022	917	7,500	-	-	917	7,500
(2) ESF	120	022	-	-	-	10,000	-	10,000	-
(3)									
(4)									
TOTALS				917	7,500	10,000	-	10,917	7,500

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)	11. SECONDARY PURPOSE CODE
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12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)			
A. Code	BF	R/AG	TECH
B. Amount			

13. PROJECT PURPOSE (maximum 480 characters)

To establish public and private sector capabilities to plan and deliver on-farm water management services including improvement of irrigation watercourses, precise leveling of farm land, and improvement of crop and water management practices targeted to small and medium farmers.

14. SCHEDULED EVALUATIONS	15. SOURCE/ORIGIN OF GOODS AND SERVICES
Interim MM YY MM YY Final MM YY 1 2 8 3 0 5 8 5	<input checked="" type="checkbox"/> 000 <input type="checkbox"/> 941 <input checked="" type="checkbox"/> Local <input type="checkbox"/> Other (Specify)

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a 53 page PP Amendment plus Annexes.

A.I.D. plans to add \$10.0 million in ESF grant funds to the existing project to: (1) reimburse the GOP for civil works already completed which were eligible for financing under the original project; (2) provide training, technical assistance and commodities to further strengthen the institutions responsible for Pakistan's On-Farm Water Management (OFWM) Program; and, (3) undertake a local governmental pilot program to examine the feasibility of using local councils as a mechanism for accelerating the implementation of the OFWM program.

17. APPROVED BY	Signature Donor M. Lion <i>Donor M. Lion</i>	18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION MM DD YY 5 2 7 8 2
	Title Director, USAID/Pakistan	

PROJECT AUTHORIZATION AMENDMENT

Name of Project: On-Farm Water Management
Number of Project: 391-0413
Number of Project Amendment: 391-0413-8201

Pakistan

Pursuant to Part 1, Chapter 1, Section 103 of the Foreign Assistance Act of 1961, as amended, Grants for the On-Farm Water Management Project No. 391-0413 for the Islamic Republic of Pakistan were authorized in FY 1978 and FY 1979. These authorizations are amended as herein set forth.

1. Pursuant to Section 531 of the Foreign Assistance Act of 1961, as amended, I hereby authorize this Amendment to the On-Farm Water Management Project Grants of FY 1978 and FY 1979 to provide for the Islamic Republic of Pakistan an additional obligation of not to exceed United States Dollars Ten Million (\$10,000,000) in grant funds over a two (2) year period from the date of this authorization, subject to the availability of funds in accordance with the A.I.D./OYB allotment process, to help in financing foreign exchange and local currency costs for the Project.

2. The Project, as herein amended, is designed to provide technical assistance, commodities, participant training, and reimbursement for civil works in order to establish public and private sector capabilities to plan and deliver on-farm water management services, including improvement of irrigation watercourses, precise leveling of farm land, and improvement of crop and water management practices targeted to small and medium farmers.

3. Source and Origin of Goods and Services

Goods and services financed by A.I.D. under this Project Amendment shall have their source and origin in the Cooperating Country or in the United States, except as A.I.D. may otherwise agree in writing. Ocean shipping financed by A.I.D. under this Project Amendment shall, except as A.I.D. may otherwise agree in writing, be financed only on flag vessels of the United States and the Cooperating Country.

4. Conditions Precedent

a. Prior to any disbursement under this Project Amendment for civil works under a local government pilot program, or to the issuance by A.I.D. of documents pursuant

to which disbursements will be made for civil works under a local government pilot program in any given province, the Grantee shall provide to A.I.D., in form and substance satisfactory to A.I.D., documents establishing that a PC-1 (GOP planning document) has been approved by the GOP.

b. Prior to any disbursement under this Project Amendment for civil works under a local government pilot program or to the issuance by A.I.D. of documents pursuant to which disbursements will be made for civil works under a local government pilot program in any given province, the Grantee shall provide to A.I.D., documentation that an implementation plan, approved by the Grantee and satisfactory in form and substance to A.I.D., has been prepared by the Ministry of Local Government and Rural Development. This implementation plan shall include, at a minimum, the following:

- (a) a plan for the selection of districts and command areas where the activities will be implemented;
- (b) criteria for selecting specific watercourses to insure that benefits from project activities are shared by a large number of farmers;
- (c) a training plan;
- (d) a description of administrative procedures and procedures for internal monitoring and quality control of design and construction work;
- (e) a financial plan; and,
- (f) an evaluation plan.

5. The Government of Pakistan (GOP) shall agree to undertake appropriate measures to prohibit cultivation of opium poppy and/or processing of opium into heroin or morphine base within any village or area benefiting from this Project Amendment. In the event that a determination is made that the cultivation of opium poppy and/or processing of opium is occurring in a village or area programed to benefit or benefiting from this Project Amendment, no assistance under this Project Amendment directly benefiting that village or area shall commence, and, if commenced, such assistance shall be suspended until the prohibited activity is eliminated. If the prohibited activity is not fully eliminated within a specified period of time to be agreed upon by the United States Government and the GOP, all assistance directly benefiting that village or area may be terminated.

If, prior to the Project Assistance Completion Date ("PACD") established by A.I.D. for this project, as it may be from time to time amended, it is determined that the prohibited activity is occurring in a village or area which has benefited from this Project Amendment and the prohibited activity is not eliminated within a period of time to be agreed upon by the United States Government and the GOP, the GOP shall reimburse A.I.D. for all assistance that the GOP has received from A.I.D. under this Project Amendment, which has resulted in direct benefits to that village or area in which the prohibited activity is occurring.

6. The Project Assistance Completion Date is hereby extended to June 30, 1985.

Signature Donor M. Lion
Donor M. Lion
Director
USAID/Pakistan

Date MAY 27, 1982

ON-FARM WATER MANAGEMENT AMENDMENT

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- J. June 1981 GOP Report Entitled "Monitoring and Evaluation of On-Farm Water Management Program (Pre-Project Evaluation): Summary (on file at USAID/Pakistan)
- K. On-Farm Water Management Project: A Joint U.S.-Pakistan Evaluation, May 8, 1978 (on file at USAID/Pakistan)
- L. On-Farm Water Management Project: The Second Joint U.S.-Pakistan Evaluation, September 16 - October 13, 1979 (on file at USAID/Pakistan)

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I. SUMMARY AND RECOMMENDATIONS

A. Recommendations

1. Funding

It is recommended that:

a. An ESF grant of \$10.0 million be authorized in FY 1982, of which \$7.0 million will be obligated in FY 1982 and \$3.0 million in FY 1983, for the On-Farm Water Management Project. This amendment will increase the A.I.D. total life of project funding to \$18,417,000.

b. The Project Assistance Completion Date (PACD) be extended from June 30, 1982 to June 30, 1985.

2. Geographic Code

The Project Authorization Amendment should specify that, except as A.I.D. may otherwise agree in writing:

a. Goods and services financed by A.I.D. under this Project Amendment shall have their source and origin in countries included in A.I.D. Geographic Code 000 or Pakistan.

b. Ocean shipping financed by A.I.D. under this Project Amendment shall be only on flag vessels of the United States or Pakistan.

3. Waiver

It is recommended that a source/origin waiver from A.I.D. Geographic Code 000 to Code 935 and a waiver to allow non-competitive negotiated procurement be approved to permit the purchase of six (6) Toyota Land Cruiser right-hand drive station wagons and spare parts. A source/origin waiver request is included in Annex E.

B. Summary Project Amendment Description

A.I.D. has been providing assistance to Pakistan's On-Farm Water Management (OFWM) Program since October 1976 when it approved a \$7.5 million loan and in 1978 and 1979, grants totalling \$917,000 for the OFWM pilot project. This pilot project consists of the:

1. physical improvement of watercourses (small irrigation canals which bring water to farmers' fields) and precision leveling of farm land;

2. development and implementation of improved water management and agricultural practices; and,

3. strengthening of the institutional capability of the GOP to implement a nationwide water management program. Because of the imposition of Section 669 of the Foreign Assistance Act and the events at the American Embassy in 1979, an additional \$15.0 million loan for Phase II of this project was never authorized, leaving insufficient funds for the reimbursement of watercourse improvements and precision land leveling which had been planned under the pilot project. The availability of financial support from other donors has reduced the funding shortfall, but approximately \$4 million is still required to reimburse the GOP for watercourse improvements and precision land leveling work which was undertaken by the provinces. In addition, technical assistance and training are needed to address several critical constraints which were identified during the implementation of the pilot project and which have slowed project progress and prevented the achievement of some of the project's objectives.

Under the proposed three-year project amendment, funds will be provided to: (1) reimburse the GOP for watercourse improvements and precision land leveling completed under the original project; (2) finance technical assistance, training, and commodities to provide on-the-job training to field staff in the proper design and construction of civil works and to further strengthen the institutions responsible for planning and delivering training and other services in OFWM; and, (3) undertake a pilot program through the Ministry of Local Government and Rural Development to evaluate the use of local councils as a mechanism for accelerating the implementation of OFWM activities. An existing complementary U.S.-owned rupee project (Strengthening Water Management Project Activities, 391-0452) will also be amended to provide additional funds to help cover the local costs of these proposed activities. All activities under the amendment are consistent with the purpose of the original project and take into consideration the lessons learned during the implementation of the project.

C. Summary Findings

This project amendment is ready for implementation and is considered socially, financially, and economically sound, and technically and administratively feasible.

D. Project Amendment Checklists and Mission Director's Certifications

1. The project amendment meets all applicable statutory criteria. Appropriate checklists are included in Annex B.

2. Two certifications signed by the USAID/Pakistan Mission Director are included in Annex C:

a. a FAA 611(e) certification, which certifies that the GOP has the capability to implement and maintain the project as amended; and,

b. a FAA 612(b) certification to permit the disbursement of dollars in lieu of U.S.-owned rupees to finance local costs.

E. APAC Concerns and Design Guidelines

No major policy issues are involved in the proposed amendment. Concerns expressed at the APAC review of this amendment are discussed below.

1. Lessons Learned

Lessons learned during the implementation of the pilot project were incorporated into the design of this amendment. These are discussed in detail in Section II.D.

2. Criteria for Beneficiary Selection and Approval of Construction Works

The APAC recommended that the criteria used for selection of beneficiaries and for approval of construction works be reviewed. With the exception of the local government component of the project, all of the civil works for which funds will be provided under the amendment were completed prior to June 30, 1981. Therefore, the issue of beneficiaries is applicable only to those water-courses which will be initiated during the amendment period under the local government component.

Technical advisors to be provided under the amendment will assist the Mission and GOP review criteria for selection of beneficiaries, taking into account the criteria used during the pilot project; those which will be used under other donors' projects; and, the recommendations in a November 1981 consultant report entitled "The Utilization of Local Councils for the Improvement of On-Farm Water Management in Pakistan" (See Annex I) New criteria for beneficiary selection

will be developed on the basis of this review prior to the implementation of the local government component of the project.

Problems with the existing system for inspection of civil works have been identified, and new procedures have been developed for the approval of construction works and reimbursement. These are discussed in Section III.C.1.

3. Effectiveness of Water Users Associations

The performance and effectiveness of Water Users Associations under the pilot project have been less than satisfactory because of: (a) poor training of water management field teams; (b) establishment of construction targets for field teams which left insufficient time for them to work effectively with Water Users Associations; (c) inadequate improvements in extension methods; (d) inadequate research; and, (e) diverse social and cultural constraints.

These problems will be reviewed with the assistance of the technical advisors to be provided under this amendment, and new approaches to increase the effectiveness of these Associations will be developed and implemented.

4. Reimbursement for Watercourse Lining

Under the pilot project, A.I.D. reimbursed the GOP for 100 percent of the costs of lining up to a maximum of ten percent of the length of the improved watercourse. Under other donor projects, reimbursement is provided for the costs of lining up to 30 percent of the length of each improved watercourse. The percentage varies between 15 percent and 30 percent as a function of the degree of salinity of the groundwater in the area. Since it is especially critical to reduce seepage in areas where the groundwater is highly saline, lining up to 30% of the length of the watercourse is allowed and encouraged in these areas.

Under the proposed local government component of the amendment, A.I.D. will reimburse the GOP for 75 percent of the costs of lining up to 30 percent of the length of each improved watercourse with the Water Users Associations covering the remaining 25 percent of the costs. With the assistance of the technical assistance team to be provided under the project, the Mission plans to examine the desirability and feasibility of raising the percentage of the length of the watercourse but reducing the percentage of the costs for which A.I.D. will provide reimbursement for lining, with the Water Users Associations contributing a greater share of the costs of this increased lining.

5. Training of Extension Workers

The pilot project did not provide for sufficient training of extension workers in water management techniques. This amendment will therefore finance training and technical assistance to improve water management extension activities.

6. Irrigation Training Programs and Facilities

The general lack of on-farm irrigation training programs and facilities in Pakistan is a widely shared concern. Government officials, educators, and private engineering companies are becoming more aware of the need for training in this area, not only for individuals directly involved at the farm level but also for planners and those responsible for storage and distribution of irrigation water. To address this deficiency, this amendment will finance training activities outside of Pakistan and provide support to strengthen OFWM training centers and other related training institutions in Pakistan to meet the manpower needs of the GOP's OFWM Program.

F. Contributors to the Project Paper Amendment

The following individuals contributed to the development of this project paper amendment:

A.I.D.

- | | |
|---------------------|---|
| Mr. Hafiz Ahmad | - Chief Accountant, Office of Financial Management, USAID/Pakistan |
| Mr. Russel Backus | - Assistant Agricultural Development Officer, Office of Agriculture and Rural Development, USAID/Pakistan |
| Dr. Ronald Curtis | - Chief, Office of Agriculture and Rural Development, USAID/Pakistan |
| Mr. Leslie Dean | - Chief, Office of Program, USAID/Pakistan |
| Mr. Terence D'Souza | - Program Specialist, Office of Project Development and Monitoring, USAID/Pakistan |

Mr. Bryant George - Deputy Director, USAID/Pakistan
Mr. S. Anwarul Hassan - Program Specialist, Office of Energy and Engineering, USAID/Pakistan
Dr. Donor Lion - Director, USAID/Pakistan
Dr. Linda Lion - Chief, Office of Project Development and Monitoring, USAID/Pakistan
Dr. Max Lowdermilk - ASIA/TR/ARD, AID/Washington
Dr. Norman Nicholson - ST/RAD, AID/Washington
Mr. S. Zahid Noor - Engineer, Office of Energy and Engineering, USAID/Pakistan
Mr. Masud Siddiqui - Program Specialist, Office of Program, USAID/Pakistan
Mr. Stephen Spielman - Regional Legal Advisor, Office of the Regional Legal Advisor, USAID/Pakistan
Ms. Diana Swain - Project Development Officer, ASIA/PD, AID/Washington

Consultant

Wayne Clyma - Co-Project Director, Water Management Synthesis Project, Colorado State University, Colorado

GOP

Mr. Mohammad Afzal - Joint Secretary (Local Government Ministry of Local Government and Rural Development
Mr. Manzoor Ahmed - Additional Secretary, Ministry of Food, Agriculture, and Cooperatives
Mr. Mohammad Ashraf - Water Management Engineer, Ministry of Food, Agriculture, and Cooperatives

- Mr. M. Sadiq Cheema - Director General On-Farm
Water Management (Punjab)
- Mr. Wadood A. Gillani - Director (Planning), Ministry
of Local Government and Rural
Development
- Mr. Muzafar Hussain - Secretary, Ministry of Local
Government and Rural Development
- Mr. A.M.H. Kango - Director, Water Management Cell,
Ministry of Food, Agriculture,
and Cooperatives
- Mr. Aftab Ahmad Khan - Director On-Farm Water
Management (Sind)
- Sheikh Dost Mohammad - Director On-Farm Water
Management (N.W.F.P.)
- Mr. Abdul Rahman - Joint Secretary (Development
Wing), Ministry of Local Govern-
ment and Rural Development
- Mr. Muzzafar Al Sheikh - Project Director On-Farm Water
Management (Baluchistan)

II. BACKGROUND

A. USG-GOP Negotiations

1. Background

The United States Government and the Government of Pakistan are embarked on a renewed and strengthened effort to increase their economic and development cooperation. This effort was marked by high level USG-GOP consultations in 1981 which culminated in the negotiation of a \$3.2 billion package of military and economic assistance which the U.S. will seek to provide to Pakistan between FY 1982 and FY 1987.

The economic assistance component was designed not only to maximize its development impact but also to produce as favorable balance of payments effects as possible. The balance of payments objective reflects two critical purposes of the agreed upon economic assistance : (a) to ameliorate the burden created by Pakistan's increased defense expenditures; and, (b) to reduce the constraints on development which balance of payments strains generate. In this manner, the economic, developmental, and security interests of both nations are interrelated and supported.

The U.S. Economic Assistance Negotiating Team, headed by the A.I.D. Administrator, visited Pakistan in August 1981 to discuss the details of the economic portion of the military/economic assistance package with the Government of Pakistan. These negotiations were successfully completed, and an agreement was reached on the FY 1982 ESF program and on the areas of concentration for the FY 1982 through FY 1987 period.

2. Strategy

The assistance package is one of the strategic elements of the renewed and expanded USG-GOP relationship. It is one of the instruments required to achieve the mutual goals of the USG and GOP with respect to security and economic development. The assistance package is seen as an indispensable contribution to the shaping and implementation of a new U.S.-Pakistan relationship and to the critical role in the region which the U.S. Government seeks to assist Pakistan to play. The military-security-political position of Pakistan, including the burden of a massive refugee influx, accentuates the development problem to which the proposed U.S. economic assistance package responds.

The economic assistance program is designed to help Pakistan, one of the world's largest and poorest nations, fulfill the basic human needs of its people. At the same time, it is designed to address the country's foreign exchange needs through quick disbursing activities while laying the foundations for more rapid economic growth. The program is shaped to assure the widest possible distribution of benefits. The program agreed to by the GOP and US negotiating teams will :

- a. reactivate a long-term development assistance relationship, which the USG views as important because of Pakistan's size, poverty, strategic location, and other multi-faceted U.S. interests;
- b. provide balance of payments support so as to help address short and medium term foreign exchange shortfalls, thereby reducing development constraints and strengthening the economy;
- c. address key economic problems, which will help enable Pakistan to achieve self-sustaining growth and manage its debt burden;
- d. complement and support IMF and IBRD assisted programs, and accentuate their overall impact; and,
- e. expand resource availability for local cost financing.

All of the objectives and purposes of the economic package cannot be achieved simultaneously. Nevertheless, it is the express intention of both governments to initiate as many of the proposed activities as possible within the first several months of FY 1982. In view of the recent status of the bilateral relationship and program, and given the magnitude and urgency of the proposed efforts, a carefully designed strategy and approach are required. In the first year, FY 1982, the balance of payments objective is given primary emphasis. In later years, as program levels are elevated, the balance of payments focus will be retained while the longer-term development strategy will be given more attention.

It was in this context that the GOP and A.I.D. reached agreement on a three-year amendment to the existing On-Farm Water Management Project to bring the project to a successful conclusion.

B. Project History

In October 1976, A.I.D. initiated the OFWM Pilot Project to establish a capability within government agencies, private contractors, and farmer groups to plan and carry out activities necessary for efficient irrigation water management at the farm level. A.I.D. was to provide a \$22.5 million loan and approximately \$1.0 million in grant funds over four years to assist the provincial governments improve 1500 watercourses, precisely level 425,000 acres of land, and train between 60,000 and 100,000 farmers in improved crop and water management practices.

A \$7.5 million loan was authorized in FY 1977 for the first three years of the project, and \$917,000 in grant funds was authorized in FY 1978 (\$317,000) and FY 1979 (\$600,000) for the project. The establishment of the institutional base was slower than expected, and a second loan of \$15 million that was to be authorized in FY 1978 was deferred until the next fiscal year. Due to the application of Section 669 of the Foreign Assistance Act, which suspended new development assistance to Pakistan, this second loan was never authorized.

Despite the financial shortfall and several implementation problems, the project is regarded by the GOP and the international community as an innovative and successful program. Its philosophy, procedures, and techniques have been applied by a large number of international development organizations in several countries around the globe.

Because of the success of the program, the GOP was able quickly to attract other donors when additional A.I.D. funds could not be provided. The World Bank (IBRD) and Asian Development Bank (ADB) approved projects in this area, beginning early in 1982. However, neither of these projects will provide funds for those activities under the OFWM Program which were short-funded when the second A.I.D. loan was not made. In addition, these projects do not sufficiently address all the critical constraints identified during the implementation of the A.I.D. project.

C. Project Progress To Date

The pilot project focused on four major areas :

- (1) watercourse improvement;
- (2) precision land leveling;
- (3) farmer training; and,
- (4) institutional development.

1. Watercourse Improvement

Due to the demonstrable benefits of watercourse improvement, farmer involvement in the program has been high. The target set for watercourse improvement was

1500. As of June 30, 1981, 1319 watercourses had been improved, although reimbursement had been made for only 539 for reasons discussed below.

2. Precision Land Leveling

Although farmer interest in precision land leveling is increasing, this component of the project has not generated the demand envisioned during the design of the original project. The second joint A.I.D./ GOP project evaluation, conducted in 1979, recommended de-emphasis of precision land leveling because small farmers were unwilling to sacrifice cropping time while land leveling was carried out, and they were also more interested in watercourse improvement. Subsequently, the GOP curtailed subsidies for this component of the program. Of the 425,000 acres targeted for precision land leveling, only about 75,000 acres were leveled as of June 30, 1981.

3. Farmer Training

Extension has been largely neglected under the OFWM Project. The orientation of the OFWM Directorates has evolved into a focus on civil works in which all field staff, regardless of training or position, are involved in watercourse improvement and precision land leveling. As a result, little progress has been made in achieving the target of training 60,000 to 100,000 farmers in improved crop and water management practices.

4. Institutional Development

More significant than the project's physical successes have been its accomplishments in institutional development. The creation of federal and provincial OFWM organizational entities is a direct result of this project. Through the creation of a Water Management Cell within the Federal Ministry of Food, Agriculture, and Cooperatives, a permanent body of specialists for planning and coordinating water management activities throughout the country has been established. Provincial OFWM Directorates, created within the framework of Provincial Agriculture Departments, function as the implementing agencies for OFWM activities. The demand for the services of the newly created Directorates and the GOP's commitment to the program are reflected in the steady growth of both budget and personnel levels. From a total budget of Rs 4.3 million for OFWM activities in the Punjab, Sind, and NWFP in Pakistan fiscal year 1976/77, the budget grew to nearly Rs 88 million in Pakistan fiscal year 1980/81. Similarly, the number of field teams has increased from zero in Pakistan fiscal year 1976/77 to over 50 in Pakistan fiscal year 1980/81. The total number of employees in the three Directorates as of June 1981 stood at over 1,000.

Training institutes were established to train program personnel, other government personnel, farmers, bankers, private contractors, and tractor operators. U.S. Soil Conservation Service advisors played a key role in this area by providing in-service training following formal training. By the end of June 1981, 6,351 persons had participated in specialized training. In sum, the demonstrated effects of OFWM activities have created an enthusiasm from the farm level to the highest levels of Government that assures continued GOP commitment to the program.

D. Project Implementation Problems and Lessons Learned

Several implementation problems have been identified by two joint A.I.D./GOP evaluations, an A.I.D. impact evaluation, and a joint A.I.D./GOP evaluation of watercourse inspection procedures. These problems have slowed project progress and prevented the achievement of some of the project's objectives. The activities planned for under the amendment are designed to overcome these problems.

1. Inapplicable Standards

Project standards for the design and construction of watercourse improvements were based on a model developed in the Punjab. Conditions in irrigated areas of the Punjab are so different from those in other provinces that the standards are inapplicable in some cases. Topography, watercourse right of way, source of water supply, land tenure, size and configuration of land holdings, and local laws are examples of varying conditions.

2. Failure to Implement Earthen Watercourse Improvement Technology

Failure to construct earthen watercourse improvements to proper standards, even where the standards were applicable, has been by far the major reason for rejection of watercourse improvements by inspectors. Reasons for the failure to meet standards where they were applicable include:

- a. lack of acceptance by farmers and/or field teams of the need for earthen improvements;
- b. inability of water users associations to function according to plan;
- c. unrealistically high targets for numbers of watercourses to be improved, resulting in field teams concentrating on quantity rather than quality of work;

- d. unavailability of labor on a timely basis; and,
- e. inadequate training of field teams with regard to working with water users associations.

3. Inadequate Inspection System

During 1980 and 1981, deficiencies were noted by A.I.D. inspectors on an increasingly large percentage of the watercourses inspected, making full reimbursement under the Fixed Amount Reimbursement (FAR) system impossible. In July 1981, inspection activities were suspended, pending review resolution of the inspection and reimbursement problems. As of June 30, 1981, the last date on which work could be completed for reimbursement under the project, FAR payments had been made for only 539 watercourses. This left 780 improved watercourses eligible for FAR consideration.

An evaluation of the inspection system identified the following major problems :

- a. Policies and procedures within the OFWM Directorates are such that field teams are not required to document their work adequately. Design calculations, drawings, survey notes, and benchmarks are often not available. Consequently, there is a limited basis for conducting inspections.
- b. Quality control procedures within Directorates are inadequate.
- c. Participation of the water users associations in the approval of design and construction of watercourses is less than desirable.
- d. A.I.D. inspectors were given inadequate instructions.

4. Unavailability of Trained Personnel

Project implementation has been plagued by a dearth of properly trained personnel. Field team personnel often lack the skills required to properly design watercourses and provide suitable assistance during construction. Initially, an attempt was made to hire only agricultural engineers to staff field teams, except for the extension positions. There was not sufficient manpower to fill this need. As a result, university graduates from other engineering disciplines including mechanical and electrical, and various agricultural fields, as well as polytechnic school graduates, were recruited.

5. Interruption of Technical Assistance

The interruption of technical assistance provided by the U.S. Soil Conservation Service in November 1979 caused a considerable setback to project implementation. Momentum was lost in training field teams, strengthening organizations, promoting extension, and providing on-site guidance on quality standards.

6. Failure to Maintain Improved Watercourses

Inadequate maintenance of watercourses after improvement has been recognized throughout the project as a major problem. Continuous attention must be given to such tasks as control of weeds, plugging of rat holes, and silt removal (from some watercourses). Insufficient attention has been given by farmers to performing maintenance, resulting in deterioration of banks and the consequent overtopping, leakage, and seepage. In addition, specific procedures have never been developed for watercourse maintenance.

The original project called for considerable effort in designing and constructing watercourses with proper grades and cross-sections. However, in the absence of specific procedures, farmers often greatly increased the cross-sectional area of watercourses while removing weeds and silt. This reduces bank widths, which ultimately results in increased water losses, and also reduces the velocity of the flowing water, which increases siltation.

7. Failure to Properly Utilize Trained Extension Staff

Although training was provided in water management extension, trained extension staff have not been utilized efficiently. One reason suggested for this is that achievement of targets for farmer training are not easily measurable, resulting in less incentive for extension work than for civil works, which can be easily measured. Therefore, the extension workers have been used primarily to design and construct watercourses.

E. Other Donor Assistance

When A.I.D.'s program in Pakistan was suspended in 1979, the GOP approached both the World Bank (IBRD) and the Asian Development Bank (ADB) for assistance in order to maintain the momentum established under the A.I.D. OFWM Pilot Project. Implementation of projects funded by these donors began early in 1982. Like the A.I.D. project, both projects include watercourse improvement, precision land leveling, and farmer training, each covering different geographical areas.

IBRD is funding a three-year project with co-financing from the International Fund for Agricultural Development (IFAD), which will furnish \$12 million of the total \$53 million project. Eleven districts in the Punjab, four in the Sind, and all of the irrigated areas of the Northwest Frontier Province (NWFP) and Baluchistan will be included in the IBRD/IFAD project.

The ADB project, which will provide \$25 million over a four-year period, is restricted to the Thal Command Area in the Punjab and the Paharpur Land Command Area in the Dera Ismail Khan District of the NWFP. Existing in-country training facilities will be utilized under both projects to train program personnel. Additional training facilities will be provided under the ADB project for training of agricultural extension officers and farmers. Neither project includes training outside of Pakistan.

The limited technical assistance which will be provided under both the IBRD/IFAD and ADB projects will complement the assistance proposed under this amendment. Coordination of all technical advisors will be the responsibility of the Federal OFWM Cell.

F. Relationship to A.I.D. Strategy and Other
A.I.D. Projects

Water management is an integral component of the agricultural and rural development program that is being developed for the period FY 1982 - FY 1987. This program will include agricultural support services (education, research, and extension), a program focused on food production and distribution with an emphasis on edible oils, water management, and area development programs for the least developed provinces. The OFWM project is a major initiative for the improved delivery of water to farmers' fields and enhanced utilization of that water. In addition, the rapid disbursement of funds resulting from reimbursement to the GOP for watercourse improvements and precision land leveling will contribute to the balance of payments objective of the FY 1982 economic assistance program.

The proposed amendment will link water management at the farm level to a comprehensive Mission program in the management of irrigation water resources throughout Pakistan. A.I.D. will be working with the GOP under the proposed Irrigation System Management Project to develop an integrated water management program. This new project will bring together the planning and reservoir operation efforts of the Water and Power Development Authority, the Provincial Irrigation Departments' programs for operation of their distribution systems, and the OFWM work of the provincial agriculture ministries. Efforts will be made under both

the Irrigation System Management Project and this amendment to the OFWM Project to integrate the activities of the above-mentioned agencies through technical assistance in the areas of administration, training, research, and special studies.

The relationship of the proposed amendment to other A.I.D. projects, although less direct, is also significant. Proper management of water will maximize the benefits of other A.I.D.-financed agricultural activities under the Agricultural Commodities and Equipment Program and the Agricultural Research Project. Inasmuch as water shortage is a major constraint to expanding oilseeds production in Pakistan, this project is also closely related to the proposed Agricultural Production, Distribution, and Storage Project.

G. Project Amendment Rationale

The A.I.D.-financed OFWM Project in October 1976 marked the beginning of Pakistan's OFWM Program. A.I.D. played a key role in not only financing the program but also in the conceptual and institutional design of the program. The physical and institutional accomplishments of this pilot effort are well-recognized. An enthusiasm has been created from the farm level to the highest levels of government that assures continued GOP commitment to the Program. On the basis of the pilot project, the GOP has decided to expand activities under the OFWM Program and has succeeded in attracting financial support from the ADB and IBRD/IFAD who have agreed to provide \$78 million over the next four years for Pakistan's OFWM Program.

A.I.D.'s continued support of Pakistan's OFWM Program is justified for two major reasons : (1) to reimburse the GOP for watercourse improvements already completed which were eligible for financing under the original project; and, (2) to overcome institutional deficiencies and to correct implementation problems which were identified during the course of the pilot project and which will not be addressed under the other donor projects.

Because of the imposition of Section 669 of the FAA and events at the American Embassy in 1979, a second loan of \$15 million for Phase II of this pilot project was never authorized. Despite this interruption of assistance, the provinces continued to carry out the planned civil works under the Program. During the August 1981 USG-GOP negotiations, the GOP requested reimbursement for these completed civil works. A.I.D. therefore plans to provide about \$4 million under the amendment for this purpose. This amount is less than the \$15 million originally planned because of funds which became available from other donors and because of modifications in the targets for precision land leveling.

Numerous evaluations and reviews of the OFWM Program have been undertaken over the last five years. As a result of these reviews, weaknesses have been identified which represent a serious constraint to the continued success of Pakistan's OFWM Program. The need for technical assistance in key areas and outside training to respond to the manpower requirements of the OFWM Program is critical. Since no other donor plans to support the GOP in these areas, A.I.D. has decided to extend the existing project for three years to provide this assistance. This decision is not only consistent with A.I.D.'s policy emphases on institution-building and management training, but it will also ensure the long-term development impact and sustainability of the original project. This additional investment by A.I.D. will also increase the capability of the GOP to benefit maximally from the assistance of other donors.

To date, 1,319 watercourses have been improved under the OFWM project. Over the next four years, an additional 3,300 watercourses are targeted for improvement under the ADB and IBRD/IFAD project. At this rate, it will take about 100 years to improve Pakistan's 89,000 watercourses. Clearly, alternative institutional mechanisms must be identified to accelerate the implementation of improved watercourse technology throughout the country. Accordingly, A.I.D. will finance a local government pilot program under this amendment to examine the feasibility of using district and local councils as a mechanism for implementing Pakistan's OFWM Program.

III. PROJECT AMENDMENT DESCRIPTION

A. Project Goal and Purpose

The project goal "to increase agricultural production and improve income for the low income farmer," remains unchanged. The project purpose "to establish public and private sector capabilities to plan and deliver on-farm water management services including improvement of irrigation watercourses, precise leveling of farm land and improvement of crop and water management practices, on an economic basis," remains unchanged.

B. Project Outputs

At the end of the project, the following project outputs will have been realized as a result of proposed amendment activities :

1. 1,319 watercourses will have been improved and reimbursement made to the GOP.

2. 75,000 acres of land will have been precisely leveled.
3. 4 provincial OFWM Directorates will have been created within Provincial Agriculture Departments and will be effectively delivering water management services to farmers.
4. A central OFWM Cell within the Federal Ministry of Food, Agriculture, and Cooperatives will have been created and will be effectively coordinating all OFWM activities in the country.
5. At least 50 OFWM field teams will have been established and provided with on-the-job training.
6. At least 12 district engineers will have been trained in watercourse improvement and precision land leveling, and 8 district rural development staff members will have been trained in water management extension.
7. A pilot study of the effectiveness of local councils as a mechanism for accelerating the implementation of Pakistan's OFWM Program will have been completed.
8. Province-specific models for watercourse improvement will have been developed.
9. Effective extension techniques for promoting the increased productive use of water will be available.
10. A minimum of 80 water users associations will be effectively maintaining watercourses and drains and will have received training in water management technology.
11. Design, inspection, and evaluation work carried out by federal and provincial authorities will be conducted in a more timely, efficient, and systematic fashion with the aid of computers.
12. A study of the capacity and capability of training institutions with programs related to OFWM activities will have been completed, and at least three of these institutions will have revised their curricula and improved their training programs so that they are more responsive to the manpower needs of the country's OFWM program.
13. Approximately 75 participants will have received overseas training in such fields as management irrigation, engineering, computer science, and extension with 10 of the 75 receiving formal degrees.

C. Project Amendment Activities

This amendment will include three major components : (1) reimbursement for civil works already completed under the pilot project; (2) training and technical assistance to further strengthen the capability of local institutions to implement Pakistan's OFWM Program; and, (3) a local government pilot program to examine the feasibility of local councils as a mechanism to accelerate the implementation of the OFWM Program. All proposed activities are consistent with the original project purpose and reflect the lessons learned during implementation of the original project.

1. Reimbursement for Civil Works

A total of 1,319 watercourses were improved prior to June 30, 1981. As of April 30, 1982, A.I.D. had reimbursed the GOP a total of \$4,805,472 for 806 of these watercourses and for 1081 fields which were precisely leveled, leaving a balance of \$2,694,528 under the original loan of \$7,500,000. Additional FAR requests which have either already been submitted or are anticipated total \$6,564,528. This shortfall of \$3,870,000 (\$6,564,528 less \$2,694,528) will be covered under the amendment. Watercourses improved subsequent to June 30, 1981 will be financed under the IBRD project. An additional \$1,000,000 will also be provided under the amendment to finance watercourse improvements under the local government component which is described in Section III.C.3.

A procedure for completing the inspection work has been developed to resolve the implementation problems discussed in Section II.D.3. Inspection problems related to the unavailability of documentation for work completed will be overcome by inspecting a random sample of 20 percent of the completed watercourses rather than all watercourses as had been done under the original project. The results of these inspections will be applied to watercourses from which the 20 percent sample was taken. This will allow time for the inspectors to perform necessary surveys and other work to thoroughly evaluate the as-built condition of the watercourses without undue delay in completing all inspection work. This procedure of inspecting only a representative sample of the work has also been followed for precision land leveling inspections and has proven acceptable to both A.I.D. and the GOP. The new procedures for inspection will still adequately protect A.I.D. against financing defective construction.

2. Institutional Strengthening

a. Institutional Setting

The OFWM Project has been implemented through line agencies in agriculture. Federal coordinating and

planning responsibilities for the project are carried out by the OFWM Cell in the Ministry of Food, Agriculture, and Cooperatives, while the responsibility for field operations rests with provincial bodies. In each province, a directorate of OFWM has been established and is responsible for implementation. This sharing of responsibility is dictated by the Constitution of Pakistan and is a feature of all the nation's agricultural development programs. This arrangement reflects the strong political relationships between the provinces and the federal system and allows problems peculiar to any one region to receive special attention. While this institutional arrangement adds strength to the agricultural support system, it places extraordinary demands on the implementation of national programs. This has been the case for the OFWM Project.

Given that each province decides its own priorities for agricultural development programs and that the problems associated with watercourse improvement vary from province to province, it is not surprising that the provincial programs have developed at different rates. In the Punjab where water losses were first documented, appreciation for the project was higher at the beginning of the program than in the other provinces. It was only after a demonstration period that the remaining provinces began to address their watercourse problems. It has become apparent that the problems associated with each province require the same attention that was given to the Punjabi program at its inception under the original project.

b. Technical Assistance

The OFWM Program is well-established and is recognized as a key contributor to increased agricultural production. However, officials and staff who are responsible for this rapidly growing program have only recently been trained in OFWM technology and their experience is limited. Technical assistance is needed at this stage in the evolution of Pakistan's OFWM Program in training, research, administration, and improved technology to increase the capability of the OFWM Program staff to meet program objectives. This assistance will be provided by two teams of consultants as follows:

i. Water Management Team

Four long-term advisors for a total of 127 person-months and 48 person-months of short-term assistance will be provided during the three-year amendment period. This assistance will be provided primarily by an interdisciplinary Water Management Team, consisting of an engineer, agricultural economist, agronomist, and extension/training specialist. The

technical assistance team will provide assistance to improve technology, training programs, research, and administration of the OFWM program in Pakistan. This assistance will be provided to all agencies and institutions involved in water management including the federal OFWM cell of the Ministry of Food, Agriculture, and Cooperatives, OFWM directorates of the provincial Agriculture Departments, Universities, local councils, research institutes, water users associations, the Water and Power Development Authority (WAPDA), and provincial Irrigation Departments. The federal OFWM cell will coordinate the technical assistance activities among all these organizations. The Water Management Team will work in the following areas :

(1) Testing and refinement of technologies for water management which take into account provincial differences : There is a continuing need to seek improved alternatives to the existing watercourse improvement model which is based on the Punjab.

(2) Alternative approaches to promote more efficient utilization of water on farms : None of the extension activities currently being tested for improved water management appears promising. More experimentation in extension techniques is required.

(3) Role of the water users associations : Improved institutional arrangements must be developed which provide a larger role for these new and developing organizations.

(4) Use of computer technology : The present management systems for watercourse improvements are relatively skill-intensive. Alternatives have to be developed to increase the productivity of the limited number of trained technicians. Design tasks, now handled by a few talented engineers, will be aided by small computers purchased under the amendment. Computers will allow talented design engineers to complete a much greater volume of work than is currently possible, thereby allowing a faster pace of watercourse improvement, increased and more effective management control, and increased quality of improved watercourses.

(5) Institutional relationships among the agricultural, irrigation, and water and power authorities : Through seminars, workshops, and joint research, the problem of water management from Tarbela to the farm will be examined by agencies, including universities, involved in water management. More efficient water management requires close coordination among these powerful and separate bodies.

(6) Alternative institutional arrangements for improvement of water management : The Water Management Team will assist the Ministry of Local Government and Rural Development in the implementation of the pilot local government component of this project.

(7) Training: Assistance will be provided to the staff of OFWM training centers in such areas as curriculum development, the use of audio-visual aids, and integration of training activities with field work. The Team will also be responsible for working with program officials in planning and implementing the participant training activities planned under this amendment. Assistance in upgrading training institutions with programs related to OFWM will also be a major function of this Team.

(8) Project evaluation and special studies : Assistance with monitoring and evaluation activities will be provided, particularly with regard to data manipulation and analysis. Special studies will be conducted with the help of the Team to analyze policy questions and develop solutions to priority problems. Attention will be given to such areas as conjunctive use of tubewell water and the role of the water users association in this regard.

(9) Identification and procurement of library, extension, and training materials, computers, and research equipment and supplies for the OFWM Program.

ii. Field Advisors

Follow-up training of OFWM field teams will be provided by a team of field advisors to overcome the lack of skills that has led to design and construction deficiencies. This team will consist of four to eight advisors who will work in the field with provincial field teams and their supervisors for a total of 24 person-months. Their role will be similar to that of the U.S. Soil Conservation Service advisors under the original project, but more emphasis will be given to quality control by supervisors. The advisors will be primarily either agricultural or civil engineers with backgrounds in hydraulic design of small channels, construction, surveying, and project management. The team leader will also be responsible for recommending revisions to Volume III of the existing OFWM Field Manual. Following completion of the training program, he will return to Pakistan to complete this task as well as to assist in follow-up training activities. This effort will ensure that future watercourses constructed under the A.I.D. project as well as under the IBRD/IFAD and ADB projects meet proper standards.

c. Training

Training will be provided under the amendment to meet the manpower needs of the OFWM Program. Specialized training outside of Pakistan will be given to selected individuals to provide the skills necessary to solve technical and administrative problems encountered in the program. This training will be in such fields as management, irrigation engineering, computer science, and extension as follows :

Training/Observation Tours (2-6 weeks)	100 person-weeks
Short-term Training (6-8 weeks)	150 person-weeks
Non-Degree Formal Study (6-12 months)	10 person-years
Formal Degree Program	10 person-years

(See Section IV-D, Training
Plan, for more details.)

In addition, the consultants provided under this amendment will conduct a study of the capacity and capabilities of existing training institutions to meet the training needs of the OFWM Program and will assist several of these institutions to upgrade and expand their programs to meet the OFWM program's training needs.

d. Implementation of Computer Technology

Three small computers will be purchased initially to directly support field work by allowing computer-assisted design for watercourse improvements. One of the computers will be located in the OFWM training center at Lahore and will also serve as a training aid. Another computer will be given to the monitoring and evaluation unit of WAPDA, an independent GOP body contracted to conduct baseline and continuing surveys. This will enable them to expedite the processing and analysis of the data produced by the survey teams. The third computer will be installed at the Punjab OFWM Directorate. Three more computers will be purchased later in the project to support field work in each of the three remaining provinces after standard programs for designing watercourses in these provinces have been developed.

These small desk-top computers that will be procured for the project represent a comparatively low level of technology. They are in common use in small businesses, schools, public agencies, and even households. Standard software packages

are readily available for much of the work now performed by OFWM personnel. Assistance in implementing this technology will be provided by the technical advisors.

i. Computer-Assisted Design

Reconstruction of a watercourse requires a design effort that includes field reconnaissance, conducting a topographic survey of the command area, making a profile survey of the existing watercourse, office design calculations, and drawing the design plan and watercourse profile. Utilization of computers in completing this work will greatly improve the efficiency and productivity of available trained personnel. Computers can be used to make calculations for surveys performed, design watercourses on the basis of input field data and criteria, and plot the results to eliminate the need for manual drawings. The computer can also produce data required for field staking prior to construction.

Use of computers for precision land leveling work will have similar advantages, eliminating both the need for extensive, time-consuming hand calculations and manual drafting. Cost estimates for materials and reimbursement requests may also be prepared efficiently by computers.

Use of centrally located computers will help produce a consistent standard of quality for design. In the past, there has been a wide variation in the quality of the design, contributing to less than adequate quality of watercourses constructed.

ii. Monitoring and Evaluation

The Planning Division of the Water and Power Development Authority (WAPDA) was contracted under the pilot program to carry out baseline and continuing surveys for the OFWM Program. The first phase of the OFWM Program's monitoring and evaluation activity, collection of baseline data, has been completed (See Annex J.) Data manipulation and analysis are taking a great deal of time with the result that project management personnel cannot make timely use of the information generated. While the data and analysis will provide a sound basis for project evaluation, project implementation could also benefit if data were available on a more timely basis. At present, the evaluation team relies on a centralized service from the Water and Power Development Authority for computer services. This computer is used for preparation of all utility bills in Pakistan as well as for providing computer support for other water and power activities. Turnaround time for the analysis of material is long. Because of this, the monitoring and evaluation unit did not rely on the central services for the first tabulation of data and prepared the tables by hand. Based on their experience, this decision

saved time in producing the first iteration of tables. However, further data manipulation and analysis will not be possible in the near-term. The raw data will have to be loaded and sorted before the second generation of analysis can be completed. To overcome this bottleneck, a small computer will be purchased for the monitoring and evaluation unit. With standard statistical programs, the staff of the unit will be able to store, edit, tabulate, and analyze the results of the surveys more rapidly than is now possible and provide project management personnel with timely information on project implementation.

3. Local Government Pilot Program

The project amendment will fund a pilot study in each of the four provinces to determine the ability of Local Councils to deliver water management services. Implementation will be through the Ministry of Local Government and Rural Development and the provincial Local Government and Rural Development Departments, which will select the districts to be included in the project.

This effort will be directed toward identifying an institutional mechanism which will accelerate implementation of the program, mobilize local resources in support of the program, increase local participation, and build on existing institutional structures rather than create new bureaucratic structures. It will include :

- a. improving approximately 80 watercourses;
- b. establishing water users associations and developing water management extension training programs for farmers within improved watercourse command areas;
- c. providing irrigation training to three District Council Engineers in each province; and,
- d. providing water management extension training to two district rural development staff in each province.

The Local Councils already have the capability to mobilize farmers for self-help and collective action and have legal authority to assist in the formation of Water Users Associations. The Councils also have available the services of both the District Council engineering staff and the extension staff of the Rural Development Department. In addition, the Councils over the years have had considerable experience in planning, executing, contracting for, and financing local public works. Annex I contains detailed background information for this activity.

If, during the course of the project, it is found that local government is not a suitable mechanism for implementation, uncommitted funds budgeted for this component will be reprogrammed for other activities consistent with the overall goal and purpose of the project.

IV. IMPLEMENTATION PLAN

A. Implementation Schedule

A proposed implementation schedule is presented in Table 1. Project amendment activities are programmed to take place over a period of three years. The current Project Assistance Completion Date (PACD) will be extended from June 30, 1982 to June 30, 1985. Inspections of a random sample of 20% of the watercourses already constructed under the original project and for which FAR requests are pending or are anticipated will be completed within six months after the Agreement Amendment is signed. Reimbursements will be made to the GOP throughout the inspection period as inspections are completed with the final payment anticipated within one month after the completion of all planned inspections.

A total of twenty-four person-months of technical assistance will be provided to the OFWM field teams by short-term expatriate field advisors during the first year of the amendment period. All four long-term advisors on the Water Management Team will arrive in-country in FY 1982. Short-term Water Management Team consultants will provide assistance throughout the three-year amendment period. Table 2 provides a detailed breakdown of the scheduled inputs of all proposed technical assistance.

Implementation of the local government component will begin in the first year of the amendment period with the selection of project sites and the training of technical staff. By the end of 1982, civil works will have been initiated and will continue throughout the amendment period. The majority of commodities will be procured during the first and second years of the amendment period. Training will take place throughout the three-year period. Both an interim and final evaluation, which are discussed in Section IV.E, are planned.

B. Administrative and Monitoring Arrangements

1. A.I.D. Responsibilities

The Office of Agriculture and Rural Development (ARD) will assume overall responsibility for managing the project. This office, which is currently staffed with three USDH and five Pakistani professionals, will be expanded by the addition of two USDH and two Pakistani professionals in FY 1982. The Project Officer will be an Assistant Agricultural Development Officer in the Office of ARD. The Office of Energy and

TABLE 1

PROPOSED IMPLEMENTATION SCHEDULE

ACTIVITY	1982						1983						1984						1985					
	JAN	MAR	MAY	JUL	SEP	NOV	JAN	MAR	MAY	JUL	SEP	NOV	JAN	MAR	MAY	JUL	SEP	NOV	JAN	MAR	MAY	JUL	SEP	NOV
<u>Project Agreement Amendment Signed</u>			X																					
<u>Civil Works</u>																								
a. Inspections and Reimbursement for Completed Works					[-----]																			
b. Local Government Program																								
i. Selection of Project Areas, Staff Training, and Program Development					[-----]																			
ii. Construction Activities																								
<u>Technical Assistance</u>																								
a. Field Advisors (24 pm)					4x6 mos or 8x3 mos.	[-----]																		
b. Water Management Team																								
i. Long-term Advisors																								
(1) Team Leader/Engineer (34 pm)																								
(2) Agronomist (27 pm)																								
(3) Agricultural Economist (33 pm)																								
(4) Extension/Training Specialist (33 pm)																								
ii. Short-term Consultants (24 pm)					[2 pm]	[2 pm]	[2 pm]	[2 pm]	[2 pm]	[2 pm]	[2 pm]	[2 pm]	[2 pm]	[2 pm]	[2 pm]	[2 pm]	[2 pm]	[2 pm]						
<u>Commodity Procurement</u> a/																								
a. Vehicles (6)			X			(X)																		
b. Computers (6)					(X)				(X)	(X)		(X)												
c. Library, Extension and Training Materials							X			(X)														
d. Research Equipment and Supplies							X			(X)														
<u>Training</u>																								
a. Training and Observation Tours (15 persons @ 2-6 weeks each)					[2]		[2]	[2]	[2]	[2]	[2]		[2]	[2]	[1]									
b. Short-Term Courses (21 persons @ 6-8 weeks each)					[3]		[3]	[3]	[3]	[3]	[3]		[2]	[2]	[2]									
c. Formal Non-Degree Programs (10 participants)									6						4									
d. Formal Degree Programs (10 participants)											5						5							
<u>Evaluation</u>																								
a. Interim Evaluation												X												
b. Terminal Evaluation																								X

a/ Orders Placed = X Orders Arrived = (X)

Engineering (E&E) will provide engineering support and perform all the inspections and make recommendations to the Office of Financial Management (FM) and the Office of ARD regarding reimbursements for improved watercourses. E&E currently consists of one USDH and six Pakistani professionals, four of whom are engineers with responsibility for watercourse inspections under this project. The Office of Project Development and Monitoring (PDM) which currently consists of three USDH and three Pakistani professionals, will assist ARD in all contracting actions under the project. A USDH supply advisor will assist on procurement transactions. The Office of E&E and PDM will also be expanded in FY 1982 by the addition of direct-hire and contract staff.

These staff resources, which will be supplemented by other USAID/Pakistan staff members and the Regional Contracts Officer stationed at USAID/Indonesia, and the Regional Commodity Management Advisor stationed at USAID/Thailand, are considered adequate to handle USAID/Pakistan's administrative and monitoring responsibilities for the on-going project as amended.

2. GOP Responsibilities

The GOP agency responsible for the overall implementation of this project is the Ministry of Food, Agriculture, and Cooperatives, with the exception of the local government pilot program, which will be the responsibility of the Ministry of Local Government and Rural Development. A Water Management Cell has been established within the Ministry of Food, Agriculture, and Cooperatives to provide day-to-day monitoring of the project at the federal level and to coordinate the water management activities of the Provincial Agriculture Departments. All technical assistance and training provided under this project amendment will be coordinated and implemented by this Cell. The Cell will be responsible for : (a) ensuring that counterparts are in place for all the technical assistance planned under the amendment; (b) ensuring that qualified participants are selected for the training planned under the amendment; (c) ensuring that all pending FAR requests are submitted in a timely fashion; and, (d) participating in scheduled evaluations.

At the provincial level, OFWM Directorates have been established to perform all administrative, technical, and training functions necessary to support the field teams that work with farmers and farmer organizations to improve watercourses. The Directorates are under the control of the Provincial Agriculture Departments. Technical advisors to be provided under this amendment will work closely with the staff of the provincial OFWM Directorates as well as with

the federal OFWM Cell. Many of the participants in the training programs to be funded under the amendment will be drawn from the provincial OFWM Directorates.

The Ministry of Local Government and Rural Development (LGRD) will be responsible for implementation of the local government component of the project. The Federal LGRD Ministry will assign one officer full-time to the project to monitor all activities planned in all four provinces and to coordinate with the federal OFWM Cell as well as with all four provincial LGRD Departments. Each provincial LGRD Department will in turn assign one officer full-time to the project to manage the program at the provincial level. These provincial officers will receive appropriate training in construction and extension, land leveling, and related aspects of the project. These officers will also work closely with their colleagues in the provincial Agriculture Departments and with the local councils in the districts selected for participation in the pilot program.

C. Procurement Plan

1. Technical Assistance

Table 2 summarizes the proposed technical assistance inputs under the amendment. A total of 24 person-months of short-term assistance will be provided by a team of Field Advisors and the remaining technical assistance will be provided by a Water Management Team consisting of four long-term resident advisors for a total of 127 person-months and short-term consultants for a total of 24 person-months.

a. Field Advisors

A team of four (for 6 months each) to eight (for 3 months each) advisors will be contracted to provide follow-up training for OFWM field teams and to assist in developing quality control procedures within Provincial Directorates. Because of the urgent need for this assistance as soon as possible after the amendment is approved, the Indefinite Quantity Contract (IQC) mechanism will be used to procure these services.

b. Water Management Team

This team will be provided through the ST/AGR Water Management Synthesis Project (WMSP). The contractor for this project is the Consortium for International Development, which is led in the area of water management by Colorado State University (CSU) and Utah State University (USU). These two universities are internationally recognized

TABLE 2

PROPOSED TECHNICAL ASSISTANCE PLAN

	Calendar Year				
	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>All Years</u>
	(Person-months)				
A. Water Management Team ^{a/}					
1. Team Leader/Engineer	6	12	12	4	34
2. Agricultural Economist	5	12	12	4	33
3. Agronomist	5	12	10	-	27
4. Extension/Training Specialist	5	12	12	4	33
5. Short-term Consultants	4	10	8	2	24
B. Field Advisors ^{b/}	24	-	-	-	24
TOTAL	49	58	54	14	175

a/ Source of this team will be the Consortium for International Development (CID) under the existing ST/AGR Water Synthesis Management II Project (WSMP II).

b/ Source of these consultants will be an existing Indefinite Quantity Contract (IQC) with a firm which can provide the necessary skills in the required time frame.

centers of excellence in water management research and technology. In addition, CSU was involved in and made a significant contribution to the successful development and implementation of the pilot project. In 1982, the WMSP is expected to be extended and expanded to include the ST/RAD Rural Development Participation Project. The new project will be called the Water Management Synthesis II Project (WMSP II). An additional WMSP II cooperator will be Cornell University, which has extensive experience in the sociology of water management.

This mechanism for procuring the services of the Water Management Team was selected for two major reasons : (i) The contractor and cooperator have proven competence in the subject area and, in the case of CSU, prior experience with the Pakistan Program; and, (ii) The availability of an existing centrally funded project to which the Mission can add funds will significantly reduce the lead time required to field the technical assistance team.

2. Commodities

A limited amount of commodities will be procured under the amendment. The commodities consist of : (a) six vehicles; (b) six computers; and, (c) library, training, and extension materials and research supplies and equipment. With the exception of the vehicles, all commodities procured under the amendment will have their source and origin in the United States or Pakistan. The Mission will procure the vehicles and household furnishings for the resident advisors. All other commodities will be procured directly by the long-term advisors or their sponsoring agency.

Six Toyota right-hand drive diesel Land Cruiser Station Wagons will be procured for this project. These vehicles are durable and appropriate for travel in rural areas over rough terrain in often inclement weather in a country where traffic moves on the left-hand side of the road. This particular vehicle has seating capacity for six passengers plus additional auxiliary seats to meet the frequent need to transport large groups in the field. In addition, spare parts and adequate servicing of these vehicles are available throughout Pakistan. Procurement of these vehicles and spare parts will require the approval by A.I.D.'s Assistant Administrator for Asia (AA/ASIA) of a source/origin waiver from A.I.D. Geographic Code 000 to Code 935 and the approval of the USAID/Pakistan Mission Director of a waiver to allow non-competitive, negotiated procurement. A copy of the source/origin waiver request, which will be sent to AID/Washington for approval, is contained in Annex E.

Six small desk-top computers and associated software packages will be procured by the long-term advisors on the Water Management Team by competitive solicitation. The Mission will obtain the approval of A.I.D.'s Office of Data Management(SER/DM) prior to authorizing the long-term advisors to order these commodities. The Water Management Team long-term advisors will assist the GOP and the Mission define the OFWM Program's needs for library, training, and extension materials, and research equipment and supplies, and will procure these items directly in accordance with A.I.D. procurement procedures.

D. Training Plan

Training activities will be managed jointly by the Water Management Team long-term advisors and the Water Management Cell of the Federal Ministry of Food, Agriculture, and Cooperatives. Four general categories of training will be financed under the amendment.

1. Training and observation tours of two to six weeks in duration to provide selected officials opportunities to learn about what is taking place in other countries in their fields. Officials from all organizations concerned with irrigation water management will participate, including OFWM Directorates, Provincial Irrigation Departments, Water and Power Development Authority, Universities, and Planning Departments.

2. Short-term courses of six to eight weeks in duration to strengthen professional skills and improve the performance of training staff, project managers, and technical field staff. Courses will focus on diagnostic analysis of farm systems, irrigation practices, operation and maintenance of irrigation systems, monitoring and evaluation, social and organizational aspects of water management, ground water monitoring, and other technical subject areas.

3. Non-degree formal study of six to twelve months in duration at selected universities in such areas as computer analysis, research, design, training methods, evaluation methods, project management, groundwater modeling, water law, social organization, project monitoring, extension, and technical areas such as economics, agricultural engineering, agronomy, and rural sociology.

4. Formal degree studies at the Master of Science level (one or two Ph.D. Programs may be considered, subject to Mission review and concurrence) to meet Pakistan's long-term manpower needs for special expertise to implement and maintain the country's OFWM program. There is a critical shortage of trained manpower with M.S. degrees in this area.

In one agricultural university department, graduates in agricultural engineering with B.S. Degrees are teaching undergraduate courses. In all of Pakistan, there is only one rural sociologist with training and field experience related to Water Users Associations. At Mona, the major cooperating research station, there is no groundwater hydrologist and no graduate trained senior staff in extension.

A proposed participant training plan is provided in Table 3.

E. Evaluation Plan

Numerous reviews and evaluations of the OFWM project have been undertaken since the project began in 1976. Joint GOP-A.I.D. program evaluations were conducted in May 1978 and October 1979. A joint GOP-A.I.D. evaluation of watercourse inspection procedures was carried out in August 1981. In addition, AID/Washington sent a team to Pakistan in November 1981 to conduct an impact evaluation of the OFWM project. Both A.I.D. and the GOP have also been reviewing watercourse reimbursement procedures during the last two months. All of these reviews and evaluations have resulted in the identification of problem areas and recommended changes in procedures and areas of concentration. This amendment takes into account all the lessons learned from these evaluations and reviews.

Two evaluations will be conducted under the amendment, an interim evaluation in December 1983 and a final evaluation in May 1985. The interim evaluation will be primarily an internal evaluation involving USAID/Pakistan staff, staff of the GOP OFWM program at both the federal and provincial levels, and the long-term advisors. One or two AID/Washington specialists from ASIA/TR and ST/RAD may also participate in this evaluation. The evaluation will involve an assessment of implementation progress, including planned versus actual scheduling of activities and planned versus actual commitments and disbursements of funds. In particular, the following specific activities planned under the amendment will be examined :

1. Performance of the OFWM field teams as a result of the input of the expatriate field advisors;
2. Progress of the long-term advisors in carrying out their scope of work;
3. Suitability of the revised watercourse inspection and reimbursement procedures; and,
4. Progress in implementing the local government component of the project.

TABLE 3

PROPOSED PARTICIPANT TRAINING PLAN

<u>Type of Training</u>	<u>Length of Training</u>	<u>Training Site</u>	<u>No. of Participants</u>	<u>Proposed Schedule</u>
Training and Observation Tours	2-6 weeks	U.S. and other countries	15	2 in 1982 8 in 1983 5 in 1984
Short-Term Technical Courses	6-8 weeks	U.S.	21	3 in 1982 12 in 1983 6 in 1984
Formal Non-Degree Programs	6-12 months	Colorado State University	10	6 in 1982-1983 4 in 1983-1984
Formal Degree Programs	18-24 months	U.S.	10	5 in 1982-1984 5 in 1983-1985

On the basis of this evaluation, necessary revisions will be made in the implementation schedule and the budget.

The final evaluation will examine the extent to which the thirteen outputs defined in Section III. B were achieved. The evaluation team will also review progress achieved by the GOP in implementing the IBRD/IFAD and ADB projects as an indication of the success of the institution-building activities financed under the A.I.D. project. The effectiveness of water users associations and the results of the feasibility study of using local councils as a mechanism for accelerating the implementation of the OFWM program will be examined.

An OFWM monitoring and evaluation program is currently being financed under the complementary Mondale rupee project, Strengthening Water Management Activities (391-0452). The program is being conducted by the Directorate of Watercourse Monitoring and Evaluation, Survey, and Research Organization in the Planning Division of the Water and Power Development Authority (WAPDA). The program consists of three phases : (1) pre-improvement; (2) improvement; and, (3) post-improvement. The pre-improvement study has already been completed (see Annex J). The overall objectives of the monitoring and evaluation program as stated in the pre-improvement report are as follows :

- "1. Evaluation of system efficiency after improvement.
2. Evaluation of the time-scaled post-improvement changes with the application of prominent impact indicators.
3. Comparison of different improvement technologies and formulating recommendations thereof.
4. Study of effects of precision land leveling on the overall operational efficiencies of the irrigation system as well as on plant growth.
5. Identification of the sociological constraints in the way of development and implementation of the overall program. Examination of adoption behaviour and patterns of cooperation and conflicts, etc.
6. Monitoring and evaluation of the training program and its related areas.
7. Assessment of the overall approach and mechanics of the program."

This on-going evaluation activity will serve as the point of departure for the final project evaluation. Work completed under the local government pilot program will be incorporated into the same evaluation scheme.

It is anticipated that the final evaluation will require at least four weeks of effort. The composition of the evaluation team is likely to include the following : USAID/Pakistan staff; federal and provincial GOP OFWM Program staff; several of the long-term advisors; one or two specialists from AID/Washington; and, one or two external consultants with expertise in on-farm water management activities. Funds required for this evaluation will be provided under the amendment.

F. Financial Plan

1. Financial Status of Existing Project

Funds obligated for the On-Farm Water Management Project since 1976 include \$7,500,000 in development loan funds and \$917,000 in development grant funds or a total of \$8,417,000. All of the grant funds, which were earmarked for technical assistance, have been disbursed. As of April 30, 1982, \$4,805,472 of the loan had been disbursed, leaving a balance of \$2,694,528 in loan funds which have been committed for reimbursement for watercourse improvements already completed. It is anticipated that all of the remaining loan funds will be disbursed within six months after the signing of the Project Agreement Amendment.

2. Project Amendment

a. A.I.D.

As shown in Table 4, the total cost of amendment activities will be \$10,000,000 in ESF grant funds and Rs 9,900,000 in Mondale rupees. The rupees will be added to an existing complementary Mondale rupee project, Strengthening Water Management Activities (391-0452). Of the \$10,000,000 grant, \$7,000,000 will be obligated in FY 1982 and the remaining \$3,000,000 will be obligated in FY 1983. All of the Mondale rupees will be obligated in FY 1982.

The A.I.D. dollar grant will finance all the foreign exchange costs of the technical assistance, training, and commodities. In addition, dollar grant funds will be used to cover the local costs associated with all civil works under the project, research and evaluation activities, a portion of the local costs for the long-term advisors, and the local costs associated with vehicle procurement. A total of \$5,635,000 or 56% of the dollar grant will be used to finance local costs. These funds will be disbursed in U.S. dollars in order to maximize the balance of payments impact of this program in accordance with the overall objectives of the renewed USG-GOP economic and development assistance program. A FAA Section 612(b) certification has been signed by the USAID/Pakistan Mission Director and is included in Annex C.1. As shown in Table 5, the \$10,000,000 grant will be allocated as follows : 49 percent for civil works; 34 percent for technical assistance; 10 percent for training; and, 7 percent for commodities.

Of the Mondale rupee component, 55 percent of these funds will be used to cover the local costs associated with the technical assistance to be provided under the amendment. With the exception of Rs 500,000 for the international travel costs associated with training, the remainder of the Mondale rupees will be used for such local costs as monitoring and evaluation, training, information dissemination, and administrative support for the GOP's OFWM program under the Strengthening Water Management Activities Project (391-0452).

b. GOP

Funds that have been budgeted by the federal government and the provincial governments as well as the estimated farmers' contribution for the OFWM program over the next four years are shown in Tables 6 and 7. These figures were taken from the GOP's PC-I (planning) documents for the IBRD/IFAD (1982-1985) and the ADB (1982-1986) projects. The total contribution of the GOP (excluding the farmers' contribution) for both these projects is

TABLE 4

SUMMARY OF PROJECT AMENDMENT COSTS^{a/}
BY FISCAL YEAR AND SOURCE OF FUNDING

Source of Funding	Fiscal Year			
	1982	1983	1984	Total
A.I.D. Dollar Grant (in \$ 000)	7,000	3,000	-	10,000
Mondale Rupees ^{b/} (in Rs 000)	6,500	2,000	1,400	9,900

a/ Project costs are defined as anticipated sub-obligations or commitments of funding through, e.g. PIOs, contracts, or purchase orders.

b/ These Mondale rupees will be added to the existing complementary Mondale rupee project, Strengthening Water Management Activities (391-0452).

TABLE 5

SUMMARY OF PROJECT AMENDMENT COSTS
BY EXPENSE CATEGORY AND SOURCE OF FUNDING

Expense Category	Life of Project Amendment Funding	
	A.I.D. Dollar Grant (in \$ 000)	Mondale Rupees ^{a/} (In Rs 000)
1. Civil Works		
a. Reimbursement for Completed Works	3,870	-
b. Local Government Component	1,000	-
Sub-Total	4,870	-
2. Technical Assistance		
a. Short-term Field Advisors	425	970
b. Water Management Team		
i. Long-Term Advisors	2,410	2,970
ii. Short-Term Advisors	275	970
c. Contingency (10%)	310	490
Sub-Total	3,420	5,400
3. Training ^{b/}		
a. Short-term	295	500
b. Long-term	605	-
c. Contingency (10%)	90	-
Sub-Total	990	500
4. Commodities		
a. Vehicles	95	-
b. Computers	195	-
c. Library, Training and Extension Materials	220	-
d. Research Supplies and Equipment	100	-
e. Contingency (10%)	65	-
Sub-Total	675	-
5. Other		
a. Research and Evaluation	45	-
b. Information Dissemination	-	1,000
c. Program Administration	-	2,600
d. Program Support	-	400
Sub-Total	45	4,000
TOTAL	10,000	9,900

a/ These Mondale rupees will be added to the existing complementary Mondale rupee project, Strengthening Water Management Activities (391-0452).

b/ An additional Rs 1,160,000 is available under the existing complementary Mondale rupee project, Strengthening Water Management Activities (391-0452), to cover the majority of the local costs for the training activities planned under the amendment.

TABLE 6

GOP AND FARMERS' CONTRIBUTION^{a/} TO THE
IBRD/IFAD PROJECT,^{b/} 1982-1985
(Million Rs)

	<u>Punjab</u>	<u>Sind</u>	<u>NWFP</u>	<u>Baluchistan</u>	<u>Federal</u>	<u>Total</u>
Civil Works	500.67 (256.32)	94.08 (54.91)	45.27 (27.06)	20.18 (10.91)	-	660.20 (349.20)
Equipment	10.81	2.83	1.96	3.84	1.11	20.55
Supervision & Administration	41.35	16.91	9.56	6.10	3.33	77.25
Technical Assistance and Evaluation	-	-	-	-	27.83	27.83
Training	4.77	0.61	0.85	0.08	0.30	6.61
SUB-TOTAL	<u>557.60</u> (256.32)	<u>114.43</u> (54.91)	<u>57.64</u> (27.06)	<u>30.20</u> (10.91)	<u>32.57</u>	<u>792.44</u> (349.20)
Physical Con- tingencies	55.72 (29.88)	11.45 (6.44)	5.76 (3.05)	3.02 (1.45)	3.26	79.21 (40.82)
Price Contin- gencies	167.35 (76.93)	32.11 (15.40)	16.88 (7.92)	8.17 (2.95)	8.84	233.35 (103.20)
TOTAL	<u>780.67</u> (363.13)	<u>157.99</u> (76.75)	<u>80.28</u> (38.03)	<u>41.39</u> (15.31)	<u>44.67</u>	<u>1105.00</u> (493.22)

a/ Figures in brackets indicate farmers' share as donated labor and precision land leveling.

b/ IBRD and IFAD are contributing a total of \$53 million over the three-year period, of which IFAD is furnishing \$12 million.

TABLE 7

GOP AND FARMERS' CONTRIBUTION^{a/} TO THE
ADB PROJECT,^{b/} 1982-1986
(Million Rs)

	<u>Punjab</u>	<u>NWFP</u>	<u>Federal</u>	<u>Total</u>
Watercourse Improvement	158.58 (53.56)	53.51 (23.76)	-	212.09 (77.32)
Agriculture Development	13.30	5.64	-	18.94
Administration and Supervision	6.18	2.27	4.36	12.81
Technical Assistance	-	-	6.49	6.49
SUB-TOTAL (Base Cost)	<u>178.06</u> (53.56)	<u>61.42</u> (23.76)	<u>10.85</u>	<u>250.33</u> (77.32)
Physical Contingencies	25.71 (8.03)	9.21 (3.56)	1.63	36.55 (11.59)
Price Contingencies	59.32 (17.84)	19.38 (7.49)	4.03	82.73 (25.33)
TOTAL	<u>263.09</u> (79.43)	<u>90.01</u> (34.81)	<u>16.51</u>	<u>369.61</u> (114.24)
Tubewell Installation (including contin- gencies)	<u>67.09</u>	<u>6.17</u>	<u>-</u>	<u>73.26</u>
GRAND TOTAL	<u>330.18</u> (79.43)	<u>96.18</u> (34.81)	<u>16.51</u>	<u>442.87</u> (114.24)

a/ Figures in brackets indicate farmers' share as donated labor.

b/ ADB is contributing a total of \$25 million over the four-year period.

Rs 1,547,870,000 or the equivalent of about \$148.4 million at an exchange rate of US \$1.00 = Rs 10.43 as of January 26, 1982.

G. Narcotics Impact Statement

This project has been identified as one which can be meaningfully connected to the U.S. Government's continued efforts, in conjunction with the GOP, to curtail opium poppy cultivation and the processing of opium into heroin in Pakistan. The civil works component of this project does lend itself to specific actions or policies relative to narcotics suppression. Accordingly, the following poppy clause will be included in the Project Agreement Amendment:

"The Government of Pakistan (GOP) shall agree to undertake appropriate measures to prohibit cultivation of opium poppy and/or processing of opium into heroin or morphine base within any village or area benefiting from this Project Amendment. In the event that a determination is made that the cultivation of opium poppy and/or processing of opium is occurring in a village or area programed to benefit or benefiting from this Project Amendment, no assistance under this Project Amendment directly benefiting that village or area shall commence, and, if commenced, such assistance shall be suspended until the prohibited activity is eliminated. If the prohibited activity is not fully eliminated within a specified period of time to be agreed upon by the United States Government and the GOP, all assistance directly benefiting that village or area may be terminated. If, prior to the Project Assistance Completion Date ("PACD") established by A.I.D. for this project, as it may be from time to time amended, it is determined that the prohibited activity is occurring in a village or area which has benefited from this Project Amendment and the prohibited activity is not eliminated within a period of time to be agreed upon by the United States Government and the GOP, the GOP shall reimburse A.I.D. for all assistance that the GOP has received from A.I.D. under this Project Amendment, which has resulted in direct benefits to that village or area in which the prohibited activity is occurring."

As discussed previously, the civil works component of this Project Amendment consists of two activities : (1) reimbursement for civil works completed prior to June 30, 1981 which were eligible for financing under the original project; and, (2) a local government pilot program in all four provinces under which a total of approximately 80 water-courses will be improved. Opium poppies are not generally grown in areas of Pakistan's irrigation system where

watercourse improvements have already been made and are likely to be made under this project. Under the local government pilot program, no civil works will be implemented in opium poppy growing areas, and the poppy clause will be applied to all civil works under this component of the Project Amendment. The poppy clause will not be applied, however, to civil works already completed under the original project since under the original project, this was neither a condition nor a basis upon which reimbursement would or would not be made.

H. Environmental Impact Statement

This project does not require an Initial Environmental Examination (IEE) nor an Environmental Assessment (EA) since it is an amendment to an existing project which was previously given a negative determination.

V. CONDITIONS, COVENANTS, AND NEGOTIATING STATUS

The Government of Pakistan is fully familiar with this project and has sent a letter (Annex D) requesting the dollar and Mondale rupee funding to be provided for the Project Amendment. There are no further actions necessary by the Government of Pakistan prior to the signature of the Project Agreement Amendment.

Besides the poppy clause described in the Narcotics Impact Statement section of this paper, the following conditions precedent to disbursement for civil works under the local government pilot program will be included in the Project Amendment Agreement :

"Prior to any disbursement under this Project Amendment for civil works under a local government pilot program, or to the issuance by A.I.D. of documents pursuant to which disbursements will be made for civil works under a local government pilot program in any given province, the Grantee shall provide to A.I.D., in form and substance satisfactory to A.I.D., documents establishing that a PC-I (GOP planning document) has been approved by the GOP"; and,

"Prior to any disbursement under this Project Amendment for civil works under a local government pilot program or to the issuance by A.I.D. of documents pursuant to which disbursements will be made for civil works under a local government pilot program in any given province, the Grantee shall provide to A.I.D., documentation that an implementation plan, approved by the Grantee and satisfactory

in form and substance to A.I.D., has been prepared by the Ministry of Local Government and Rural Development. This implementation plan shall include, at a minimum, the following :

- a) a plan for the selection of districts and command areas where the activities will be implemented;
- b) criteria for selecting specific watercourses to ensure that benefits from project activities are shared by a large number of farmers;
- c) a training plan;
- d) a description of administrative procedures and procedures for internal monitoring and quality control of design and construction work;
- e) a financial plan; and,
- f) an evaluation plan."

There are no other Conditions Precedent to disbursement nor any other special conditions or covenants besides those mentioned above and those contained in the original Grant Agreements and Loan Agreement for this project.

VI. ANNEXES

FM SFCSTATE WASHDC
TO AMEMBASSY ISLAMABAD PRIORITY 365B
BT
UNCLAS STATE 293886

AIDAC

F.O. 12065 N/A
TAGS:

SUBJ: APAC REVITW - ON-FARM WATER MANAGEMENT
PROJECT AMENDMENT (391-0413)

1. APAC APPROVED MISSION PID FOR FY 82 AMENDMENT
TO ON-GOING ACTIVITY IN AMOUNT OF DOLS. 7 MILLION.

2. THIS SHOULD BE DONE BY AMENDING THE PRESENT
PROJECT AGREEMENT. THE AMENDMENT SHOULD BE SHORT
AND STRAIGHTFORWARD. WE ENVISION SIMPLY REIMBURSING
THE GOP THROUGH THE FAR MECHANISM FOR THOSE CONSTRUCTION
ACTIVITIES ALREADY ELIGIBLE UNDER THE CURRENT
LOAN AGREEMENT. ANY OTHER DISBURSEMENTS UNDER THIS
AMENDMENT WOULD ALSO HAVE TO MEET CRITERIA IN THE
EXISTING AUTHORIZATION. THE ONLY DOCUMENTATION
REQUIRED IN WASHINGTON IS AN ACTION MEMO AND AN
AMENDMENT TO THE AUTHORIZATION.

3. THE DOLS. 3 MILLION REQUEST FOR FY 1983 WAS
DISCUSSED AT LENGTH. IT IS APAC'S UNDERSTANDING
THAT THIS AMOUNT IS NOT RELATED TO ON-GOING ACTIVITIES,
BUT WOULD BE AN ADDITIONAL TA COMPONENT THAT
ADDRESSES SOME OPERATIONAL WEAKNESSES OBSERVED IN THE
PROJECT SUCH AS EXTENSION EFFORTS FOR IMPROVING

ON-FARM WATER USE AND TIMELY AND ADEQUATE DISTRIBUTION
OF WATER. THIS AMOUNT IS NOT ONLY NEEDED TO ADDRESS
CURRENT OPERATIONAL ISSUES BUT ALSO POSSIBLY SETS THE
STAGE FOR FUTURE INPUTS INTO ON-FARM WATER MANAGEMENT
ACTIVITIES. THIS COULD INCLUDE CONCERNS IN CTF HANDS
ON UNQTE TRAINING; IMPROVING EXTENSION AND RESEARCH
ACTIVITIES TO SUPPORT CROP PRODUCTION THROUGH IMPROVED
WATER MANAGEMENT; OVERALL PLANNING AND MANAGEMENT;
AND PROGRAMS APPROPRIATE TO THE DISADVANTAGED AREAS.

4. APAC DECIDED MISSION SHOULD NOT DELAY OBLIGATION
AND RAPID DISBURSEMENT OF THE DOLS. 7 MILLION FOR
CONSTRUCTION ACTIVITIES BY LINKING IT TO A SUBSTANTIVE
PROJECT AMENDMENT WHICH WOULD ENTAIL FURTHER DESIGN
WORK. MISSION OPTIONS FOR THE TA COMPONENT ARE:

(A) PREPARE FOR FY 83 A NEW PP AMENDMENT OR A NEW

PROJECT PAPER TO COVER THESE ACTIVITIES; OR

(P) FOLD THE AMOUNT INTO THE IRRIGATION SYSTEM REHABILITATION PROJECT AS A SUB-COMPONENT WHICH ADDRESSES FUTURE ON-FARM WATER MANAGEMENT NEEDS.

F. MISSION, IN PREPARING PP FOR IRRIGATION SYSTEM REHABILITATION, SHOULD CONSIDER MOST APPROPRIATE MEANS OF DEVELOPING THIS ACTIVITY. COMMENTS LISTED IN APAC ISSUES PAPER CARRIED BY LES DEAN SHOULD ALSO BE TAKEN INTO ACCOUNT.

G. NO ASSISTANCE WILL BE NEEDED FROM AID/W IN PREPARING THE ACTION MEMORANDUM AND FY 82 AMENDMENT TO THE AUTHORIZATION. HOWEVER, PLEASE ADVISE IF ADDITIONAL HELP REQUIRED IN DEVELOPING THE DESIGN FOR THE DOLS. 3 MILLION FY 1983 TECHNICAL ASSISTANCE COMPONENT. ASIA/TR/ARD IS WILLING TO PROVIDE APPROPRIATE SERVICES IN-HOUSE OR FROM CONSULTANTS WITH PREVIOUS EXPERIENCE IN PAKISTAN. HAIG
BT
#3886

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 TO SECSTATE WASHDC IMMEDIATE 9046
 BT
 UNCLAS ISLAMAPAD 15885

AIDAC

FOR ASIA/PD - VAN RAALTE

F.O. 12065 N/A

SUBJECT: APAC REVIEW OF ON-FARM WATER MANAGEMENT PP
 - AMENDMENT (391-0413)

REF: A. STATE 293886, B. ISLAMAPAD 15484

1. THE PURPOSE OF THIS MESSAGE IS TO CLARIFY WHAT APPEARS TO BE A MISUNDERSTANDING OF THE NATURE OF THE SUBJECT AMENDMENT AND HOW THE MISSION PLANS TO ALLOCATE FUNDS UNDER THE AMENDMENT.

2. THE PROPOSED AMENDMENT INVOLVES TWO MAJOR COMPONENTS: REIMBURSEMENT FOR CONSTRUCTION AND INSTITUTIONAL STRENGTHENING:

- A. REIMBURSEMENT FOR CONSTRUCTION: APPROXIMATELY DOLS. 6.0 MILLION WILL COVER REIMBURSEMENT FOR CIVIL WORKS ELIGIBLE FOR FINANCING UNDER THE EXISTING PROJECT. THE CURRENT STATUS OF REIMBURSEMENTS FOR CIVIL WORKS WAS PROVIDED IN REF P AND IS REPEATED HERE:

- REIMBURSEMENTS TO DATE	DOLS. 4,634,962
- UNPAID FAR REQUESTS (RE-INSPECTION AND APPROVAL ANTICIPATED FOLLOWING CORRECTION OF DEFICIENCIES)	DOLS. 1,364,198
- PENDING FAR REQUESTS (SUBMITTED BUT NOT YET INSPECTED)	DOLS. 6,164,962
- ANTICIPATED FAR REQUESTS (ESTIMATED)	DOLS. 1,335,878
- TOTAL	DOLS. 13,527,000
- EXISTING LOAN	DOLS. 7,500,000
- ADDITIONAL FUNDS REQUIRED FOR WORK ALREADY COMPLETED AND ANTICIPATED	DOLS. 6,000,000

P. INSTITUTIONAL STRENGTHENING: THIS COMPONENT OF THE AMENDMENT IS MERELY AN EXTENSION OF THE EXISTING PROJECT. THE PURPOSE OF THE ORIGINAL PILOT PROJECT IS

BEST AVAILABLE COPY

QUOTE TO ESTABLISH PUBLIC AND PRIVATE SECTOR CAPABILITY TO PLAN AND DELIVER ON-FARM WATER MANAGEMENT SERVICES (IMPROVEMENT OF IRRIGATION WATERCOURSES, PRECISE LEVELING OF FARMLAND AND IMPROVEMENT OF CROP AND WATER MANAGEMENT PRACTICES). ON AN ECONOMIC BASIS UNQUOTE. TO MEET THE INSTITUTION-BUILDING OBJECTIVE, TECHNICAL ASSISTANCE IN SUCH AREAS AS ORGANIZATION MANAGEMENT, TRAINING, RESEARCH, AND EXTENSION WAS PROVIDED BY THE U.S. SOIL CONSERVATION SERVICE UNDER THE PILOT PROJECT AND BY COLORADO STATE UNIVERSITY UNDER A COMPLEMENTARY AID-FINANCED PROJECT. AS A RESULT OF INPUTS BY CSU AND SCS, THE NECESSARY TRAINING INSTITUTES HAVE BEEN ESTABLISHED AND FIELD TEAM STAFF HAVE BEEN TRAINED. HOWEVER, DURING THE COURSE OF IMPLEMENTATION, IT BECAME APPARENT THAT ADDITIONAL TECHNICAL ASSISTANCE INPUTS WOULD BE REQUIRED TO ACHIEVE THE ORIGINAL OBJECTIVES OF THE PROJECT. THE RECENT AID IMPACT EVALUATION STUDY AND A JOINT GOP-USAID EVALUATION OF WATER INSPECTION PROCEDURES CONFIRMED THIS NEED. UNDER THE PROPOSED AMENDMENT, SHORT-TERM TECHNICAL ASSISTANCE AND TRAINING WILL BE PROVIDED AND LONG-TERM ADVISORS WILL ARRIVE DURING FY-82. THESE INPUTS ARE CRITICALLY NEEDED TO FURTHER DEVELOP THE CAPABILITIES OF THOSE INSTITUTIONS RESPONSIBLE FOR DELIVERING WATER MANAGEMENT SERVICES AND TO PROVIDE FOLLOW-UP TRAINING TO PROVINCIAL FIELD TEAMS SO THAT REJECTED WATERCOURSES CAN BE CORRECTED AND REIMBURSEMENTS MADE.

3. PER PARA 4 OF REF A, THE APAC WAS CONCERNED THAT LINKING THE CONSTRUCTION ACTIVITIES TO A QUOTE SUBSTANTIVE UNQUOTE PROJECT AMENDMENT WOULD DELAY OBLIGATION AND RAPID DISPURSEMENT OF THE MONEY FARMARKED FOR REIMBURSEMENT. AS EXPLAINED ABOVE, THE PLANNED TECHNICAL ASSISTANCE INPUT IS REQUIRED TO STRENGTHEN THE INSTITUTIONS RESPONSIBLE FOR DELIVERING WATER MANAGEMENT SERVICES AND THEREBY ENSURE APPROVAL OF CONSTRUCTION WORKS AND FACILITATE RAPID DISPURSEMENT. FURTHERMORE, TO PREPARE THE AMENDMENT, MISSION IS DRAWING ON DETAILED ANALYSES AND REPORTS ALREADY COMPLETED BY MAX LOWBERMILY, BY A TECHNICIAN FROM THE WATER SYNTHESIS AND WATER POLICY PROJECTS, AND BY WOPM NICHOLSON, ALL OF WHOM WERE HERE ON TTY IN OCTOBER AND NOVEMBER. GIVEN THE CLOSE RELATIONSHIP BETWEEN THE

REIMBURSEMENT AND INSTITUTIONAL STRENGTHENING COMPONENTS OF THE AMENDMENT AND THE NEED TO PROVIDE THE NECESSARY T.A. INPUTS IMMEDIATELY. MISSION HAS CONCLUDED THAT NEITHER OF THE TWO OPTIONS PRESENTED IN PARA 4 OF REF A IS APPROPRIATE.

4. MISSION PLANS TO PREPARE A PP AMENIMENT FOR THE ENTIRE DOLS. 10.0 MILLION. DOLS. 7.0 MILLION WILL BE OBLIGATED IN FY-82 TO FINANCE THE INSTITUTIONAL STRENGTHENING COMPONENT (ESTIMATED AT DOLS. 3.0 MILLION), REIMBURSEMENT OF PENDING FAR REQUESTS (ESTIMATED AT DOLS. 3.0 MILLION), AND A PROGRAM DESIGNED TO INVOLVE LOCAL GOVERNMENT IN THE DELIVERY OF WATER MANAGEMENT SERVICES (ESTIMATED AT DOLS. 1.0 MILLION). THE DOLS. 3.0 MILLION PROGRAMMED FOR OBLIGATION IN FY-83 WILL COVER THE REMAINING PORTION OF REIMBURSEMENTS FOR CONSTRUCTION.

5. WE HOPE THAT THIS INFORMATION CLARIFIES OUR PLANS WITH RESPECT TO THIS PROJECT AMENIMENT AND THAT AID/W IS IN AGREEMENT WITH THE MISSION'S APPROACH. WE WELCOME YOUR COMMENTS.

6. PER REF B. MISSION REQUESTED A REDELEGATION OF AUTHORITY TO APPROVE AND AUTHORIZE THIS PROJECT AMENDMENT. PLEASE ADVISE ASAP. SPIERS
BT
#5885

UNCLAS

ISLAMABAD 15885

2

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D C 20523

ANNEX A. 3
Page 1

January 4, 1982

ACTION MEMORANDUM FOR THE ASSISTANT ADMINISTRATOR, BUREAU FOR ASIA

FROM: ASIA/PD, G. R. van Raalte *R*

Problem: To grant USAID/Islamabad a redelegation of authority to approve amendments to the Agricultural Research Project and the On-Farm Water Management Project.

Discussion: 1. The Agricultural Research Project: This project was authorized in 1974 to develop the research capability of the Pakistan Agricultural Research Council (PARC) and to support the construction and development of a National Agricultural Research Center (NARC). Delays were experienced early during the implementation of the project when it became evident that PARC would require substantial institutional strengthening in order to manage its resources adequately and to utilize donor assistance effectively. Accordingly, the project was redesigned in 1977 to provide inputs directed toward upgrading PARC's institutional capability. Further project setbacks were experienced in March 1979, with the imposition of the Symington Amendment and the resultant cutbacks in Mission Staff and later that year with the burning of the American Embassy and the evacuation of most U.S. personnel, including technical advisors contracted for the project. Nevertheless, the project has made considerable progress. PARC is now a functioning organization responsible for coordinating the national research program. The construction of NARC is underway and the local contractor is generally meeting the target dates of the revised construction schedule. Activities funded under this amendment will focus on supporting the completed construction of NARC and upgrading NARC's managerial and research capability. All amendment activities are in accord with the project as redesigned. The amendment involves no significant policy concerns or issues of a controversial nature.

The project funding history reflects the vicissitudes of the project. The original AID funds consisted of a \$7.6 million loan, a \$1.5 million grant (of which initial obligations totaled \$562,050), and the equivalent of \$7.4 million in Mondale rupees. The 1977 project redesign reduced the loan to \$6.2 million and the Mondale rupee grant to the equivalent of \$5.4 million. In August 1979, the grant obligation was increased to \$762,050; but due to the Symington Amendment, the remaining portion of the original \$1.5 grant was never obligated. As a result of project progress and AID's inability to increase its dollar assistance, the Mondale rupee grant was increased in 1980 to the equivalent of \$11.4

million. In sum, the amount of funds actually obligated equals \$18,362,050, including a \$6.2 million loan, a \$762,050 grant, and the equivalent of \$11.4 million in Mondale rupees. Under the proposed amendment, \$3.2 million of ESF grant funds will be added to the project. The amendment will also include a Mondale Rupee grant component equivalent to approximately \$3 million.

The Mission possesses the technical capability to review the amendment and Mission approval would expedite the authorization and obligation process. The Administrator delegated to the Regional Assistant Administrators the authority to extend the life of a project provided that the extension does not result in a total life of project of more than ten years. Because the amendment will extend the life of the project beyond ten years, the Administrator will be requested to approve an extension of the Project Assistance Completion Date (PACD) prior to authorization of the amendment.

2. The On-Farm Water Management Project: This project was proposed in FY 76 with a life of project funding level of \$22.5 million to develop a capability within the Government of Pakistan to deliver water management services to the farm level. Initially, a \$7.5 million loan was authorized to fund project activities. The remaining \$15 million loan was to be authorized in FY 78. Because of delays in project implementation, authorization of the second tranche was deferred until FY 1979. However, as a result of the imposition of the Symington Amendment in 1979 and the resultant phase-down of the Pakistan program, this second tranche was never authorized. In addition to the loan funds, grants of \$317,000 and \$600,000 were provided in 1978 and 1979, respectively, to finance technical assistance. Thus, the total amount of funds actually authorized and obligated to date includes the \$7.5 million loan and a \$917,000 grant.

The On-Farm Management Project is recognized as one of the most successful projects in the Pakistan portfolio. As a result of project activities, the provincial government organizations responsible for delivering water management services are in place and operating, field teams have been trained, and more than 600 on-farm watercourses have been improved. The proposed project amendment will provide funds for (1) reimbursement of watercourse civil works eligible for financing under the existing project; (2) technical assistance to further upgrade the Government's capability to deliver water management services; and (3) a pilot program designed to involve local government in the delivery of water management services. All of these activities fall within the scope of the original project.

The dollar portion of the proposed amendment is \$10 million. Of the \$10 million, \$7 million will go toward reimbursement of watercourse improvement and \$3 million will fund project technical assistance.

The amendment involves no significant policy concerns or issues of a controversial nature. As in the case of the proposed Agricultural Research amendment, the Mission possesses the technical capability to review the amendment to the On-Farm Water Management project and redelegation to Mission would expedite the authorization and obligation process.

Delegation of Authority No. 133, as recently revised, delegates to you the authority to amend project authorizations if the amendment (1) does not result in a total life of project funding of more than \$30 million; (2) does not present significant policy issues; and (3) does not require issuance of waivers that may only be approved by the Administrator, or if such waivers are required they are approved by the Administrator prior to such authorization. This authority may be redelegated by you to Mission Directors or other principal officers at field posts. The Agricultural Research Amendment and the On-Farm Water management Amendment satisfy these conditions. As noted above, in the case of the proposed Agricultural Research project, the Mission will be instructed not to authorize the amendment until the Administrator approves the PACD extension.

Delegation of authority No. 133, as recently revised, provides that redelegation of authority to the field be made in accordance with criteria established by the Bureau. The Asia Bureau has not yet developed such criteria, but we feel confident that the two redelegations requested by the Mission in this instance will meet the criteria to be established by the Bureau. In the interim, therefore, we recommend that you deal with these requests on an ad hoc basis.

3. Rupee Grant Component of Amendments: In order to avoid possible delays in obligating the dollar components of these amendments, the Mission proposes to obligate dollar funds prior to OMB approval for the allocation of rupee funds. The Project Committee was concerned that obligation of project dollar funds with no guarantee that OMB would approve an allocation of project rupee funds could, if rupee funds are denied, jeopardize project implementation. The Committee, therefore, recommended that no dollar funds be obligated until an allocation of rupee funds is assured; however, the Committee allowed that the Mission should be able to obligate any dollar funds essential to preventing an interruption of project activities. The attached cable reflects the Committee's recommendations in this matter and requests that the Mission provide as soon as possible the information needed to prepare the request to OMB for an allocation of Monale rupees.

Recommendation: That you redelegate to USAID/Islamabad Mission Director the authority to approve and authorize the amendments to the Agricultural Research Project and the On-Farm Water management Project, and that you sign the attached cable advising the Mission of this action.

Approved Qaidi
1/5/82

Attachment:
Cable to Islamabad

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D C 20523

ANNEX A.4

January 21, 1982

ACTION MEMORANDUM FOR THE ACTING ASSISTANT ADMINISTRATOR, BUREAU FOR ASIA

FROM: ASIA/PD, G. R. van Raalte *R*

Problem: To redelegate authority to USAID/Pakistan to extend the PACD of the On-Farm Water Management Project from June 30, 1982, to June 30, 1985.

Discussion: On January 5, 1982, Jon Holstine approved a redelegation of authority permitting the Mission Director, Pakistan, to approve and authorize a proposed amendment to the On-Farm Water Management Project (391-0413). That redelegation did not specifically indicate that authority to extend the Project Assistance Completion Date was also being included. However, the intention was to permit the Mission Director to take all necessary actions to permit authorization of the project.

The three-year extension will bring the total life of project to nine years. It therefore falls within the authorities delegated to Assistant Administrators in Delegation of Authority No. 133 and can be redelegated to the Mission Director.

Recommendation: That you approve the redelegation of authority to the Mission Director, Pakistan, to extend the PACD of the On-Farm Water Management Project to June 30, 1985, and advise the Mission of this action by signing the attached cable.

Approved *R. H. ...*

Disapproved _____

Date *22 Jan 82*

Attachment:

- Tab A - Cable to Islamabad
- Tab B - Redelegation of Authority signed 1/5/82 by Jon Holstine
- Tab C - Islamabad 525

March 5, 1982

ACTION MEMORANDUM FOR THE ACTING ASSISTANT ADMINISTRATOR, BUREAU FOR ASIA

FROM: ASIA/PD, G. R. van Raalte

SUBJECT: Pakistan - Strengthening Water Management Activities
Project 391-0452 -
Authorization for Use of Excess U.S.-Owned
Pakistani Rupees (Mondale Grant)

Problem: USAID/Islamabad has requested a Mondale Grant to the Government of Pakistan (GOP) of 9.9 million U.S.-owned Pakistani rupees (U.S. \$1.0 million) to support the subject project. These funds will supplement the Rs. 18.5 million already approved and disbursed for the project. Section 104(f) of the Agricultural Trade Development and Assistance Act (P.L. 480) authorizes use of the funds.

(a) Cooperating Country	Pakistan
(b) Authorizing Document	Section 104(f), P.L. 480
(c) Project	Strengthening Water Management Activities (391-0452)
(d) Nature of Funding	P.L. 480 Excess Rupees (Mondale Grant)
(e) Amount	Rs. 9.9 million (approximately U.S. \$1.0 million)

Discussion: The Strengthening Water Management Activities Project is a corollary project to the Pakistan On-Farm Water Management Project (OFWM). The purpose of the latter is to "establish public and private sector capabilities to plan and deliver on-farm water management services." The purpose of the Strengthening Water Management Activities Project is to enhance GOP capabilities to manage the implementation of that project. Assistance is focussed on the Federal Water Management Cell, the GOP agency which has prime responsibility for water management activities. Using assistance thus far provided, that agency has carried out continuing monitoring and evaluation of project activities, has identified and proposed solutions to various water management problems and, through training, has upgraded its capabilities to carry out necessary research efforts.

USAID/Islamabad is in the process of amending the On-Farm Water Management Project in order to correct several implementation problems which have precluded full attainment of the project's purpose. The most serious problem has been that the training institutes established under the project did not fully attain their training objectives. In particular, they have not been able to adequately train extension staff in watercourse construction and design and precision land leveling. Other problems had to do with variations in applicability of specific technologies and procedures in different parts of the country and with deterioration of improved watercourses due to inadequate maintenance by farmers. The Strengthening Water Management Activities Project, as the corollary of the On-Farm Water Management Project, will also be amended and extended so as to allow continued and expanded oversight of OFWM project activities.

The Rs. 9.9 million called for under the amendment will be used to finance contracts for construction inspections; for local support and international transportation costs of technical advisors; for expansion of monitoring and evaluation activity; and for expanded research into technical and social issues related to the program.

Justification: All activities to be carried out using the requested Pakistani rupees are consistent with the original (and amended) project purpose and take into consideration the lessons learned thus far during implementation. In view of AID's actual and proposed investment in water management activities in Pakistan, USAID/Islamabad believes that considerable benefits will be derived from the grant of the rupees. The GOP has agreed to the use of the requested rupees. FM/CAD advises that the U.S. Treasury has excess Pakistani rupees that are available to AID for use in projects such as this one.

You have the authority to approve the use of the excess rupees under Delegation of Authority No. 21 provided that the Office of Management and Budget (OMB) agrees and subject to notification of appropriate Congressional committees regarding the proposed use (as provided under Section 104(f) of P.L. 480). A letter to the Director of OMB requesting allocation of the funds has been prepared and is attached for your signature. The Office of Food for Peace informs us that the appropriate Congressional committees were advised of our intent to make the proposed grant on February 23, 1982. They have indicated they have no objection.

Recommendation: That, by your signature below, you approve the use of Rs. 9.9 million to support the Strengthening Water Management Activities Project (391-0452).

Approved _____ *[Signature]*

Disapproved _____

Date 3/5/82

ON-FARM WATER MANAGEMENT PROJECT AMENDMENT, 391-0413

PROJECT CHECKLIST

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

A. GENERAL CRITERIA FOR PROJECT

1. Continuing Resolution Unnumbered;
FAA Secs. 634A; 653(b)

(a) Describe how authorizing and appropriations Committees of Senate and House have been or will be notified concerning the project;

(a) Congressional Notification.

(b) Is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that amount)?

(b) Yes, assistance is within the 1982 operational year budget.

2. FAA Sec. 611 (a) (1)

Prior to obligation in excess of \$100,000, will there be (a) engineering, financial, and other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to U.S. of the assistance?

Yes, a detailed financial plan is included in the project paper amendment and all other necessary plans have already been prepared under the original project.

3. FAA Sec. 611 (a) (2)

If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

No further legislative action is required.

4. FAA Sec. 611 (b); Continuing Resolution Sec. 501

If for water or water-related land resource construction, has project met the standards and criteria as set

Yes

forth in the Principles and Standards for Planning Water and Related Land Resources, dated October 25, 1973?

5. FAA Sec. 611(e)

If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project?

Yes, Mission Director's 611(e) certification is included in the project paper amendment.

6. FAA Sec. 209

Is project susceptible of 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.

This project is not appropriate for execution as part of a regional or multilateral project nor is it likely to encourage regional development programs. The World Bank (IBRD) and Asian Development Bank (ADB) each developed separate projects in OFWM.

7. FAA Sec. 601 (a)

Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and completion; and (c) encourage development and use of cooperatives, and 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) - (e) Yes. Project provides for increased efficiency in water management, and the resultant more efficient agricultural production will increase yields and number of crops grown and increase trade. The project will also strengthen and expand the role of Water Users Associations in Pakistan's OFWM Program.

(f) Not applicable.

8. FAA Sec. 601 (b)

Information and conclusion 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 both goods and services under the project amendment.

9. FAA Sec. 612 (b), 636 (h); Continuing Resolution Sec. 508

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 amendment is financed by ESF grant funds. Nevertheless, the GOP, under this 3-year amendment, will contribute the equivalent of about \$148 million in local currency to meet the local costs of Pakistan's OFWM Program. 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 amendment. This action is consistent with one of the major objectives of the renewed 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?

The U.S. owns excess Pakistani rupees, and Rs 9,900,000 of these "Mondale" rupees will be added to an existing complementary Mondale rupee project (Strengthening Water Management Project Activities, 391-0452) to finance technical assistance, training, commodities, research and other local costs under the proposed amendment.

11. FAA Sec. 601 (e)

Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?

Yes

12. Continuing Resolution Sec. 522

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. procedures of the same, similar or competing commodity?

N.A.

13. FAA Sec. 525

Will the funds for this project be used to lobby for abortion?

No

B. FUNDING CRITERIA FOR PROJECT

This is an ESF grant funded project.

1. Development Assistance Project Criteria

a. FAA Sec. 102 (b), 111, 113, 281 (a)

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, spreading investment out 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 the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical

N.A.

assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage domestic private and local governmental 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?

b. FAA Sec. 103, 103A, 104, 105
106, 107

Is assistance being made available: (including only applicable paragraph which corresponds to source of funds used. If more than one fund source is used for project, include relevant paragraph for each fund source.)

N.A.

(1) (103) for agriculture; rural development or nutrition; if so (a) extent to which activity is specifically designed to increase productivity and income of rural poor; 103A if for agricultural research, full account shall be taken of the needs of small farmers, and extensive use of field testing to adapt basic research to local conditions shall be made; (b) extent to which assistance is used in coordination with programs carried out under Sec. 104 to help improve nutrition of the people of developing countries through encouragement of increased production of crops with greater nutritional value, improvement

N.A.

of planning, research, and education with respect to nutrition, particularly with reference to improvement and expanded use of indigenously produced foodstuffs; and the undertaking of pilot or demonstration of programs explicitly addressing the problem of malnutrition of poor and vulnerable people; and (c) extent to which activity increases national food security by improving food policies and management and by strengthening national food reserves, with particular concern for the needs of the poor, through measures encouraging domestic production, building national food reserves, expanding available storage facilities, reducing post harvest food losses, and improving food distribution.

(2) (104) for population planning under sec. 104 (b) or health under 104 (c); if so, (i) extent to which activity emphasizes low-cost, integrated delivery systems for health, nutrition and family planning for the poorest people, with particular attention to the needs of mothers and young children, using paramedical and auxiliary medical personnel, clinics and health posts, commercial distribution systems and other modes of community research.

N.A

(4) (105) for education, public administration, or human resources development; if so, extent to which activity strengthens non-formal education, makes formal education more relevant, especially for rural families and urban poor, or strengthens management capability of institutions enabling the poor to participate in development; and (ii) extent to which assistance provides advanced education and training of people in developing countries in such disciplines as are required for planning and implementation of public and private development activities.

N.A

(5) (106; ISDCA of 1980, Sec. 304) for energy, private voluntary organizations, and selected development activities; if so, extent to which activity is: (i) (a) concerned with data collection and analysis, the training of skilled personnel, research on and development of suitable energy sources, and pilot projects to test new methods of energy production; (b) facilitative of geological and geophysical survey work to locate potential oil, natural gas, and coal reserves and to encourage exploration for potential oil, natural gas, and coal reserves; and (c) a cooperative program in energy production and conservation through research and development and use of small scale, decentralized, renewable energy sources for rural areas;

N.A

(ii) technical cooperation and development, especially with U.S. private and voluntary or regional and international development organizations; (iii) research into, and evaluation of, economic development process and techniques; (iv) reconstruction after natural or manmade disaster; (v) for special development problems, and to enable proper utilization of earlier U.S. infrastructure, etc., assistance; (vi) for programs of urban development, especially small labor intensive enterprises marketing systems, and financial or other institutions to help urban poor participate in economic and social development.

- c. (107) is appropriate effort 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.)

d. FAA Sec. 110 (a)

Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or has the latter cost-sharing requirement been waived for a "relatively least developed" country)?

N.A.

e. FAA Sec. 110 (b)

Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least developed"?

N.A

f. 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

g. FAA Sec. 122 (b)

Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?

N.A

2. Development Assistance Project
Criteria (Loans Only)

This is an ESF 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% of the enterprise's annual production during the life of the loan?

N.A.

3. Project Criteria Solely for Economic Support Fund

a. FAA Sec. 531 (a)

Will this assistance promote economic or political stability? To the extent possible, does it reflect the policy directions of FAA Section 102?

This project is designed to benefit small farmers in rural areas. Water-course improvements are expected to result in increased agricultural production. Extension work will provide small farmers with first-hand information on the effective use of agricultural inputs, including water. This project therefore will improve the income and overall socio-economic condition of the rural poor, thereby effecting a more equitable income distribution conducive to political and economic stability.

This amendment reflects the policy directions of FAA Section 102.

b. FAA Sec. 531 (c)

Will assistance under this chapter be used for military, or paramilitary activities?

No.

5C (3) - STANDARD ITEM CHECKLIST

A. Procurement

1. FAA Sec. 602

Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed?

Yes

2. FAA Sec. 604 (a)

Will all procurement be from the U.S. except as otherwise determined by the President or under delegation from him?

Yes

3. FAA Sec. 604 (d)

If the cooperating country discriminates against U.S. marine insurance companies, will commodities be insured in the United States against marine risk with a company or companies authorized to do a marine insurance business in the U.S.?

N.A.

4. FAA Sec. 604 (e); ISDCA of 1980 Sec. 705 (a)

If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.).

N.A.

5. FAA Sec. 604 (g)

Is the geographic code for the project 941? If it is, is the construction and/or engineering to be procured from a firm in an advanced developing country?

No, the geographic code for this project is 000 and Pakistan.

6. FAA Sec. 603

Is the shipping excluded from compliance with requirement in section 901 (b) of the Merchant Marine Act of 1936, as amended, that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S.-flag commercial vessels to the extent that such vessels are available at fair and reasonable rates?

No

7. FAA Sec. 621

If technical assistance is financed, to the fullest extent practicable will such assistance, goods and professional and other services be furnished from private enterprise on a contract basis? If the facilities of other Federal agencies will be utilized, are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?

Yes

N.A.

8. International Air Transport.
Fair Competitive Practices Act 1974

If air transportation of persons or property is financed on grant basis will provision be made that U.S. carriers will be utilized to the extent such service is available?

Yes

9. Continuing Resolution Sec. 505

If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States?

Yes

B. Construction

1. FAA Sec. 601 (d)

If capital (e.g., construction) project, are engineering and professional services of U.S. firms and their affiliates to be used to the maximum extent consistent with the national interests?

N.A.

2. FAA Sec. 611 (c)

If contracts for construction are to be financed, will they be left on a competitive basis to maximum extent practicable?

N.A.

3. FAA Sec. 620 (k)

If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed \$100 million?

N.A.

C. Other Restrictions

1. FAA Sec. 122 (b)

If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter?

N.A.

2. FAA Sec. 301 (d)

If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights?

N.A.

3. FAA Sec. 620 (h)

Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary

Yes

to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-block countries?

4. Will arrangements preclude use of financing:

a. FAA Sec. 104 (f)

To pay for performance of abortions as a method of family planning or to, motivate or coerce persons to practice abortions; to pay for performance of involuntary sterilization as a method of family planning, or to coerce or provide financial incentive to any person to undergo sterilization?

Yes

b. FAA Sec. 620 (g)

To compensate owners for expropriated nationalized property?

Yes

c. FAA Sec. 660

To provide training or advice or provide any financial support for police, prisons, or other law enforcement forces, except for narcotics programs?

Yes

d. FAA Sec. 662

For CIA activities?

Yes

e. FAA Sec. 636 (1)

For purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained.

Yes

- f. Continuing Resolution Sec. 504
- To pay pensions, annuities retirement pay, or adjusted service compensation for military personnel? Yes
- g. Continuing Resolution Sec. 506
- To pay U.N. assessments, arrearages or dues. Yes
- h. Continuing Resolution Sec. 507
- To carry out provisions of FAA section 209 (d) (Transfer of FAA funds to multilateral organizations for lending.) Yes
- i. Continuing Resolution Sec. 509
- To finance the export of nuclear equipment fuel, or technology or to train foreign nationals in nuclear fields? Yes
- j. Continuing Resolution Sec. 510
- To aid the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights? Yes
- k. Continuing Resolution Sec. 516
- To be used for publicity or propaganda purposes within U.S. not authorized by Congress? Yes



**UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
MISSION TO PAKISTAN**

Cable : USAIDPAK

HEADQUARTERS OFFICE
ISLAMABAD

THE DIRECTOR

ON-FARM WATER MANAGEMENT PROJECT AMENDMENT, 391-0413

FAA SECTION 611 (e) CERTIFICATION

I, Donor M. Lion, 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 judgement, the Islamic Republic of Pakistan has both the financial capability and the human resources capability to effectively implement, utilize, and maintain the On-Farm Water Management Project as amended.

This judgement is based upon the project analyses as detailed in the On-Farm Water Management Project Paper Amendment and is subject to the conditions imposed therein.

Donor M. Lion
Director
USAID/Pakistan

May 27, 1982

Date



**UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
MISSION TO PAKISTAN**

Cable : USAIDPAK

**HEADQUARTERS OFFICE
ISLAMABAD**

THE DIRECTOR

ON-FARM WATER MANAGEMENT PROJECT AMENDMENT, 391-0413

FAA SECTION 612 (b) CERTIFICATION

A major purpose of the \$1.625 billion economic assistance program negotiated between the Government of the United States of America 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 United States dollars in lieu of United States-owned excess foreign currency to pay for local costs of projects being implemented in Pakistan. In light of the United States 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 United States-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 United States 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 United States dollars are used (disbursed) when United States-owned foreign currency is available. Where dollars are used for local cost financing, USAID/Pakistan will, therefore, make disbursements to the Government of Pakistan in U.S. currency.

FAA Section 612(b) Certification (Continued)

In addition to disbursing United States dollars for local costs, USAID/Pakistan plans to use the United States-owned excess rupees known as "Mondale Rupees", which are available under the provisions of Section 104 of the Agricultural Trade Development and Assistance Act 1954, as amended, to finance some of the local costs associated with United States dollar-financed activities, thereby increasing the overall development impact of the proposed \$1.625 billion economic assistance program.

In view of the above rationale, I, Donor M. Lion, 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 United States dollars to cover local currency costs in lieu of using United States-owned excess rupees under the On-Farm Water Management Project Amendment.

Donor M. Lion

Donor M. Lion
Director
USAID/Pakistan

May 27, 1982

Date



GOVERNMENT REQUEST FOR DOLLAR
AND MONDALE RUPEE ASSISTANCE

No. 1(1)CM-VI/82.
Government of Pakistan
MINISTRY OF FINANCE AND
ECONOMIC AFFAIRS
(ECONOMIC AFFAIRS DIVISION)

Islamabad, 11st January, 1982.

Telegram: ECONOMIC
Telex: ECDIV No 05 634

SECRETARY
Phone: 22783

Dear Dr. Lion,

As part of our two Governments' agreement on a six year \$ 1.625 billion economic assistance program, the Government of Pakistan formally requests from AID an additional ten million dollars (\$ 10,000,000) in United States assistance to fund an amendment to the On-Farm Water Management Project (AID Project No.391-0413). Nine million nine hundred thousand rupees (Rs.9,900,000) of Mondale rupees is also requested to amend the Strengthening Water Management Activities Project (AID Project No.391-0452).

2. Subject to the availability of funds, an additional \$ 10 million in ESF grant funds (for the On-Farm Water Management Project) and Rs. 9.9 million in Mondale Rupees (for the Strengthening Water Management Activities Project) would be provided over a four year period to: (a) reimburse the Government of Pakistan for watercourse improvements already completed or constructed during the amendment period; and, (b) finance short-term and long-term technical assistance, training and commodities to provide support to field staff in design and construction of civil works. The rupee funds will be used to amend the Strengthening Water Management Activities Project to cover the local costs of activities planned for under the dollar-funded project amendment.

3. The Government of Pakistan assures the United States Government of its full cooperation in continuing to carry out the On-Farm Water Management Project and the Strengthening Water Management Activities Project. The manpower, financial, and other inputs required of us will be provided in an expeditious manner.

Contd....P/2...

- : 2 : -

4. We look forward to a continued, combined effort by both our governments to yield a productive and beneficial program for the people of Pakistan.

Yours sincerely,



(Ejaz Ahmad Malik)

Dr. Donor M. Lion,
Director,
USAID Mission,
ISLAMABAD:

ACTION MEMORANDUM FOR THE ASSISTANT ADMINISTRATOR FOR ASIA

From: ASIA/PD - G. Reginald Van Raalte

I. PROBLEM

To obtain a source/origin waiver from A.I.D. Geographic Code 000 (U.S. only) to A.I.D. Geographic Code 935 (Special Free World) to permit the purchase of six (6) right-hand drive Toyota Land Cruiser Station Wagons and spare parts under the On-Farm Water Management Project (391-0413) as amended.

II. BACKGROUND

- A. Cooperating Country : Pakistan
- B. Geographic Code of Project : 000 and Pakistan
- C. Importer of Commodity : USAID/Pakistan on behalf of the On-Farm Water Management Cell of the Ministry of Food, Agriculture, and Cooperatives, GOP.
- D. Description of Commodity : Six (6) Toyota right-hand drive diesel Land Cruiser Station Wagons, heavy duty suspension, 6 cylinder, six-seater, A.C. and heater, and spare parts.
- E. Manufacturer of Commodity : Toyota Motor Co., Ltd., Japan.
- F. Approximate Value of Commodity : \$75,000
- G. Nature of Funding : ESF Grant
- H. Procurement Source and Origin : Japan
- I. Is the commodity sought from a sole source or from more than one source? : Bids will be solicited from multiple distributors.

III. DISCUSSION

Vehicles required under the On-Farm Water Management Project as amended must be capable of transporting personnel and equipment in rough terrain under all climatic conditions. They must be right-hand drive (driving in Pakistan is on the left), sturdy and easy to service and maintain with four-wheel drive capability and heavy duty suspension. Since the vehicles will be used extensively to travel long distances to and between rural areas, access to spare parts and maintenance facilities is a major concern. Right-hand drive is imperative for safety reasons to facilitate adequate visibility, especially in passing situations where, historically, there is a high incidence of reckless driving and an unusually high number of deaths by vehicular accidents. The Mission has concluded that the Toyota Land Cruiser Station Wagon is the only vehicle available which fully satisfies the needs of this project.

The Toyota Land Cruiser Station Wagon, a proven field vehicle locally, has 2/4 wheel drive capability for on and off-the-road use. This vehicle can be obtained with right-hand drive option and is extremely rugged, reliable, and easy to service. A primary advantage in procuring Toyotas is that adequate spare parts and servicing are available in-country through Toyota Dealers which will facilitate their continued maintenance and use not only during the project, but also when the vehicles are eventually turned over to the host government. The Toyota's engine components are accessible to service, and, based on reports, mechanics in Pakistan are more familiar with the Toyota vehicle than that of any other manufacturer, and, therefore, have been better able to service Toyotas. Spare parts availability in Pakistan for the Toyota also is generally superior to that of other manufacturers. Fuel efficiency is also good, averaging 20-22 miles per gallon. The U.N. agencies in Pakistan have utilized the Toyota Land Cruiser for several years and have high praise for its performance. Moreover, the Land Cruiser has a seating capacity for six passengers and, in emergency situations, even more since it has a long wheel base. This large seating capacity is essential since USAID staff, consultants, and GOP officials often travel together on field trips in the same vehicle. Sufficient space is also available for field equipment like transits, level sets, tripods, and luggage.

Chevrolet Suburbans are currently being used under the project for this purpose. The 8-Cylinder Suburbans, which are used for off-road field use, average only 8 miles per gallon due to their size and weight. Suburbans are

manufactured with only left-hand drive (LHD) steering, which poses a safety hazard as the use of LHD vehicles limits visability in overtaking situations. No other vehicle available at this time in Pakistan from U.S. source or Code 941 sources has comparable capability or is as well suited to the needs of this project as the Toyota Land Cruiser Station Wagon.

U.S. manufactured vehicles are becoming increasingly difficult to service in Pakistan. The engines have become almost inaccessible due to engine design and installation of emission controls and other technological advancements (closed loop fuel mixture, control units, exhaust gas sensors, electronic solenoid carburetors, and 3-way catalyts.) Special tools are required to reach essential service points. The complexity of servicing these engines is beyond the skill levels of local mechanics who do not have sophisticated training and tools. The parts' pipeline ranges from 6-8 months. A more fuel efficient 6-cylinder field vehicle with 2/4 wheel drive as well as right-hand drive is required.

IV. JUSTIFICATION

Section 636(i) of the Foreign Assistance Act of 1961 as amended requires A.I.D. to procure U.S. manufactured vehicles but also provides for special circumstances that may justify waiving this requirement. The special circumstances which are directly applicable in this case are the inability of U.S. manufacturers to provide a particular type of needed vehicle (A.I.D. Handbook 1, Supplement B, Chapter 4C2d(1)(a)) and the lack of adequate service facilities and supplies of spare parts for U.S. manufactured vehicles (A.I.D. Handbook 1, Supplement B, Chapter 4C2d(1)(b)). Handbook 1, Supplement B, Chapter 4C2d(3) and Delegation of Authority No. 40 authorize Assistant Administrators to waive source/origin requirements in this instance.

V. ACTION REQUESTED

For the above reasons, it is recommended that you:

A. Waive the source/origin requirements set forth in Handbook 1, Supplement B, to permit the procurement of the requested vehicles from countries included in A.I.D. Geographic Code 935; and,

B. Certify by signature below that pursuant to Section 5B4c of A.I.D. Handbook 1, Supplement B, exclusion of procurement of these project vehicles from Free World

countries other than the Cooperating Country and countries included in A.I.D. Geographic Code 941 would seriously impede the attainment of U.S. foreign policy objectives and the objectives of the foreign assistance program.

Approved _____

Disapproved _____

Date _____

AGENCY FOR INTERNATIONAL DEVELOPMENT
ADVICE OF PROGRAM CHANGE

COUNTRY: Pakistan

PROJECT TITLE: On-Farm Water Management

PROJECT NUMBER: 391-0413

FY 1982 CP REFERENCE: None

APPROPRIATION CATEGORY: Agriculture, Rural Development
and Nutrition; Economic Support
Funds

LIFE OF PROJECT FUNDING: \$ 7,500,000 AG, RD & N Loan
917,000 AG, RD & N Grant
10,000,000 ESF Grant
\$18,417,000 Total Life of
Project Funding

(Terms of Loan: 40 years; 10-year
grace period; 2% per annum first
10 years; 3% per annum thereafter)

INTENDED FY 82 OBLIGATION: \$7,000,000 Economic Support
Funds Grant

This is to advise that A.I.D. intends to obligate \$7,000,000 of Economic Support Funds in FY 1982 for the Pakistan On-Farm Water Management Project. No mention is made of this project in the FY 1982 Congressional Presentation (CP) because at the time the CP was compiled, economic assistance to Pakistan was restricted by the provisions of Section 669 of the Foreign Assistance Act (FAA).

Through this project, A.I.D. is providing technical assistance to upgrade the Government of Pakistan's capability to deliver water management services and reimbursing the Government for the improvement of small irrigation canals that carry water to farmers' fields and for precision leveling of farm land.

ANNEX: Activity Data Sheet

TITLE On-Farm Water Management		FUNDS Agriculture, Rural Development & Nutrition; Economic Support Funds	PROPOSED OBLIGATION (in thousands of dollars)		
			FY 82	ESF Grant 7,000	LIFE OF PROJECT 18,417 (TO, 917 G) (7,500 L)
NUMBER	NEW <input type="checkbox"/>	PRIOR REFERENCE	INITIAL OBLIGATION	ESTIMATED FINAL OBLIGATION	ESTIMATED COMPLETION DATE
GRANT <input checked="" type="checkbox"/> LOAN <input checked="" type="checkbox"/>	CONTINUING <input checked="" type="checkbox"/>	FY 80 CP, page 116	FY 77	FY 83	FY 85

Purpose: To establish public and private sector capabilities to deliver on-farm water management services including improvement of irrigation water courses, leveling of farm land, and improvement of crop and water management practices.

Background: A.I.D. has been providing assistance to Pakistan's On-Farm Water Management (OFWM) Program since 1976 when it initiated a \$7.5 million loan and \$917,000 grant OFWM pilot project. This pilot project consists of the: (a) physical improvement of water-courses (small irrigation canals which bring water to the farmers' fields) and precision leveling of farm land; (b) development and implementation of improved water management and agricultural practices; and, (c) development of the capability of the GOP's on-farm water management services to implement a nationwide water management program. Because of the imposition of Section 669 of the Foreign Assistance Act and the events at the American Embassy in 1979, an additional \$15.0 million for Phase II of this project was never authorized, leaving insufficient funds for reimbursement of watercourse improvements and precision land leveling completed under the pilot project.

Project Description: A.I.D. plans to add \$10 million to the existing project to: (a) reimburse the GOP for watercourse improvements and precision land leveling; (b) finance both short-term and long-term technical assistance and commodities to provide on-the-job training to field staff in the proper design and construction of civil works and to further strengthen the institutions responsible for planning and delivering training and other services in on-farm water management; and, (c) undertake a pilot program through the Ministry of Local Government and Rural Development to evaluate the use of local councils as a mechanism for accelerating the implementation of OFWM activities. An existing complementary U.S. owned excess rupee project (Strengthening Water Management Activities) will be amended to provide additional funds to help cover the local costs. All activities under the amendment are consistent with the purpose of the original project and take into consideration the lessons learned during implementation of the pilot project.

Relationship to A.I.D. Country Strategy: A.I.D.'s strategy in Pakistan focuses on increased agricultural production and rural development. This project will promote increased agricultural production by reducing water losses on watercourses, improving the utilization of irrigation water on farms, and improving other agricultural techniques.

Beneficiaries: Survey results indicate that 73 percent of the farmers assisted under the on-going project were small farmers. Benefits to low-income farmers from the proposed project amendment are therefore expected to be significant.

Host Country and Other Donors: Other donors are providing assistance to Pakistan for irrigation development. Much of this assistance, however, has been directed to major infrastructure projects such as the Tarbela Dam and Mangla Dam. The Asian Development Bank is providing assistance for the development of the Chashma Irrigation Network in northern Pakistan and \$25 million for OFWM activities in the Paharpur Canal Command Area in Dera Ismail Khan District of the Northwest Frontier Province. The World Bank is discussing proposals for improving major canal irrigation networks and is providing assistance jointly with the International Fund for Agricultural Development totalling \$53 million for OFWM activities in all four provinces.

Major Outputs	All Years
Watercourses improved	1399
Land precisely leveled (PIL)	75,000 acres
Improved provincial capability to deliver water management services	Creation of 4 Provincial OFWM Directorates within Provincial Agriculture Departments
Improved national capability to coordinate water management services	Creation of OFWM Cell within the Federal Ministry of Food, Agriculture, and Cooperatives
Establishment of OFWM field teams	50
Government personnel, farmers, and others trained	6400
A.I.D. Financed Inputs	Life of Project (\$ 000)
Reimbursement for Watercourse Improvement and Precision Land Leveling	12,370
Technical Assistance	4,382
Training	990
Commodities	675
Total	18,417

U.S. FINANCING (in thousands of dollars)				PRINCIPAL CONTRACTORS OR AGENCIES	
	Commitment	Expenditures	Unliquidated		
Through September 30, 1980	8,417	4,061	4,356	- Consortium for International Development (Colorado State University and Utah State University)	
Estimated Fiscal Year 1981	-	1,491	-		
Estimated through September 30, 1981	8,417	5,552	2,865		
		Future Year Obligations	Estimated Total Cost		
Proposed Fiscal Year 1982	7,000	3,000	18,417	- U.S. Soil Conservation Services.	

BEST AVAILABLE COPY

PROJECT DESCRIPTION

FOR INCLUSION IN PROJECT AGREEMENT AMENDMENT

A. BACKGROUND

The A.I.D.-financed OFWM Project was initiated in October 1976. On the basis of the pilot project, the GOP has decided to expand activities under the OFWM Program and has succeeded in attracting financial support from the ADB and IBRD/IFAD who have agreed to provide \$78 million over the next four years for Pakistan's OFWM Program.

A.I.D.'s continued support of Pakistan's OFWM Program is designed to: (1) reimburse the GOP for watercourse improvements already completed which were eligible for financing under the original project; and (2) overcome institutional deficiencies and correct implementation problems which were identified during the course of the pilot project and which will not be addressed under the other donor projects.

Despite an interruption of United States assistance in 1979, the provinces continued to carry out planned civil works under the original project. During the August 1981 USG-GOP negotiations, the GOP requested reimbursement for these completed civil works. This Amendment provides \$4 million for that purpose.

A number of significant implementation problems and institutional weaknesses have been identified which represent serious constraints to the continued success of Pakistan's OFWM Program. The need for technical assistance in key areas and outside training to meet the manpower needs of the OFWM Program is critical. This Amendment extends the existing project for three years to provide assistance to meet this need.

To date, 1,319 watercourses have been improved under the OFWM project. Over the next four years, an additional 3,300 watercourses are targeted for improvement under the ADB and IBRD/IFAD projects. Alternative institutional mechanisms must be identified to accelerate the implementation of improved watercourse technology throughout the country. This Amendment will finance a local government pilot program to examine the feasibility of using district and local councils as a mechanism for accelerating the implementation of Pakistan's OFWM Program.

B. PROJECT AMENDMENT ACTIVITIES

This Amendment includes three major components: (1) reimbursement for civil works already completed under the pilot project; (2) training and technical assistance to further strengthen the capability of local institutions to implement Pakistan's OFWM Program; and, (3) a local government pilot program to examine the feasibility of local councils as a mechanism to accelerate the implementation of the OFWM Program. All proposed activities are consistent with the original project purpose.

1. Reimbursement for Watercourse Improvements

The Amendment will provide funding for reimbursement for watercourses already improved and eligible for financing under the original A.I.D.-financed OFWM project, watercourses for which funding was planned but never authorized because of the interruption of assistance to Pakistan in 1979.

2. Local Government Pilot Program

The Project Amendment will fund a pilot study in each of the four provinces to determine the ability of Local Councils to deliver water management services. Implementation of this component will be through the Ministry of Local Government and Rural Development and the provincial Local Government and Rural Development Departments which will select the districts to be included in the project. It will include:

- a. improving approximately 80 watercourses;
- b. establishing water users associations and developing extension water management training for farmers within improved watercourse command areas;

- c. providing irrigation training to three District Council Engineers in each province; and,
- d. providing water management extension training to two district rural development staff in each province.

3. Institutional Strengthening

a. Technical Assistance - Illustrative

Technical assistance will be funded to refine technology, training, research, and administration of the OFWM Program. Four long-term advisors will be provided for an estimated total of 127 person-months, supplemented by about 48 person-months of short-term assistance during the three-year project period. This assistance will be provided primarily by an inter-disciplinary Water Management team which is likely to consist of an engineer, agricultural economist, agronomist and extension/training specialist. The Federal OFWM Cell will be responsible for coordinating and allocating to the provincial programs all the technical assistance and training provided under the amendment. The Water Management Team will work in the following areas in support of the provincial programs:

- i. testing and refinement of OFWM technologies for water management which take into account provincial differences;
- ii. alternative approaches to promote more efficient utilization of the water saved;
- iii. improving the role of water users associations;
- iv. introducing computer technology for design, construction, and evaluation activities;
- v. improving institutional relationships between agencies involved in water resources management;
- vi. implementing OFWM technology through Local Government;
- vii. strengthening in-country training institutions and handling project-financed participant training activities; and,

viii. performing special studies and evaluations.

In-service training of OFWM field teams will be provided by another team of four to eight field advisors, who will work in the field with provincial field teams and their supervisors for a total period of about 24 person-months. This role will be similar to that of the U.S. Soil Conservation Service advisors under the original project. They will assist the provincial OFWM Directorates in strengthening the ability of the field teams to design and construct watercourse improvements and precision land leveling works.

b. Training - Illustrative

Training will be funded under the amendment to meet the manpower needs of the OFWM Program. Specialized training outside of Pakistan will be given to selected individuals to provide the skills necessary to solve technical and administrative problems encountered in the program. This training will be in fields such as management, irrigation engineering, computer science, and extension as follows:

Training/Observation Tours (2-6 weeks)	100 person-weeks
Short-term Training (6-8 weeks)	150 person-weeks
Non-Degree Formal Study (6-12 months)	10 person-years
Formal Degree Program	10 person-years

In addition, the consultants funded under this amendment will conduct a study of the capacity and capabilities of existing training institutions to meet the training needs of the OFWM Program and will assist several of these institutions to upgrade and expand their programs to meet the OFWM Program's training needs.

c. PROJECT OUTPUTS

At the end of the project, the following probable project outputs will have been realized as a result of the amendment activities:-

1. 1,319 watercourses will have been improved and reimbursement made to the GOP.
2. 75,000 acres of land will have been precisely leveled.

3. 4 provincial OFWM Directorates will have been created within Provincial Agriculture Departments and will be effectively delivering water management services to farmers.
4. A central OFWM Cell within the Federal Ministry of Food, Agriculture, and Cooperatives will have been created and will be effectively coordinating all OFWM activities in the country.
5. At least 50 OFWM field teams will have been established and provided with on-the-job training.
6. At least 12 district engineers will have been trained in watercourse improvement and precision land leveling, and 8 district rural development staff members will have been trained in water management extension.
7. A pilot study of the effectiveness of local councils as a mechanism for accelerating the implementation of Pakistan's OFWM Program will have been completed.
8. Province-specific models for watercourse improvement will have been developed.
9. Effective extension techniques for promoting the increased productive use of water will be available.
10. A minimum of 80 water users associations will be effectively maintaining watercourses and drains and will have received training in water management technology.
11. Design, inspection, and evaluation work carried out by Federal and provincial authorities will be conducted in a more timely, efficient, and systematic fashion with the aid of computers.
12. A study of the capacity and capability of training institutions with programs related to OFWM activities will have been completed, and at least three of these institutions will have revised their curricula and improved their training programs so that they are more responsive to the manpower needs of the country's OFWM Program.

13. Approximately 75 participants will have received overseas training in such fields as management, irrigation engineering, computer science, and extension with 10 of the 75 receiving formal degrees.

D. IMPLEMENTATION PLAN

1. Implementation Schedule - Illustrative

Project amendment activities are programed to take place over a period of three years. The current Project Assistance Completion Date (PACD) has been extended from June 30, 1982 to June 30, 1985. Inspections of a random sample of 20% of the watercourses already constructed under the original project, and for which FAR requests are pending or are anticipated, will be completed within six months after the Agreement Amendment is signed. Reimbursements will be made to the GOP throughout the inspection period as inspections are completed with final payment expected to be within one month after completion of all the planned inspections.

A total of twenty-four person-months of technical assistance will be provided to OFWM field teams by short-term expatriate field advisors during the first year of the amendment period. All four long-term advisors on the Water Management Team will arrive in-country in FY 1982. Short-term Water Management Team consultants will provide assistance throughout the three-year amendment period. A.I.D. will direct contract for all technical assistance under the project amendment.

Implementation of the local government component will begin in the first year of the amendment period with the selection of project sites and the training of technical staff. By the end of 1982, civil works will have been initiated and will continue throughout the amendment period. The majority of commodities will be procured during the first and second years of the amendment period. A.I.D. or the long term advisors, as appropriate, will procure all project commodities. Training will take place throughout the three-year period. All participant training activities will be handled by the long-term advisors in consultation with A.I.D. and the federal OFWM cell. An interim and final evaluations are planned.

2. Administrative and Monitoring Arrangements

a. A.I.D. Responsibilities

The Office of Agriculture and Rural Development

(ARD) will assume overall responsibility for managing the project. The Project Officer will be an Assistant Agricultural Development Officer in the Office of ARD. The Office of Energy and Engineering (E&E) will provide engineering assistance as required and will perform or cause to be performed all the inspections. The office of Project Development and Monitoring will assist ARD in all contracting actions under the project. A United States Direct Hire Supply Advisor will assist on procurement transactions.

b. GOP Responsibilities

The GOP agency responsible for the overall implementation of this project is the Ministry of Food, Agriculture and Cooperatives. The one exception, is the local government pilot program which will be the responsibility of the Ministry of Local Government and Rural Development. A Water Management Cell has been established within the Ministry of Food, Agriculture, and Cooperatives to provide day-to-day monitoring of the project at the federal level and to coordinate the water management activities of the Provincial Agriculture Departments. All technical assistance and training provided under this project amendment will be coordinated and implemented by this Cell. The Cell will be responsible for: (i) ensuring that counterparts are in place for all the technical assistance planned under the amendment; (ii) ensuring that qualified participants are selected for the training planned under the amendment; (iii) ensuring that all pending FAR requests are submitted in a timely fashion; and, (iv) participating in scheduled evaluations.

At the provincial level, OFWM Directorates have been established to perform all administrative, technical, and training functions necessary to support the field teams that work with farmers and farm organizations to improve watercourses. Technical advisors to be funded under this amendment will work closely with the staff of the provincial OFWM directorates as well as with the federal OFWM Cell.

The Ministry of Local Government and Rural Development (LGRD) will be responsible for implementation of the local government component of the project. The Federal LGRD Ministry will assign one officer full-time to the project to monitor all activities planned in all

four provinces and to coordinate with the federal OFWM Cell as well as with all four provincial LGRD Departments. Each provincial LGRD Department will in turn assign one officer full-time to the project to manage the program at the provincial level. These provincial officers will receive appropriate training by the long-term advisors in construction and extension, land leveling, and related aspects of the project. These officers will also work closely with their colleagues in the provincial Agriculture Departments and with the local councils in the districts selected for participation in the pilot program.

ILLUSTRATIVE

TABLE 1
ON-FARM WATER MANAGEMENT^{a/}

SUMMARY OF PROJECT COSTS BY EXPENSE CATEGORY AND SOURCE OF FUNDING
(in 000)

EXPENSE CATEGORY	CUMULATIVE COMMITMENT ^{a/}			FY 1982			LIFE OF PROJECT		
	A.I.D. Dollar Grant (\$)	Mondale Rupees (Rs)	GOP (Rs)	A.I.D. Dollar Grant (\$)	Mondale Rupees (Rs)	GOP (Rs)	A.I.D. Dollar Grant (\$)	Mondale Rupees (Rs)	GOP (Rs)
1. Civil Works	-	-	277,875	4,120	-	-	4,870	-	277,875
2. Technical Assistance	917	-	-	2,345	-	-	4,337	-	-
3. Training	-	-	4,998	200	-	-	990	-	4,998
4. Commodities	-	-	42,736	290	-	-	675	-	42,736
5. Other (research and evaluation, information and dissemination, program administration and program support)	-	-	56,391	45	-	-	45	-	56,391
TOTALS	917	-	382,000 ^{b/}	7,000	-	-	10,917	-	382,000 ^{b/}

^{a/} Rupees added to the existing complementary Mondale rupee project, Strengthening Water Management Project Activities (391-0452), to finance some of the local costs of project amendment activities, are not included in this table nor are loan commitments to date totalling \$7.5 million.

^{b/} After A.I.D. reimbursement for civil works, the net GOP contribution will be Rs 160 million.

PROJECT DESIGN SUMMARY
REVISED LOGICAL FRAMEWORK MATRIX

ANNEX H

Page 1

Life of Project:
From FY 1977 to FY 1985
Total U. S. Funding: \$18,417,000
Date Prepared: 3/5/84

Project Title & Number: ON-FARM WATER MANAGEMENT (391-0413)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program or Sector Goal: The broader objective to which this project contributes: To increase agricultural production and improve income for low income farmers in Pakistan.</p> <p>Sub-Goal: On-Farm Water Management concept is fully appreciated and taken account of by the GOP in agricultural planning, and the project is replicated.</p>	<p>Measures of Goal Achievement:</p> <ul style="list-style-type: none"> - Increased domestic production and decreased importation of food grains. - Increased agricultural output, especially by small farmers - GOP develops and approves a plan for management of the irrigation system at the farm level throughout the country. 	<ul style="list-style-type: none"> - GOP financial and planning records. - Household budget survey data. - Agricultural production data. - Project is replicated. 	<p>Assumptions for achieving goal targets:</p> <ul style="list-style-type: none"> - GOP policy encourages agricultural production and increases income opportunities for small farmers. - On-Farm Water Management will increase water availability and the water saved will be productively utilized. - Watercourse improvements and precision land leveling will be competitive with alternative public and private investments in other sectors of the economy. - Experience gained in the pilot program is replicable nation-wide.
<p>Project Purpose: To establish public and private sector capabilities to plan and deliver on-farm water management services including improvement of irrigation watercourses, precise leveling of farm land, and improvement of crop and water management practices, on an economic basis.</p>	<p>Conditions that will indicate purpose has been achieved: End of project status.</p> <ul style="list-style-type: none"> - Provincial OFWM Directorates created within Provincial Agricultural Departments and effectively delivering water management services to farmers. - Central OFWM Cell created within Federal Ministry of Food, Agriculture, and Cooperatives and effectively coordinating all OFWM activities in the country. (Cont'd on pg. 2) 	<ul style="list-style-type: none"> - GOP financial and planning records. - Participant training records. - Records of the federal OFWM Cell and the provincial directorates. - Extension records. 	<p>Assumptions for achieving purpose:</p> <ul style="list-style-type: none"> - GOP continues to assign high priority to the OFWM Program as evidenced by adequate budgetary support. - Adequate numbers of qualified personnel are available to staff the OFWM program. - Trained participants return to Pakistan to work in the OFWM program.
<p>Outputs:</p> <ul style="list-style-type: none"> - Watercourses improved and reimbursement made to the GOP - Land precisely leveled - Provincial OFWM Directorates created within Provincial Agriculture Departments and effectively delivering water management services to farmers. - Central OFWM Cell created within Federal Ministry of Food, Agriculture, and Cooperatives and effectively coordinating all OFWM activities in the country (Cont'd on pg. 2) 	<p>Magnitude of Outputs:</p> <ul style="list-style-type: none"> - 1,399 - 75,000 acres - 4 - 1 	<ul style="list-style-type: none"> - Site visits, personnel records, consultant reports. - Quarterly project reports. - Project evaluations. - Special publications and reports. - Provincial and federal GOP records and planning documents. - GOP training center records. 	<p>Assumptions for achieving outputs:</p> <ul style="list-style-type: none"> - Qualified participants are selected for training. - Provinces are receptive to having their OFWM programs coordinated at the national level. - Inspection and reimbursement procedures are efficiently implemented. - The Ministry of Local Government and Rural Development prepares and has approved a PC-1 for OFWM activities. (Cont'd on pg. 2)
<p>Inputs: 1. A.I.D.</p> <ul style="list-style-type: none"> a. Reimbursement for civil works. b. Short-term and long-term technical assistance. c. Short-term and long-term participant training. d. In-country training. e. Commodities including vehicles, computers, library, training and extension materials, and research equipment and supplies. 	<p>Implementation Target (Type and Quantity)</p> <p>See financial, commodity, technical assistance, and training plans and implementation schedule in the project paper amendment.</p> <p>INPUTS: 2. GOP</p> <ul style="list-style-type: none"> a. Personnel salaries and allowances. b. Operating expenses and facilities rental and maintenance. 	<p>A.I.D. and GOP project records and financial documents.</p>	<p>Assumptions for providing inputs:</p> <ul style="list-style-type: none"> - A.I.D. and GOP proposed funding levels are approved by their respective governments and disbursements are made on a timely basis. - Appropriate consultants can be recruited to provide the required technical assistance. - Appropriate and relevant training courses can be identified. - Required commodities are available on a timely basis and from eligible sources.

PROJECT DESIGN SUMMARY
REVISED LOGICAL FRAMEWORK MATRIX

Life of Project: _____
From FY _____ to FY _____
Total U. S. Funding _____
Date Prepared: _____

Project Title & Number: ON-FARM WATER MANAGEMENT (391-0413)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program or Sector Goal: The broader objective to which this project contributes:</p>	<p>Measure of Goal Achievement:</p>		<p>Assumptions for achieving goal targets:</p>
<p>Project Purpose:</p>	<p>Conditions that will indicate purpose has been achieved: End of project status.</p> <ul style="list-style-type: none"> - Provincial field teams will be effective in assisting farmers improve watercourses and precisely level farm land. - Increased incidence of watercourse maintenance. - Improved quality of design and construction of civil works by OFWM Directorates. - Increased level of production technology related to effective water management. 		<p>Assumptions for achieving purpose:</p>
<p>Outputs:</p> <ul style="list-style-type: none"> - Volume III of OFWM Field Manual revised - OFWM teams established and provided with on-the-job training - District engineers trained in watercourse improvement and PLL - District rural development staff trained in water management extension - Province-specific models for watercourse improvement developed - Pilot studies of local councils as implementing mechanism for OFWM activities completed - Effective extension techniques for OFWM available - Water Users Associations effectively maintaining watercourses and drains, trained in water management technology and owning tubewells - Computers will be effectively used for planning, management, training, and field work in the OFWM program - Study of the capacity and capability of training institutes with programs related to OFWM activities completed - Training institutes revise curricula and improve their training programs (cont'd) 	<p>Magnitude of Outputs:</p> <ul style="list-style-type: none"> - 1 - 50 - 12 - 8 - 4 - 80 - At least two manuals produced - Minimum of 80 - 6 - 1 - At least 3 <p>(continued)</p>	<p>OUTPUTS:</p> <ul style="list-style-type: none"> - Participants trained overseas in management, irrigation engineering, computer science, and extension 	<p>Assumptions for achieving outputs:</p> <ul style="list-style-type: none"> - The Ministry of Food, Agriculture and Cooperatives prepares and has approved a PC-1 for OFWM activities. <p>MAGNITUDE OF OUTPUTS:</p> <ul style="list-style-type: none"> - 75 (including 10 with formal degrees)

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THE UTILIZATION OF LOCAL COUNCILS
FOR IMPROVEMENT OF ON-FARM WATER
MANAGEMENT IN PAKISTAN a/

by

NORMAN K. NICHOLSON
OFFICE OF RURAL ADMINISTRATION AND DEVELOPMENT,
BUREAU FOR SCIENCE AND TECHNOLOGY (ST/RAD),
AID/WASHINGTON

November 12, 1981

a/ This 52-page document is on file at USAID/Pakistan.

MINISTRY OF FOOD, AGRICULTURE & COOPERATIVES
GOVERNMENT OF PAKISTAN



**MONITORING & EVALUATION
OF
ON-FARM WATER MANAGEMENT PROGRAMME
(Pre - Project Evaluation)**

SUMMARY^{a/}



SURVEY AND RESEARCH ORGANIZATION
PLANNING DIVISION

WATER AND POWER DEVELOPMENT AUTHORITY

JUNE 1981

a/ This 95-page document is on file at USAID/Pakistan.

ON-FARM WATER MANAGEMENT PROJECT
A JOINT U.S.-PAKISTAN EVALUATION a/
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
ISLAMABAD, PAKISTAN

May 8, 1978

a/ This 46-page document plus Annexes is on file at
USAID/Pakistan.

ON-FARM WATER MANAGEMENT PROJECT
THE SECOND
JOINT U.S.-PAKISTAN EVALUATION a/
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
ISLAMABAD, PAKISTAN

September 16 - October 13, 1979

a/ This 76-page document plus Annexes is on file at
USAID/Pakistan.