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ISN 31862

UNCLASSIFIED

AGENCY FOR INTERNATIONAL DEVELOPMENT

WASHINGTON, D.C. 20523

PROJECT PAPER

PAKISTAN

GADOON-AMAZAI AREA DEVELOPMENT

391-0485

AUGUST 1983

UNCLASSIFIED

PROJECT AUTHORIZATION

PAKISTAN

Gadoon - Amazai Area
Development
Project No. 391-0485

1. Pursuant to Section 531 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Gadoon - Amazai Area Development Project for the Islamic Republic of Pakistan (the "Cooperating Country") involving planned obligations of not to exceed U.S. dollars Twenty Million ($20,000,000) in grant funds over a four (4) year period from the date of 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 is designed to change the Gadoon - Amazai area economy from one based primarily on poppy cultivation to a diversified agricultural and non-agricultural system with strong ties to the national economy, which will facilitate and complement the Cooperating Country's enforcement effort with respect to poppy cultivation and narcotics production. Under the Federal auspices of the Pakistan Narcotics Control Board, the Government of the Northwest Frontier Province (Government of NWFP), through its Planning and Development Department, will implement this Project which will proceed in two interrelated phases. During the first phase, immediate benefits will be provided to the area inhabitants in the form of improved transport and other infrastructure (such as power), seed and fertilizer, and specific small scale priority development activities identified by the local councils of the area. Phase II will involve the implementation of development activities by local councils and provincial line departments in three major areas: (a) agricultural development, consisting of a program of on-farm trials and demonstrations, distribution of improved planting material, extension information, watershed management, marketing assistance, and small irrigation schemes to promote increased production of existing non-poppy crops, new cash crops, improved livestock, and productive trees; (b) infrastructure construction, consisting of primarily roads and power; and, (c) off-farm employment which will focus on improving the marketable skills of area residents through participation in project activities and vocational training and the support of basic education.

3. The Project Agreement(s) which may be negotiated and executed by the officer(s) to whom such authority is delegated in accordance with A.I.D. regulations and Delegations of Authority shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as A.I.D. may deem appropriate.

a. Source and Origin of Goods and Services

Goods and services financed by A.I.D. under this Project 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 the Project 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.

b. Conditions Precedent to Initial Disbursement

Except as A.I.D. may otherwise agree in writing, prior to any disbursement under this Project or to the issuance by A.I.D. of documentation pursuant to which such disbursement will be made, the Cooperating Country shall furnish or cause to have furnished to A.I.D., in form and substance satisfactory to the United States, within sixty (60) days after the signing of the Project Agreement, documentation confirming an agreement in writing with the United States as to the actions to be taken by the Government of the NWFP in the project area to enforce the Cooperating Country's ban on opium poppy cultivation and the processing and distribution of opium poppy, heroin, and/or illicit morphine base substances.

c. Conditions Precedent to Disbursement for Activities to be Implemented by Provincial Line Departments

Except as the parties may otherwise agree in writing, prior to the disbursement under this Project for activities to be implemented by provincial line departments other than for those activities to be implemented in accordance with the fixed amount reimbursement (FAR) system or variant thereof, or to the issuance by A.I.D. of documentation pursuant to which such disbursement will be made, the Cooperating Country will provide to A.I.D., in form and substance satisfactory to A.I.D.:

i. documentation confirming that it has established, or has caused to be established, a Project Coordination Unit within the Government of the NWFP for the purpose of overseeing project implementation; and,

ii. documentation confirming that it has appointed, or has caused to be appointed, a Project Director for the Coordination Unit, together with the name of said person and his specimen signature.

d. Special Condition - Control of Poppy Related Activities

As a condition precedent to initial disbursement, the parties will have reached agreement in writing as to actions to be taken by the Government of the NWFP to enforce the Cooperating Country's ban on opium poppy cultivation and the processing and distribution of opium poppy, heroin, and/or illicit morphine-based substances.

The Cooperating Country agrees to carry out, or cause to be carried out, said agreement, as it may be from time to time amended by the parties, in a prompt and effective manner. If, at any time prior to the Project Assistance Completion Date (PACD) for this Project, as it may be from time to time amended, the United States should determine, in its discretion, that the Cooperating Country or the Government of the NWFP, as the case may be, has not substantially complied with said agreement or has failed to act in good faith in its efforts to fulfill the terms of said agreement, A.I.D. reserves the right to:

i. suspend all further assistance under the Project or such part thereof as A.I.D. may deem appropriate; and/or,

ii. terminate all further assistance under this Project as provided for in the Project Grant Standard Provisions Annex (Annex 2).

e. Waivers

I hereby:

a. approve a waiver from A.I.D. Geographic Code 000 (U.S. only) to A.I.D. Geographic Code 935 (Special Free World) for the procurement of three right-hand drive, diesel station wagons, 14 right-hand drive, diesel, double-cab pick-up trucks, and 12 125-cc trailbikes, and related spare parts, for this Project;

b. find that special circumstances exist to waive, and do hereby waive the requirements of Section 636(i) of the Act; and

c. certify that exclusion of procurement from Free World countries other than the Cooperating Country and countries included in Geographic Code 941 would seriously impede attainment of U.S. foreign policy objectives and the objectives of the foreign assistance program.

Signature _____
Charles W. Greenleaf
Assistant Administrator
Bureau for Asia

August 10 1983
Date

Clearances:	Date	Initial
Herbert E. Morris, GC/Asia	8/6/83	HEM
G.R. Van Raalte, Asia/PD	8/8/83	
Larry Smucker, Asia/DP		
Fred C. Fischer, Asia/PNS	8/6/83	
Clyde D. Taylor, State/INM	8/12/83	(Draft)

GC/Asia:HEMorris:hp:8/5/83

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE: A (A = Add, C = Change, D = Delete) — Amendment Number

DOCUMENT CODE: 3

2. COUNTRY/ENTITY: Pakistan

3. PROJECT NUMBER: 391-0485

4. BUREAU/OFFICE: Asia — 04

5. PROJECT TITLE (maximum 40 characters): Gadoon-Amazai Area Development

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM 12 DD 31 YY 88

7. ESTIMATED DATE OF OBLIGATION (Under 'B.' below, enter 1, 2, 3, or 4)
A. Initial FY 83 B. Quarter 4 C. Final FY 86

8. COSTS ($000 OR EQUIVALENT $1 = Rs 12.80)

A. FUNDING SOURCE	FIRST FY 83 B. FX	C. L/C	D. Total	LIFE OF PROJECT E. FX	F. L/C	G. Total
AID Appropriated Total	400	2,100	2,500	3,360	16,640	20,000
(Grant)	(400)	(2,100)	(2,500)	(3,360)	(16,640)	(20,000)
(Loan)	(-)	(-)	(-)	(-)	(-)	(-)
Other U.S. 1.						
Other U.S. 2.						
Host Country	-	280	280	-	1,400	1,400
Other Donor(s)						
TOTALS	400	2,380	2,780	3,360	18,040	21,400

9. SCHEDULE OF AID FUNDING ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE 1. Grant	2. Loan	D. OBLIGATIONS TO DATE 1. Grant	2. Loan	E. AMOUNT APPROVED THIS ACTION 1. Grant	2. Loan	F. LIFE OF PROJECT 1. Grant	2. Loan
(1) ESF	253	210	-	-	-	20,000	-	20,000	-
(2)									
(3)									
(4)									
TOTALS				-	-	20,000	-	20,000	-

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each): 011 | 012 | 033 | 060 | 070 | 290

11. SECONDARY PURPOSE CODE: -

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

A. Code	BR	BL	BS	LAB	PART	TECH	
B. Amount							

13. PROJECT PURPOSE (maximum 480 characters)

To change the Gadoon-Amazai area economy from one based primarily on poppy cultivation to a diversified agricultural and non-agricultural system with strong ties to the national economy, which will facilitate and complement the GOP's enforcement effort with respect to poppy cultivation and narcotics production.

14. SCHEDULED EVALUATIONS
Interim MM 07 YY 84 | MM 01 YY 87 | Final MM 11 YY 88

15. SOURCE/ORIGIN OF GOODS AND SERVICES
[X] 000 [ ] 941 [X] Local [ ] Other (Specify)

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

17. APPROVED BY
Signature: Donor M. Lion
Title: Director, USAID/Pakistan
Date Signed: MM 7 DD 14 YY 15

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

AID 1330-4 (9-72)

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BACKGROUND DOCUMENTS (ON FILE AT USAID/PAKISTAN)

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2. Working Paper on Local Government
3. Women's Development in the Gadoon-Amazai Project Area

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LIST OF ABBREVIATIONS AND DEFINITIONS

AC	Assistant Commissioner, the chief administrative officer at the tehsil level
ACEP	The Agricultural Commodities and Equipment Program
AD	Assistant Director, a chief officer of a line agency at the district level
ADP	The Annual Development Program, the principal planning and budgeting document for investment in the GOP
AID	The Agency for International Development, headquartered in Washington, D.C., (AID/W) and including its field missions (such as USAID/Islamabad)
AO	Agricultural officer, the official of the NWFP Department of Agriculture who supervises field staff at the sub-tehsil level
arthi	The trader in fresh produce and other commodities who operates at the wholesale level
barani	Unirrigated or rainfed (as of agricultural land)
beopari	The commission agent who operates between the farmer and the arthi and may provide credit as well as marketing services
C&W	Communications and Works, the NWFP line agency responsible for construction of roads and public buildings
CDSS	Country Development Strategy Statement, an AID document describing the proposed development program in a country
DC	District Commissioner, the senior GOP administrative official at the district level
DSTP	Development Support Training Project
EADA	Extra Assistant Director for Agriculture, the official who heads the provincial Department of Agriculture at the tehsil level
ESF	Economic Support Fund (predominant source of AID assistance to the Government of Pakistan)
FAA	Foreign Assistance Act

FATA	Federally Administered Tribal Areas
FCS	Federal Civil Service
GAADP	Gadoon-Amazai Area Development Project
GOP	Government of Pakistan
GTZ	German Government Development Assistance Agency
hadbast	A tax and administrative unit roughly equivalent to a village
HT	High-tension (of electrical lines)
IEE	Initial Environmental Examination
INM	Office of International Narcotics Matters, an agency within the U.S. Department of State
IRDP	Integrated Rural Development Program, a now-abolished system of combined development offices at the local level for the various line agencies of the GOP
jirga	The tribal council, composed of elders or, at times, of some or all of the adult males in the population
kanal	A unit of land, equal to one-eighth of an acre (one-twentieth of a hectare)
kharif	The summer season, or summer crops
kv	Kilovolt
kva	Kilovolt-amp
akh	One hundred thousand
`	Local Government and Rural Development Department of the NWFP
LT	Long-term or low-tension, depending on context
maund	A unit of weight equal to 37.4 kilograms or, if a "pucca maund" to 40 kilograms
maundi	A wholesale market
MFAR	Modified Fixed Amount Reimbursement, a method of fund disbursement and control for construction projects

munshi	In LGRD and other line agencies, the field supervisor assigned to a construction site
NAU	Narcotics Affairs Unit, INM's Office in Islamabad, Pakistan
NCC	Narcotics Coordinating Committee, an interagency committee in the U.S. mission
NWFP	Northwest Frontier Province
OPF	Overseas Pakistani Foundation, a parastatal organization charged with supporting work overseas by Pakistani nationals.
P and D	Planning and Development Department of the NWFP Governent
PACD	Project Assistance Completion Date
PATA	Provincially Administered Tribal Areas
patwari	The local surveyor and data collector for agricultural and land records
PC-1	The basic planning document for an individual investment project in the GOP budgetary system
PCC	Project Coordinating Committee
PCS	Provincial Civil Service
PCU	Project Coordination Unit of the GMADP
PD/P&D	Project Director/Planning and Development, the director of the PCU
PHE	Public Health Engineering, the line agency responsible for construction of potable water systems
PIL	Project Implementation Letter, the document whereby AID and the GOP agree to specific arrangements for project implementation
PMU	Project Management Unit
PNCB	Pakistan Narcotics Control Board, a federal agency
PRB	Project Review Board
Pushtun	The major ethnic group in the project area (also referred to as Pathans) or their language

rabi	The winter season, or winter crops
RDP	Regional Development Planning, P and D, NWFP
rupee (Rs.)	The Pakistani monetary unit (Rs. 12.8 = US$ 1.00)
RWP	Rural Works Program, the local council block grants program
SCARP	Salinity Control and Reclamation Project, a World-Bank financed project operating in the NWFP, and elsewhere in Pakistan
SDP/OPGA	Special Development Program/Opium Poppy Growing Areas, a proposed program parallel to the Special Development Program for Tribal Areas
ST	Short-term (technical assistance or training)
T&V	Training and visitation, a system of agricultural extension
tappa	The landholding of a lineage group
tehsil	The subdivision of a district in the GOP administrative system
UN	United Nations
UNFDAC	United Nations Fund for Drug Abuse Control
USAID	United States Agency for International Development, the AID Mission in Pakistan
U.S. Mission	The combined agencies of the U.S. Government in Pakistan
WAPDA	Water and Power Development Authority, the agency responsible for electrification and electrical systems
WFP	World Food Program, a United Nations program

I. SUMMARY AND RECOMMENDATIONS

A. Recommendations

1. Funding

USAID/Pakistan recommends that an ESF grant of $20.0 million be authorized for the Gadoon-Amazai Area Development Project (391-0485), which has a Project Assistance Completion Date of December 31, 1988, and a total project cost (including GOP and other AID project inputs) of $21.8 million. AID project funds will be obligated as follows:

U.S. Fiscal Year	Grant Amount (US$ millions)
1983	2.5
1984	4.5
1985	7.2
1986	5.8
TOTAL	20.0

2. Geographic Code

The project authorization should specify that, except as AID may otherwise agree in writing:

a. Goods and services financed by AID under this project shall have their source and origin in countries included in AID Geographic Code 000 or Pakistan; and,

b. Ocean shipping financed by AID under this project shall be only on flag vessels of the United States or Pakistan.

3. Waivers

A source/origin waiver from AID Geographic Code 000 to Code 935 and a waiver of FAA Section 636(i) are requested to permit the purchase of three (3) right-hand drive, diesel-powered "Land Cruiser" station wagons, 14 right-hand drive diesel double cab pickups and 12 125-cc trailbikes, with a total value of approximately $131,500.

Pursuant to AIDPR Subpart 7-3.101-50(b)(7), USAID/Pakistan recommends that the Assistant Administrator for Asia (AA/Asia) approve a justification for noncompetitive procurement to permit USAID/Pakistan to negotiate and execute a contract with a specific U.S. firm to provide the required technical and other

services as described in this project paper, on the grounds that "...procurement from any other source would impair the foreign assistance objectives and would be inconsistent with fulfilment of the foreign assistance program."

B. Summary Project Description

The Gadoon-Amazai Area Development Project (GAADP) will support the Government of Pakistan's efforts to eliminate opium poppy cultivation in the Northwest Frontier Province (NWFP). As such, it responds to AID's mandate to "help reduce illicit narcotics cultivation" (Section 126 of the FAA, the "Gilman Amendment") rather than to strictly developmental purposes. The project strategy, however, recognizes that alternative economic opportunities and the integration of an ex-tribal area into the mainstream of Pakistani development play an important role in the farmers' decision not to grow poppy, second only to their perception of the government's intention and ability to enforce the ban on poppy cultivation. The project is therefore designed to promote the long-term development of the Gadoon area (a large mountain constituting the main poppy-producing region of the NWFP), as well as to provide immediate support to the GOP's enforcement program.

The project is designed around two distinct programs of action: 1) effective implementation of a plan to enforce the existing ban on poppy cultivation and 2) a USAID/GOP development program that will finance development activities in the project area over a five-year period. Prior to the initiation of project activities, the Government of the NWFP and the U.S. Mission will agree in writing to an enforcement plan. While USAID will not be directly responsible for implementing this plan (nor will USAID funds be used to implement it), it will be an integral part of the total project. Effective implementation of the plan will be a condition of continued assistance under the development program. (See Section VI, Conditions, Covenants, and Negotiating Status.) This project paper will describe only the development program to be funded under the project. The agreements relative to enforcement are contained in separate documents.

The development program will proceed in two interrelated phases. The first phase, which will last for approximately one year, will create the preconditions necessary to the success of the development program by:

- providing immediate benefits to the population in the form of improved transport and other infrastructure to demonstrate the Government's commitment to providing real benefits through its development programs and to create a short-term replacement for income lost due to reduced poppy cultivation, and

- laying the groundwork for programs with more substantial and lasting benefits in Phase Two.

The latter will be accomplished by accelerating the construction of necessary access roads, completing engineering designs, gathering necessary meteorological and resource data, and beginning on-farm trials, demonstrations, seed multiplication, and other exploratory work to increase potential farmer income from alternatives to opium poppy, including new and traditional crops as well as livestock, agroforestry, and off-farm employment.

During Phase II, covering the remainder of the project's five-year implementation period, three programs will be undertaken. The combined impact of these programs will enable the residents of the project area to earn an income after the project comparable to that now earned, despite enforcement of the poppy ban:

- Agricultural Development. The project will support a program of on-farm trials and demonstrations, distribution of improved planting material, extension information, watershed management, marketing assistance, and small irrigation schemes to promote the increased production of existing non-poppy crops, new cash crops, improved livestock, and productive trees.

- Infrastructure Construction. The basic transport and service network of the project area, primarily roads and power, will be improved to raise the residents' standard of living, increase the flow of goods and services to and from the mountain, and reduce the farmers' dependence on poppy production. Labor-intensive construction projects during the project's life will provide an important short-term source of income for area residents.

- Off-farm Employment. The project will improve the marketable skills of area residents through participation in project activities and vocational training and provide increased opportunities for off-farm employment through the support of basic education for both male and female residents.

The project strategy for implementing these programs in support of the total eradication effort takes special cognizance of the differences among the various sub-regions of the Gadoon-Amazai area and, in particular, of the limited integration of these areas into the nation of Pakistan. In view of the variation across the area in physical accessibility, dependence on poppy, and readiness to accept development assistance from outside, neither the development program nor the enforcement program can go forward in all parts of the area at the same pace. The development program cannot realistically be expected to be equally effective in all parts of the region during the same time period, nor can development proceed everywhere as quickly as enforcement.

The logic of the development program dictates that the greatest effort be directed throughout implementation at the upper elevations, where the farmers are least able to make the transition themselves, with the program moving to the more remote areas of Gadoon-Amazai as soon as feasible. The logic of the enforcement program suggests that enforcement begin at the lower elevations, where the trading interests are concentrated and where poppy is not at present the principal economic activity, and proceed rapidly to cover the entire area. The effective implementation of the enforcement campaign will depend, in the short run, primarily on the vigor and determination of the Government's enforcement activity, although the ability of the development program to provide immediate employment and visible benefits to the population in Phase I will provide indirect support to rapid eradication. These activities also are critical to the success of the total development program, constituting a concrete demonstration that real benefits are on the way. Such a demonstration is vital to gaining the support and cooperation of the people for Phase II of the development program.

Although enforcement (or at least the threat to enforce if needed) will continue to be necessary for the foreseeable future, the permanent eradication of poppy cultivation in Gadoon-Amazai will also depend on the success of the development program in moving the area economy to a base other than poppy. The long-run support provided to permanent eradication goes beyond the direct impact on the area's economy, moreover. Development programs reinforce the will of local governments to enforce and reduce the magnitude of the enforcement effort needed to maintain compliance, once it has been achieved.

The project will be implemented by the provincial government of the NWFP under the auspices of the Pakistan Narcotics Control Board. It will be coordinated by the NWFP Planning and Development Department and executed by its line agencies, with substantial involvement of the existing network of local government councils.

The GAADP will represent the first attempt to implement a large-scale area development project that is closely linked to poppy eradication and designed to reinforce the enforcement effort. As such, it builds on the experience of previous and ongoing work in Malakand and Buner, but goes beyond these projects in both magnitude and scope. An important output of this project will be an increased capacity within the NWFP government to implement additional area development projects in other poppy areas. Such projects, financed by AID or other donors, might form the basis of a Special Development Program for Opium Poppy Growing Areas (SDP/OPGA) now under discussion with the GOP. This project therefore supports development of such a program by building capacity at the planning and operational levels of the NWFP government and by providing valuable experience on which the SDP/OPGA could be built.

The total cost of project activities will be met through an AID grant of $20 million to the Government of Pakistan and additional training and commodities financed under existing AID projects. The main inputs required will be construction and personnel (including technical assistance), with lesser amounts needed for commodities and project operations, including participant training, monitoring and evaluation, and resource surveys. The GOP will provide supplementary supervisory staff in addition to continuing its current programs in the area and financing the operation of facilities built under the project. The GOP's major contribution will be an expanded program of enforcement, which is not budgeted under this project.

C. Summary Findings

The analyses completed during project design support the conclusion that the project is technically feasible, socially sound, and can be effectively administered as planned. The analyses further demonstrate that the costs of the project have been fully allowed for in the budget and that the project provides an acceptable economic return.

D. Project Checklists and Mission Director's Certifications

1. Checklists

The project meets all applicable statutory criteria. Appropriate checklists are included in Annex 5.

2. Certifications

Two certifications signed by the USAID/Pakistan Mission Director are included in Annex 6 to this project paper: a) a FAA 611(e) certification that the GOP has the capability to implement and maintain project-funded facilities and programs and b) a 612(b) certification that it is necessary to disburse dollars in lieu of U.S. owned rupees to finance local costs of this project.

E. APAC Concerns and Design Guidelines

1. Project Purpose

As requested, the project purpose and project success are defined in terms of impact on poppy and narcotics production. See Sections I-B (Summary Description), III-A (Project Goal), III-B (Project Purpose), and IV-F (Evaluation Plan).

2. Site Selection

The project design responds to the concerns raised by expanding the project area to include Swat and Hazara Amazai as well as all of Gadoon itself. Experience during design supports the conclusion that cooperation and access will be

sufficient to permit implementation of the programs planned. See Section II (Background).

3. Project Components

The proposed implementation plan responds to the concerns raised in several ways: a) the number of activities has been held to the minimum necessary to achieve the project purpose; b) the phasing of implementation will permit project activities to start with a few, relatively simple activities and to move gradually toward implementation of more complex and larger activities as knowledge and experience are gained, and c) the implementation plan emphasizes maximum utilization of existing government and private sector capacity to reduce the management burden on the GOP and USAID. See Section IV (Implementation Plan), especially Sections IV-A and IV-B.

4. Enforcement

The interrelationship between the enforcement and development programs, as well as the specific requirements for enforcement, have been thoroughly considered and discussed within the U.S. Mission, as well as with the GOP. Vigorous and determined enforcement of the poppy cultivation ban in accordance with a specific plan to be agreed upon by the U.S. Government and the GOP will be a condition of development assistance. See Sections I-B (Summary Description), II (Background, especially Section II-H), IV (Imlementation Plan), V-H (Narcotics Impact Statement), and VI (Conditions Precedent).

5. Economic Analysis

The project strategy and economic analysis indicate that project-funded programs will enable area farmers to achieve an income at least comparable to their current earnings by the end of the project. Short-term benefits, including creation of employment through local construction projects, will be significant, but will not necessarily replace income from poppy cultivation at the same pace as enforcement removes it. See Sections II (Background), IV (Implementation Plan), and V-E (Economic Analysis).

6. Design Requirements

USAID believes that the design as presented includes sufficient social and technical analyses to begin implementation. The design incorporates continuing exploration of the existing social and technical situation, as well as ongoing expansion of information on the feasibility of alternative sources of income. The implementation plan has been developed to permit maximum flexibility in response to this new information and to phase activities so as to reflect the expected expansion of the information base over time. See Sections IV (Implementation Plan), V (Project Analyses), and Annexes 12-18.

F. Project Issues

1. Applicability of the Area Development Approach

When designing a development intervention, it is preferable if possible to follow a single sector approach. Working in one sector, with one agency or department, has proven to be administratively and organizationally feasible. When the constraints that impede development are well defined, narrowly focused, and amenable to a one-sector attack, this is a preferred solution.

There is no single or easy way to replace poppy in the economy of Gadoon and the adjacent mountainous regions of Amazai. The labor demands of the poppy harvest have acted as a sponge, holding an excess population in place which, in the absence of this high-value crop, cannot be sustained by the area's resource base. The area's greatest comparative advantage lies in the production of opium gum latex, produced best at high altitudes, with well drained soils. There are other cash alternatives, and over time some may prove to have income-earning potential on the small, half-acre holdings of Gadoon-Amazai, a result of the relentless pressure of population growth. But none of these options suggest an easy conversion to those living near the top of the mountain, whose fields are 90 percent in poppy during the one reliable cropping season.

If there is no single substitute for poppy, then a project that aims to establish a new equilibrium based on alternative income-generating activities must combine returns from a range of sources: better road access, off-farm employment, cash crops, irrigation, basic utilities and infrastructure, animal production, and education. Even so, every farmer will not be reached by project activities, although with a sufficient mix of different initiatives in the area, nearly all can receive some positive benefit from at least one part of the project.

This project has therefore chosen an area development approach which combines several sectors and activities into a single project. The justification is contained in the project goal--to integrate a previously isolated opium poppy monoculture into the economic and political mainstream of the NWFP. The transformation must be done quickly, in line with the rapid pace of enforcement actions to end poppy cultivation.

The Gadoon project unfolds in uncomplicated ways, beginning with wheat demonstrations and small infrastructure construction, building on the virtually identical demonstrations and small construction carried out with success in NWFP by line departments and local councils. It builds to major interventions into the economic system in identified blocks, with specified implementing agencies and historical antecedents. The project has been designed to avoid the major pitfalls of many area development projects where too much has been undertaken at the same time.

2. Level of Inputs

A companion question concerns the level of resources proposed for this project. If other projects in Pakistan have produced enforcement of the ban on poppy production for far less, why should the GAADP call for the commitment of $20 million?

Four arguments support the overall funding level, as follows:

- The area begins from a very low economic base for any production other than opium, with very limited natural and human resources. Other areas, with greater potential, need less assistance to make the transition.

- In the absence of a single technology to replace poppy cultivation, a multi-sector attack is needed which can only be effective if backed by resources. Many modest benefits of separate interventions must accrue to affect the target population.

- Comparing the Gadoon-Amazai Area Development Project to other previous or ongoing donor-funded poppy suppression efforts is misleading because a) the resource bases are not comparable; b) the area has much more poppy and is much more dependent upon poppy (making the project's cost per acre of poppy eliminated relatively low); c) the project is attempting a permanent shift in the economy, not merely providing a short-term justification for enforcement action; and d) GAADP includes costs that are not solely for the Gadoon area, but serve to develop the capacity for a Special Development Program for Opium Poppy Growing Areas within NWFP.

- GAADP is attempting to transform an economy in a very short period of time, compressing what would normally be a 10- or 20-year process into the five year period of the project. It is the substantial infusion of capital that provides the momentum required for rapid transformation.

3. Access and Security in the Project Area

Although it took several months to break through the barrier, access was ultimately achieved by the expatriates on the design team. A carefully crafted program permitted travel to the project area for technical work and discussions with villagers and local leadership. While there will undoubtedly always be ebbs and flows in freedom of access for the technical assistance team, the line departments can and do work in the area without difficulty. The likely limitations on access, however,

have been a motivating factor behind the limitation of expatriate technical advisors to an average of 2.2 persons per year, the minimum necessary for effective implementation.

There have been no threats to expatriates or to anyone else connected with the project. Each trip to the Gadoon side of the mountain has included a police escort and advance clearance by the Assistant Commissioner, the responsible officer for local security. It remains to be seen if the traders and others whose economic power is based upon opium collection and sales will take action against the project or executing staff.

There is evidence of mounting willingness on the part of the growers to wait and see if development benefits, previously promised in several instances, actually materialize. If the project can start in September, with contact maintained during the next few months, the momentum may well swing to the side of the Government, with the gradual isolation of the Gandaf traders. There are risks, but they are judged to be manageable. It is not clear how the growers and traders will react to active enforcement. This aspect of the project will be regularly monitored to insure the safety of USAID employees and contract technical assistance personnel.

G. Contributors to Project Development

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II. BACKGROUND

A. USG-GOP Negotiations

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 August 1981 that 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.

1. The Basis for an Area Development Project in a Poppy Growing Area

Upon initiation of the expanded program of assistance to the Government of Pakistan in 1981, USAID/Pakistan adopted a strategy of support to narcotics control by confining its assistance to those areas that did not grow opium poppy. Covenants known as "poppy clauses" were written into project agreements to encourage local and GOP attention to poppy eradication and to discourage the growing of opium poppy.

In August 1982, AID determined to take more direct action, with a program designed to accelerate elimination of opium cultivation. This led, in December 1982, to the report, "Recommendations for a Revised Narcotics Strategy for USAID Pakistan" (the Strategy Report), and to the decision to proceed with the design of an area development project in the major opium producing area of Pakistan. The design team began work in Pakistan in February 1983 and completed its work in June 1983.

2. Parallel Negotiations on Enforcement

With this project, USAID/Pakistan enters a new phase in its support to the poppy eradication policies of the U.S. and Pakistani Governments, in which specific development programs may be directly linked to specific enforcement actions. Negotiations for the Gadoon-Amazai Area Development Project have been conducted parallel to negotiations for a stepped up enforcement of the poppy ban in the project area. These negotiations have produced agreement in substance on the development program and in principle on the NWFP's intention to enforce. Although the two programs will be implementented independently, it is understood by both parties that the continuation of the development program is contingent upon the successful implementation of the enforcement program.

B. Opium Production in Pakistan

Statistics from the Narcotics Affairs Unit (NAU) in Islamabad show that Pakistan harvested approximately 9,000 acres of opium poppy in 1981/82. Of these, 7,800 acres were in the

settled areas, the remainder being in Federally and Provincially Administered Tribal Areas (FATA and PATA) where enforcement is more difficult.

In the current cropping year (1982/83), 1,000 acres in Swat Amazai have been taken out of production by enforcement action, leaving approximately 3,000 acres in Gadoon-Amazai, based upon the previous year's estimates. However, estimates compiled from local revenue officers (patwaris) supplemented by field investigations suggest that this figure seriously understates actual acreages, and that Gadoon-Amazai harvested something close to 6,000 acres of poppy this year. Assuming that the estimates are equally understated for other areas, Gadoon-Amazai has 48 percent of the total poppy acreage (and 64 percent of that outside the Tribal Areas). If the other estimates are accurate, Gadoon-Amazai has 58 percent of the total Pakistani acreage (73 percent of the acreage outside the Tribal Areas). By either set of estimates, Gadoon-Amazai is the major poppy producing area of Pakistan, with well over half of the acreage in the settled areas. This area of concentrated involvement in illicit production is the project's target.

1. The Mechanics of Opium Production and Distribution

Poppies in the Gadoon-Amazai area are produced by small farmers on narrow hillside terraces. Some are irrigated by simple gravity-flow systems; most are rainfed; nearly all are fertilized. At the bottom of the mountain, 20 percent or less of the land may be in poppy, but at the top of the mountain, close to 100 percent of the cultivated land is planted in poppy.

The crop, planted in the fall and harvested in the spring, utilizes large amounts of labor in the collection process. The raw opium is dried into gum and sold to local buyers who stockpile in major villages of the Gadoon area. These buyers generally sell to traffickers in Gandaf, the largest village in Gadoon, near the bottom of the mountain, who in turn sell primarily to larger dealers who move the gum to the Tribal Areas where it can be refined into heroin for export overland through Karachi and Lahore or for local consumption.

2. Previous Poppy Eradication Programs

Poppy cultivation and opium transportation was a licensed activity until the proclamation of the Hadd Ordinance in 1979, although only a fraction of the activity was actually licensed. Swabi Tehsil (which includes Gadoon) was a major area of poppy cultivation, not only in Gadoon, but also in the irrigated plains and the foothills. AID's survey in 1976/77 reported 8400 acres under cultivation.

The Government of Pakistan, following promulgation of the ban on opium production, systematically eliminated cultivation in the settled and irrigated plains in the Swat Valley, and then in

the foothills leading to Gadoon. In these areas, where government authority is well established, there was much complaining, but little serious resistance.

In remote areas, or ex-tribal territories such as Gadoon, enforcement has been much slower and an effort has been made to precede active enforcement with development initiatives. This has not always worked in practice, however.

It is apparent that, in the view of the government as well as the growers, development activity softens the blow and increases the will of the local government to act. If the area is sufficiently integrated into the economy and able to weather the transition without major economic dislocation, even symbolic development assistance can have the desired effect. The most recent project to provide development support to poppy eradication is the Malakand Area Development Project, funded by INM. This project, which is funded at a much lower level than the GAADP, is targeted at the Malakand Agency, where approximately 800 acres of poppy are concentrated. As in GAADP, project assistance takes a multi-sectoral approach, emphasizing agriculture, irrigation, roads, and social services.

C. The Project Area

The Gadoon-Amazai area of the Northwest Frontier Province (NWFP), which has a population of 116,000, a total area of roughly 215 square miles, and a cultivated area of 30,000 acres, comprises a single mountain located between Islamabad and Peshawar immediately to the northwest of Tarbela Lake. (See Figures 1 and 2 and Annex 10.)

The area includes three distinct regions, each of which forms part of one of three districts: Gadoon (in Mardan District), Hazara Amazai (in Abbottabad), and Swat Amazai (in Swat). The project area is divided into seven union councils and 80 hadbasts (an administrative unit very roughly equivalent to a village). A fourth administrative area, the Mansehra Tribal Area, makes up part of the same geographical and social unit, and may be added to the project as the program expands. It has not been included in the specific plans discussed in this project paper because its remoteness and status as a tribal area make its inclusion in the initial program impractical at this time.

1. The Physical Setting and Population

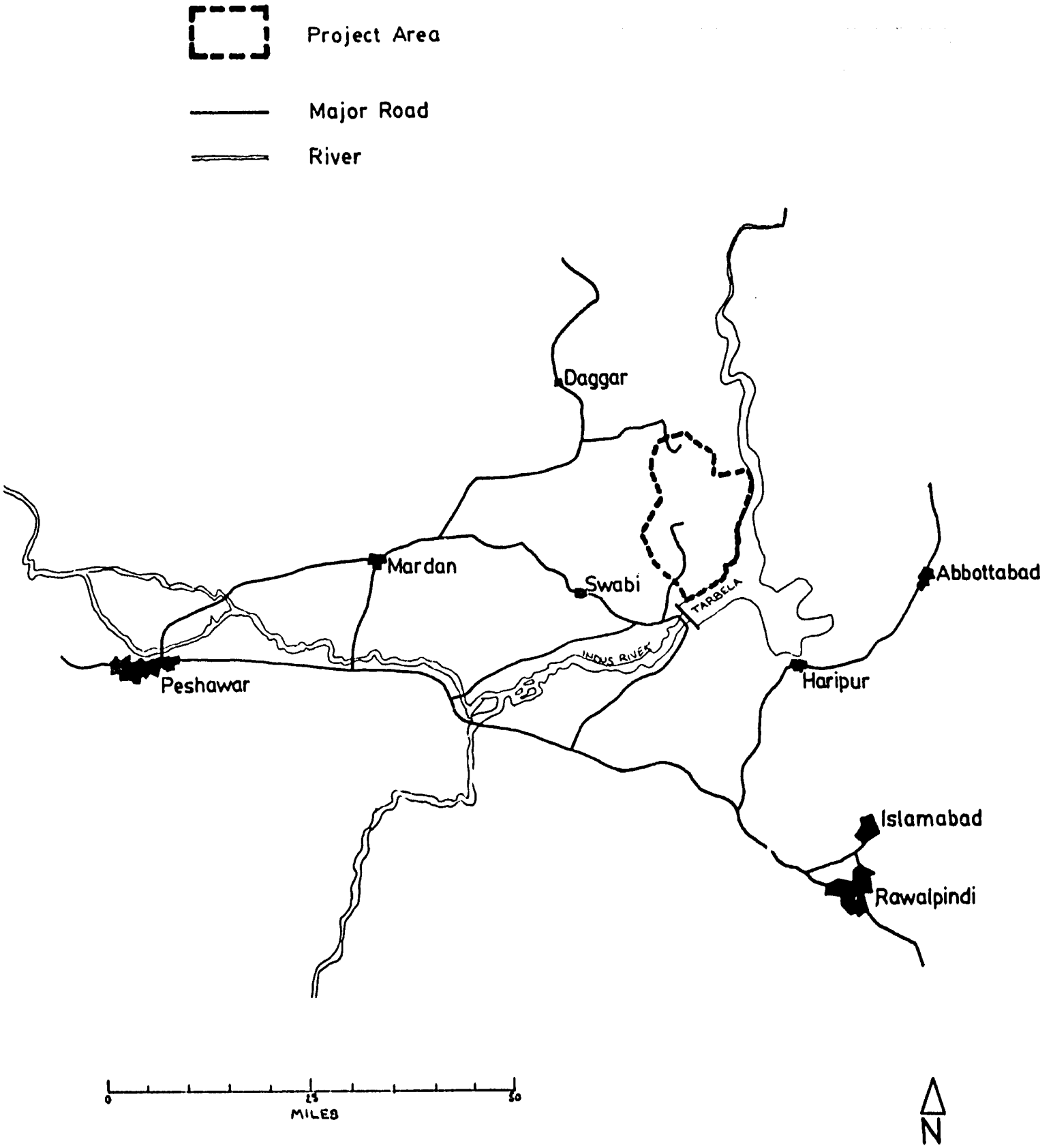
a. The Land Resources

The Gadoon-Amazai area presents a stark picture of steep, barren hillsides, with narrow, rock-walled terraces clinging to the slopes surrounding the scattered mudbrick villages. The immediate impression is of poverty, isolation, and hardship. The overall lack of development potential would make Gadoon-Amazai an unlikely candidate for a rural development program were it not a poppy-growing area.

GADOON AMAZAI AREA DEVELOPMENT PROJECT

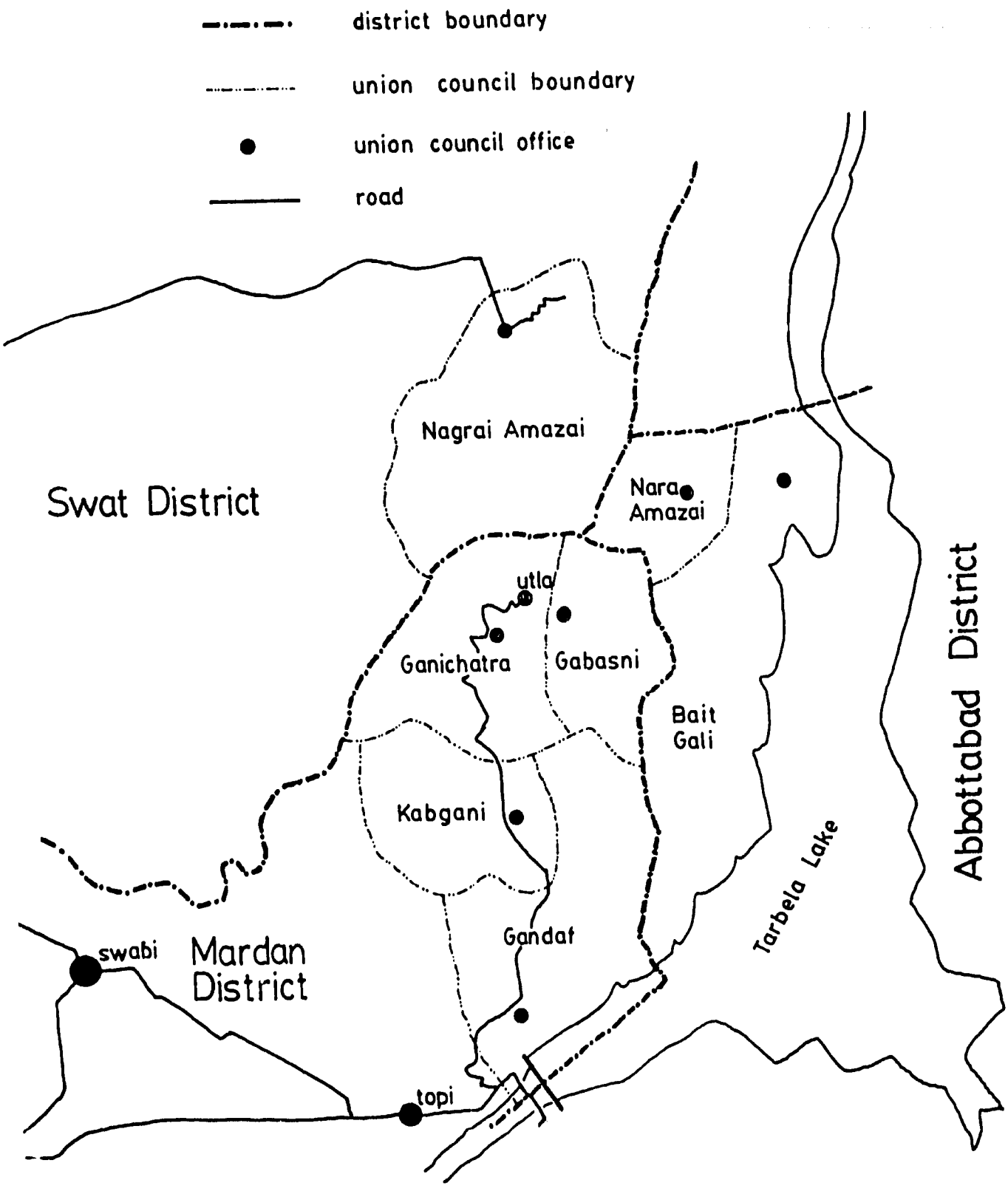
Sub Regional Setting

FIGURE 1



GADOON AMAZAI AREA DEVELOPMENT PROJECT ADMINISTRATION

FIGURE 2



A single mountain ridge--Mahaban--and the adjoining slopes make up the project area, rising abruptly to over 7000 feet at the peak. The area is heavily dissected by many steep sided valleys draining into the Indus and has six main perennial streams. The natural forest cover has been largely destroyed and has been replaced, outside the cultivated areas, by sparse scrub cover. Soils are sandy loams with a high stone content. On the slopes, especially at higher altitudes, exposed rock and boulders predominate. Rainfall is estimated to be about 15 inches on the lower southern slopes, rising to 30 inches at the upper altitudes, with two distinct rainy seasons (mid-winter and mid-summer).

b. Population

The best available estimates indicate a total population in the project area of 116,000, living in 18,900 households, with an average of 6.2 members per household. Only one village is over 5000 in population (Gandaf, on the edge of the region) and there are as many as 200 major and minor villages, as shown in Figure 3. The predominant settlement pattern is one of highly compact, nucleated villages.

c. Land Availability and Utilization

Table 1 indicates the distribution of total land, cultivated land, and population within each of the area's three major subdivisions.

TABLE 1

DISTRIBUTION OF LAND AND POPULATION IN GADOON-AMAZAI

Sub-area	Total Land Acres	Cultivated Land Acres	Population	Cultivated Land per Person Acres
Gadoon	68,000	16,000	65,000	0.25
H. Amazai	44,000	8,000	28,000	0.28
S. Amazai	26,000	6,000	23,000	0.26
TOTAL	138,000	30,000	116,000	0.26

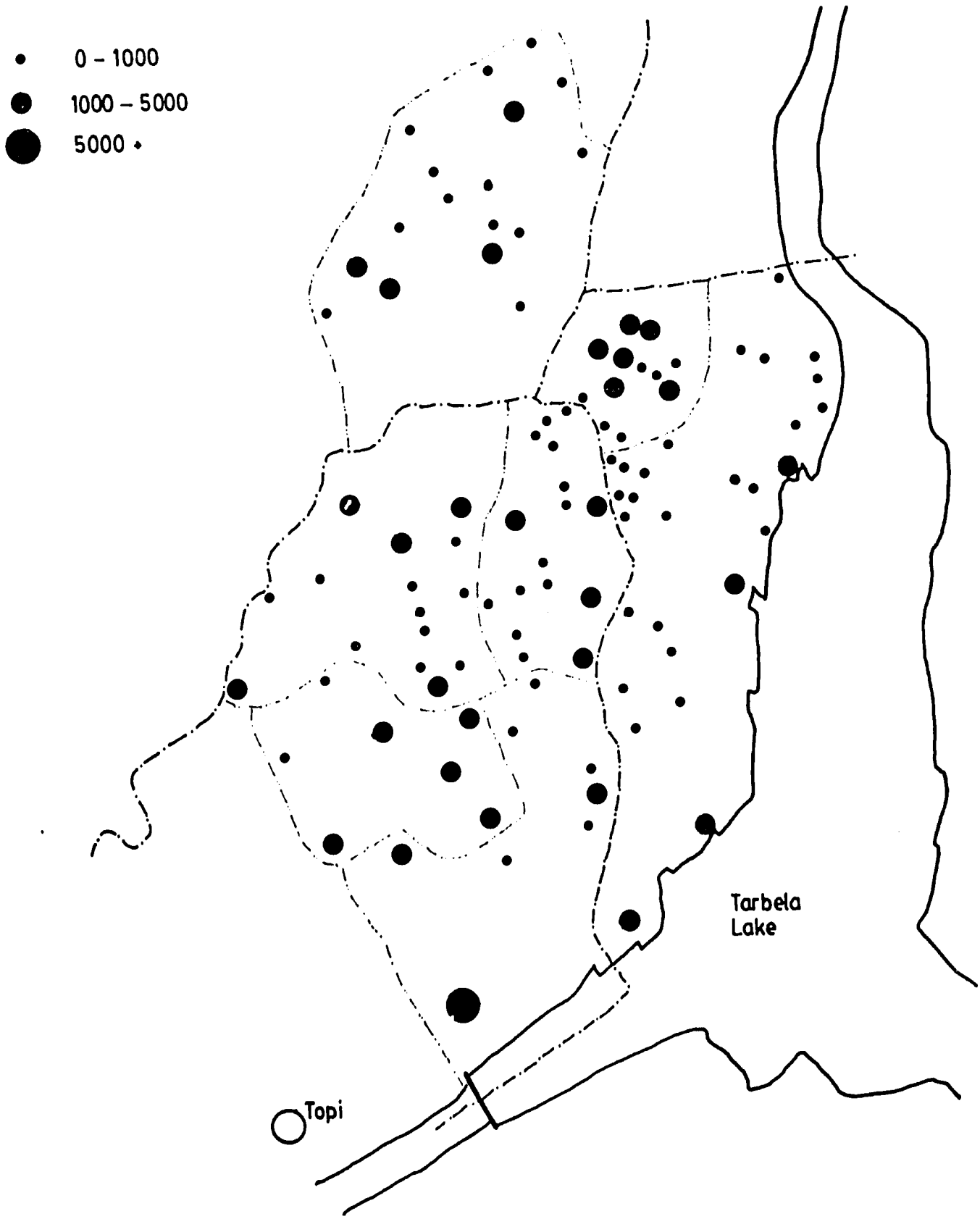
With an average of barely one-quarter acre of cultivated land per person (1.6 acres per household), there is an acute shortage of land in the region. (See Table 2.) Land distribution, moreover, is skewed, with the four percent who own more than 12.5 acres controlling 33 percent of the total land. The vast majority of holdings (nearly 90 percent) are below five

GADOON AMAZAI AREA DEVELOPMENT PROJECT

Settlement Pattern

FIGURE 3

POPULATION BY HADBAST



acres in total, with an average holding of 2.2 acres and an average cultivated area per holding of less than 0.5 acres. While some estimates of landless families range up to 25 percent, more reliable estimates suggest that ten percent of the families have no access to land, with a larger but unknown number holding land only on a sharecropping basis.

TABLE 2

LAND OWNERSHIP PATTERN IN GADOON

Size of Holding (Acres)	Number Owners	Percent Total Owners	Total Land (Acres)	Percent Total Land	Total Culti-vated Land (Acres)	Percent Culti-vated Land	Average Total Land Per Holding (Acres)	Average Culti-vated Land Per Holding (Acres)
0-5	16676	89.6	28365	49.8	8997	56.4	1.70	0.54
5-25	1719	9.2	20241	35.5	5235	32.8	11.78	3.05
25+	205	1.2	8360	14.7	1735	10.8	40.78	8.46
Total 0.86	18600	100	56966*	100	15967	100	3.06	

* Does not include 11,000 acres of land held communally by certain villages.

Source: Land Revenue Records

d. The Economic Setting

Agriculture, including poppy cultivation, remains the economic backbone of the area. There is very little economic activity in the area outside of agriculture. Remittances from relatives and family members working outside the area provide the other major source of income.

i. Agriculture

Gadoon-Amazai's agricultural system is based on dryland cultivation of small hillside terraces, which vary in size from a few hundred square feet to as much as three acres on the lower slopes. The principal rotation is wheat or poppy in the winter (rabi) season followed by maize, if possible, during the summer (kharif) season.

Approximately five percent of the land is irrigated, almost entirely by small, privately-owned gravity systems based on check dams. Most of the irrigated land is concentrated at the top of

the mountain (where cultivation of the most valuable crop--poppy--is also centered).

Most families keep livestock in the form of goats and one or two head of cattle or water buffalo, which range freely on the hillsides around the cultivated land. The only other agricultural activity of significance is the gathering of firewood and occasionally building timber from the hilltops.

Poppy is the sole cash crop and is the predominant crop at the upper elevations (Figure 4 shows the "poppy zone," where opium poppy covers 70-95 percent of the land in winter). Wheat and, to a lesser degree, maize form the staples of the diet. All grain produced is consumed locally, but, even so, the area remains approximately 80 percent deficient in wheat.

Most of the labor used on the farm is provided by the farm family, although use of hired labor from within the village or from nearby villages is common during the poppy harvest. As necessary, the entire family works on the farm, including women and children.

Simple handtools and animal-drawn implements are the only equipment widely used in the area, a result of its poverty and the practical impossibility of using tractors on the tiny, rock-walled terraces. Some wheat is threshed by tractor-driven threshers at the lower elevations near Gandaf, where tractors can be brought along the road.

ii. Other Economic Factors

The principal source of income outside of agriculture is work in Karachi and overseas. It is estimated that at least 10-20 percent of the adult male labor force is engaged in such work, primarily unskilled construction and factory work. The ongoing construction at Tarbela Dam provides a second major source of off-farm employment, but historically most of these jobs have gone to the residents of Gandaf (whose loss of land to the dam is still an active grievance). A third source of income, much less important than the other two, is commerce, transport, and government employment. There is no industrial activity in Gadoon-Amazai, nor, at present, any mineral exploitation of commercial importance.

e. The Socio-Political Setting

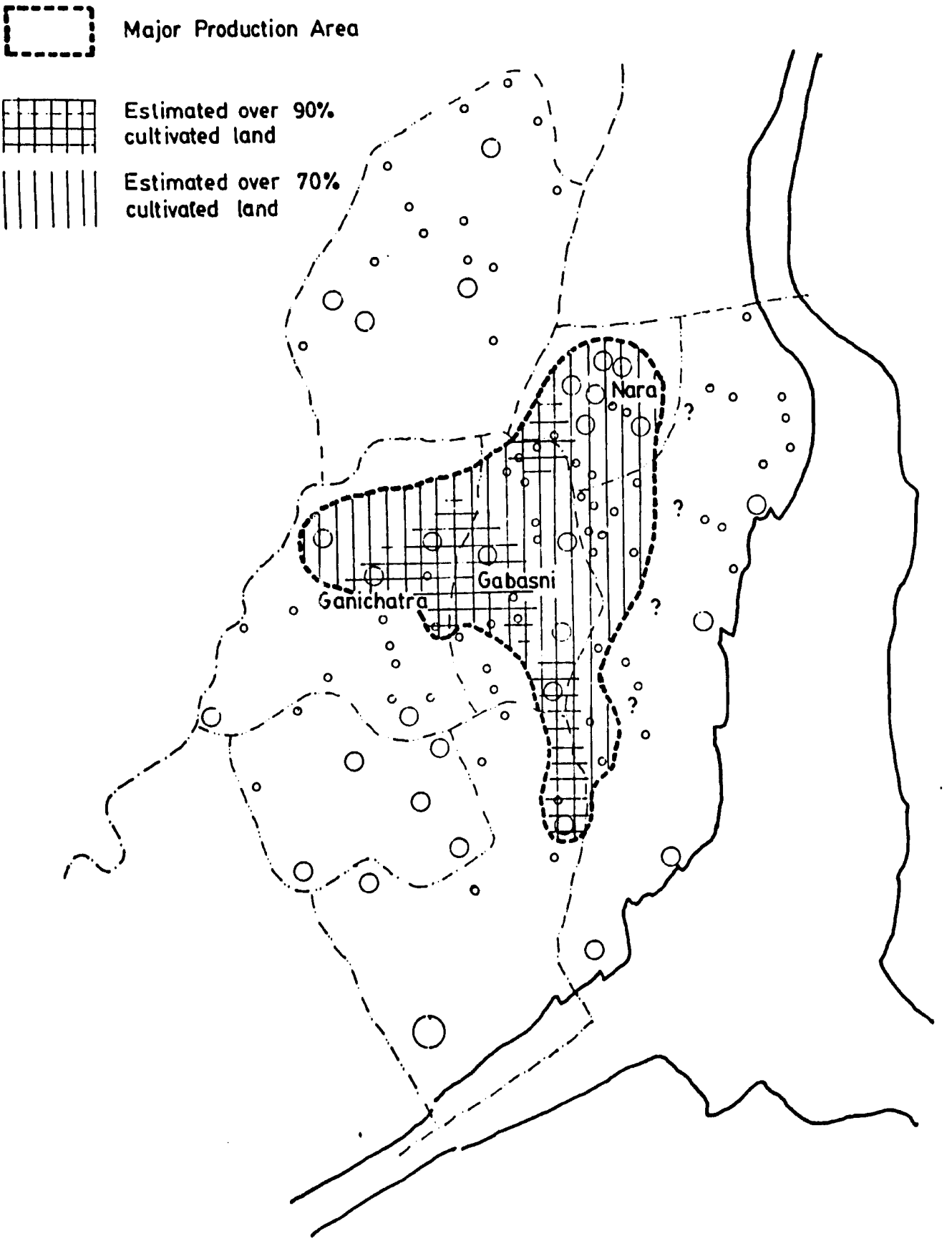
Although most of Gadoon-Amazai was classified as a settled area in 1952, the social system of the region is still predominantly structured on the basis of clans, tribes, and family groups. The majority of the people of the area are Pushtuns.

The political system of the region is formed by the overlay of three separate systems: a traditional system based on the jirga (council of male elders), an administrative system

GADOON AMAZAI AREA DEVELOPMENT PROJECT

Poppy Production

FIGURE 4



surviving from the colonial period based on a hierarchy headed by the Divisional Commissioner, and a relatively new system of elected local councils, made up of the district and union councils. In practice, the principal role of the councils (established in 1979) is to allocate a pool of development funds for small projects identified by the Councillors. More than 180 such projects have been implemented in Gadoon-Amazai since 1979, at a total cost of Rs. 3.1 million. (See Annex 11 for a full discussion of the role and operation of the councils.)

The opium traders who dominate the economy of the area also play a prominent role in its social and political life. They are linked to the residents of the area by strong ties of kinship, social obligation, indebtedness (for both social and agricultural purposes), and landholding (the traders are believed to be major landholders throughout the area).

f. Government Services

Gadoon-Amazai is served by nearly all of the line "nation-building" departments of the NWFP government, but the level of services is generally well below that in the surrounding lowlands. In recent years, the area has been recognized as being "underserved" and particular efforts have been made to provide infrastructure and services.

The following facilities now exist in the project area, although not all of them are fully staffed and operational:

- Education: 98 primary schools, including 21 female schools; 9 middle schools (1 female), and 4 high schools (all male)
- Health: 1 rural health center, 7 basic health units, and 4 dispensaries
- Potable water: 16 villages have government-built systems and 79 have systems built through district or union council funding
- Electricity: 6 villages are linked to power
- Agriculture: 9 extension agents, 2 animal health dispensaries, and 6 forestry workers
- Roads: 26 miles of engineered road and an unmeasured (but much more extensive) network of tracks

D. Proposed GOP Special Development Program for Opium Poppy Growing Areas

USAID/Pakistan has encouraged the GOP to consider the preparation of a special development/enforcement program for opium poppy-growing areas (SDP/OPGA). Such a program would represent an integrated development attack on all poppy growing

areas in Pakistan. Prospective donors would be invited to assist in its preparation, financing, and implementation. Should such a program be undertaken, the proposed project would represent a substantial component and could help to influence its design, scope, and strategy, including the link to enforcement.

The idea of such a program was alluded to by the GOP at the Paris Consortium meeting in April 1983 and was discussed informally by the U.S. delegation with the representatives from the U.K. and the UNDP. Their reactions were positive as have been preliminary indications from GOP officials. It is expected that discussions leading to such a program and preparations to implement it will proceed during implementation of the GAADP.

E. Relevant Experience Gained During Project Design

The remoteness of the project site and the special needs of a project designed to contribute to the goal of poppy eradication create a unique set of circumstances, although the GAADP shares key features with other area development projects focused on "difficult" regions. An understanding of the experience of the project design team is therefore useful as a background to the project itself, since many of the difficulties confronted during design will also be faced during implementation. Two related factors complicating the design of the project are the difficulty of physical access to the area and the ambiguity of local attitudes toward development efforts from outside.

The physical access problem is straightforward: it is simply not possible to reach many parts of the region at present, except by a walk of from two hours to a day or more. This problem will gradually be ameliorated by the project itself, which will establish a basic road network throughout the area. Nonetheless, practical limits on physical access restricted the ability to gather information during design and will dictate, in part, the rate and order of progression for project activities from one area to another within the total region.

The second, attitudinal problem is more complex, both in its origins and in its implications for project design and implementation. The problem is only superficially traceable to atavistic attitudes towards outsiders. Its root lies rather in a well-based local perception that the government is attempting to camouflage a serious threat to the area's economy beneath a sheepskin labelled "development."

This attitude, reflected initially in vocal opposition to the project, implies that the simple provision of resources through existing government channels runs a very real risk of generating a strong backlash. Initial efforts to approach area leaders in a straightforward manner resulted in large public meetings at which opposition to the project (and to the poppy ban) was strongly stated. It rapidly became apparent that the authority of the elected and administratively-appointed leaders

is tenuous and still subject to challenge from within the traditionally factional society.

Only by taking a very different tack of gradual entry into the area, working slowly from one village to another and from one topic to another, was the design team able to overcome the initial polarization of the area sufficiently to initiate discussion of specific projects desired by the villagers. Given this experience, it is likely that access will continue to be an issue throughout project implementation, requiring careful monitoring. It is expected that there will be periods where access poses no problems alternating with periods when expatriates cannot work in some or all of the project area. There is now good reason to believe, however, that a continuation of this carefully phased approach, coupled with rapid delivery of real benefits and continued monitoring of changing viewpoints in the area, will prevent the poppy interests from effectively mobilizing opposition to the project and preventing its implementation. Access will nonetheless remain an issue throughout implementation.

F. Lessons Learned Elsewhere with Application to This Program

1. Interdependence of Enforcement and Development

Previous experience in Pakistan and elsewhere demonstrates the need for both enforcement and developmental assistance to the poppy farmers. Where enforcement has moved much more quickly than development, the effects may be transitory.

The converse proposition--that development efforts will not be sufficient to eradicate the poppy without parallel enforcement--is clearly true, especially in the short run. Experience in Thailand, where multi-year development programs have brought little reduction in acreage, suggests that development alone will never eliminate opium production.

2. Role of Local Governments (Elected Bodies) in Area Development

Experience with area development projects in Egypt (the Development Decentralization and Basic Village Services Projects), Thailand (the Decentralized Development Management Project), and Indonesia (the Provincial Development Project) has demonstrated that local institutions can play a critical role in the success of these projects. Equally important, total reliance on the line agencies to the exclusion of local government bodies can result in serious implementation problems. Even where local government organizations are in an early stage of their development, as they are in the NWFP, they can make an important contribution through their ability to mobilize public support (or, if ignored, public opposition) for project activities.

The experience of the Development Decentralization Program in Egypt, for example, indicates that the local government bodies can select and implement simple infrastructure projects with at least as much success as the provincial and national governments, even where the former are of recent origin. Involvement of the local government also appears to build local commitment to the activities undertaken, and thus greater sustainability after project termination, although this linkage remains to be established definitively.

3. Central Role of Infrastructure Improvement in Area Develoment Programs in Remote Areas

AID's Impact Evaluation series has fully documented the positive effect that improved roads can have in shifting a previously isolated area toward a much more dynamic pace of development. The study of Colombia's "pico y pala" road-building program, for example, demonstrates the role that a better road network played in increasing the external marketing activities of the small farmers.

Experience with delivery of social services to rural areas has also shown that lack of ready access effectively cuts these areas off from the services of qualified professionals. In many cases, such professionals are unwilling to live in isolated villages, but will work in such locations if they are able to commute from a larger town or city.

G. Programmatic Considerations

1. GOP Policy

The project as designed is fully consistent with GOP policies and priorities. It is in line with the GOP's policy to eradicate the opium poppy throughout the country. It also supports the development of a remote area, which has gained a higher priority within the GOP's development plans over recent years, as shown by the Special Development Plan for the the Tribal Areas.

The specific activities to be included in the project fit in well with the development priorities established for the NWFP, which emphasize agricultural diversification and expansion of the infrastructure network. The approach taken for implementation of these activities within the project will make maximum use of existing government agencies and local government structures. It therefore supports the development of the GOP's nation-building agencies and the strenthening of local democratic institutions, both consistent with GOP development plans.

2. Linkage to AID Program

a. Response to Narcotics Control Mandate

The project design is fully in accord with the letter and intent of the Gilman Amendment (Section 126 of the FAA), inasmuch as it constitutes a program to "help reduce illicit narcotics cultivation by stimulating broader development opportunities." In accordance with AID policy as elaborated in PD-1 ("Narcotics"), the project seeks to "affect the climate favorably for extension of government administration and services into an area" through the high-impact activities in Phase I and the longer-term development of infrastructure and other services in Phase II.

The selection of the Gadoon-Amazai area as the location for the project represents an effort to balance the need to reach areas of concentrated opium production with the need to ensure "safe movement of AID personnel," as required in PD-1. While Gadoon-Amazai is the major opium producing region in the NWFP, it is also technically a "settled" area, where the government has much greater presence and legitimacy than it does in most of the Federally Administered Tribal Areas.

b. CDSS

The GAADP is consistent with the Mission's CDSS for Pakistan, which emphasizes programs to improve the well-being of the residents of remote areas, such as the Northwest Frontier Province. The project's emphasis on agricultural development also accords well with the priorities established for AID's program in Pakistan.

Although the rudimentary capacity of the private sector in Gadoon-Amazai makes it difficult to channel a substantial portion of the project's activities through the private sector, the project will nonetheless make maximum use of available private sector facilities. In particular, it will utilize private sector merchants for agricultural marketing, local transport and distribution of project-funded inputs, and, wherever possible, for supply of commodities needed by the project within the project area, such as building tools. This approach has been selected to prevent project activities from having a negative impact on the local private sector by supplanting their services. The private sector will also benefit indirectly from project activities in vocational training and enterprise development.

c. Coordination with Other AID Projects

The implementation of the GAADP will make use of resources provided through several existing and scheduled AID projects to supplement those available under this project. The project will in particular utilize the following two projects to support the activities planned:

- Agricultural Commodities and Equipment
- Development Support Training

GAADP activities will also be coordinated with activities under the following projects, many of which will undertake activities in the project area as part of their regular programs:

- Agricultural Education, Research, and Extension
- Agricultural Production, Distribution, and Storage
- Forestry Planning and Development
- Primary Health Care
- Rural Roads

The planned relationship with the Primary Health Care Project is a good illustration of the way these projects will interrelate. Although no activities in the health sector have been included in the GAADP itself, the AID Project Manager and the project staff will work with the rsonnel of the Primary Health Care Project to extend the Basic Health Services Program to the project area as quickly as possible. Under this program, it is currently planned to expand the network of Basic Health Units in the project area and to substantially increase the number of preventive health cadres trained, particularly women. This program will also establish Village Health Committees, promote preventive health care measures, and implement an Expanded Immunization Program in the project area.

In addition to these projects, the project is indirectly related to two other projects: Tribal Areas Development and Malakand Agency Development (implemented by INM). The three projects share an emphasis on agriculture and basic infrastructure (particularly roads). GAADP differs from the two others in that it is directed at an administratively "settled" area and therefore it is possible to plan and implement a full-scale effort to address the development needs of the area, drawing on the greater capacity of local and provincial government.

3. Other Donor Programs

No other donors are directly involved in the Gadoon-Amazai area at present on a significant scale. The United Nations is implementing a project in the Buner area, which abuts Swat Amazai on its northwest border. Swat Amazai, while nominally a part of the UN project area, has received only minimal assistance to date, although there are plans to relieve this imbalance in the future.

The German GTZ, about to implement a development project in Swabi Tehsil below Gadoon, originally considered Gadoon for inclusion in its project, but withdrew because of unfavorable initial contacts with local leaders, a belief that their limited resources were insufficient to the task of poppy replacement on the mountain, and concern for the security of technical assistance personnel.

H. Project Rationale

1. The Strategy for Eradication

a. Overview

There is no doubt that an active program by the enforcement authorities can greatly reduce poppy acreage in a given area. Enforcement alone, however, is not an adequate strategy for permanent eradication of poppy in the total Gadoon-Amazai area for the following reasons:

- The area is unlike many other areas of the NWFP where enforcement has been successful in the absence of development benefits, areas that have been able to adopt economic alternatives to poppy readily following enforcement activities.

- In the absence of viable economic alternatives, the farmers may well return to poppy cultivation when they perceive that the eradication pressure has eased or that the enforcement program is unlikely to reach their area.

- An increase in enforcement (denying the people a major source of income) without an increase in government services and benefits is perceived by the local residents as unjust. It thus undermines the government's still tenuous authority in the project area, raising the risk of political instability and reducing the willingness of local authorities to continue vigorous enforcement where needed.

At the same time, an attempt to eradicate poppy cultivation based exclusively on development efforts has an insignificant chance of success: poppy is simply much more profitable than any realistic alternative.

A successful eradication program must therefore involve three types of activities: i) enforcement; ii) programs to provide immediate benefits to residents of poppy areas to demonstrate government commitment to the area and to prevent (or at least limit) reductions in their standard of living as a result of poppy eradication, and iii) programs to provide poppy farmers with alternative sources of income that are viable over the long term.

Although there is thus a clear conceptual linkage between development and enforcement, there must be a clear separation of the two in implementation. The farmers must not be encouraged to see their choice as one between poppy cultivation without development benefits, on the one hand, and development benefits without poppy on the other.

Ideally, enforcement and development should proceed in tandem, with enforcement pushing the farmers toward opportunities as these are opened up for them by development. In practice, development does not move fast enough to meet the urgent need for poppy eradication, nor are enforcement and development as smoothly divisible and controllable as the ideal of close coordination implies. Necessary enforcement activities cannot be delayed until development is achieved. The closing of the "poppy option" through enforcement, moreover, may be a necessary motivation towards farmer acceptance of the alternatives offered. The development component of the total eradication program must strike a balance between short-term, high-impact activities to lower the cost of enforcement (for both the farmers and the government) and activities with a longer time horizon but greater potential to establish a viable economic system not based on poppy.

The choice between these two types of activities--short-term impact activities and long-term developmental activities--must respond to the differing circumstances within the Gadoon-Amazai region. At one end of the continuum are the villages high up on the mountain that depend at present very heavily on poppy. These villages have neither the economic potential nor the necessary infrastructure to make rapid development likely. Their remoteness makes effective enforcement extremely difficult as well.

At the other end of the continuum lie the villages near the bottom of the mountain, with better soils, stronger non-poppy linkages to the national economy, and ready accessibility to eradication forces. Unfortunately, the relative economic strength of these villages translates into greater political influence, drawing development benefits to where they are relatively least needed and diverting enforcement from what should be a priority.

Based on these criteria, the Gadoon-Amazai area may be divided into four zones:

- Zone 1: Swat Amazai, where enforcement is already effective as the result of a recent increase in such activity

- Zone 2: Gandaf and Kabgani Union Councils within Gadoon, where poppy accounts for roughly 20-60 percent of the winter crop, roads are relatively well-developed, and economic alternatives currently exist

- Zone 3: Ganichatra and Gabasni Union Councils in Gadoon, where poppy accounts for 70-95 percent of the winter acreage, accessibility is limited, and good alternatives are more difficult to identify

- Zone 4: Nara Amazai and Bait Gali Union Councils in Hazara Amazai, where poppy cultivation is widespread, there is no road access, and, at present, no realistic alternatives to poppy cultivation exist.

The proper balance of development activities for each area requires an understanding of the farmers' decision process on growing poppy. The choice between planting and not planting opium poppy is a straightforward binary decision, but the factors contributing to it--and therefore creating opportunities to alter the farmers' decision--are much more complex.

b. The Calculus of Production: Poppy Eradication from the Farmer's Perspective

For a poppy eradication program to succeed, its impact must extend far beyond the fields actually destroyed and the farmers personally affected to prevent poppy cultivation on fields throughout the area. The impact on the farmers' decision, as well as the direct actions of the police, determine the success of the program. To maximize the impact of the total eradication program, it is therefore useful to analyze how an enforcement effort affects the farmers' calculus of whether or not to grow poppy. This analysis will also help to clarify how development programs affect the same decision.

Several interrelated factors can be identified that, separately and in combination, influence the farmers' decision. Of these, the expectation of enforcement is undoubtedly the most important. The farmers' expectation of enforcement is based on several factors: the level of enforcement activity, the perceived intention of the government to continue or expand such operations in the future, the observation of enforcement and other policy activities in nearby areas, and the prevalence of poppy in a single area (and therefore the probability that an enforcement action will strike his own field rather than his neighbor's). Farmers recognize that opium production cannot continue indefinitely and that the transition will be difficult. To the extent that they believe strict enforcement is coming sooner rather than later, they will be more willing to enter the transition rather than putting it off.

Other factors of importance in determining the farmer's response to demand for opium include the following:

- Profitability of Poppy. The profit derived from poppy production is determined by the costs of production and the revenues from the sale of opium. Although little can be done to reduce the revenues per kilo actually sold, the effective cost per kilo can be raised by enforcement and other actions. (This issue is further discussed in the economic analysis.) There is some evidence, however, that enforcement at the trader level reduces the amount paid to farmers for their crop.

- Security of Poppy Income. Poppy provides a secure source of ready cash income, with an assured market and no storage problem. The farmers rely on this assured income to purchase food for the family, repay debts (often held by the opium traders), and finance other activities. This security can be reduced through enforcement in either the production or the marketing subsystem.

- Profitability of Competing Activities. The closer the income derived from other activities approaches that from poppy, the more likely farmers are to decide that the return from an illegal crop is not worth the extra risk and expense. The profitability of alternatives can be improved by bringing in new technologies and inputs (such as improved seed), lowering marketing costs (by improving transport, for example), and introducing new crops and other profitable activities.

- Availability of Necessary Inputs. Poppy requires a high labor input during the peak harvest period. At present the supply of such labor does not appear to be a limiting factor but the prevalent use of off-farm and extra-village labor for this purpose indicates that there is some potential for affecting the harvest labor supply--or at least its cost--by creating alternative employment opportunities.

- Availability of Basic Food Commodities. Since poppy producing areas are food deficit, the poppy system depends on their being able to obtain wheat and other staples that they might otherwise produce at a reasonable price. In theory, this creates an opportunity to cut off the areas' food supply and force a return to subsistence farming, but this approach has serious theoretical and practical drawbacks. In practice, it calls for a planned program of providing food rations during the transition period, particularly the first year of an effective opium ban.

- Relations with Opium-Trading Interests. The farmer's ability and willingness to stop growing poppy may be affected by his social and economic ties to the traffickers, who may be able to exert strong pressure on him through family or tribal ties, the landlord-tenant relationship, economic dependence (such as informal credit or support in times of shortage), or threat of retaliation. If these ties are important, action against the traders could be doubly effective: directly through its impact on trafficking and indirectly through its impact on the farmers' ability to decide for themselves. (See Social Soundness Analysis, Annex 18.)

- Social Acceptability of Opium Production. Although opium production is forbidden to Muslims, the present social sanctions against it are minimal in the NWFP (where it has formed an accepted element of the agricultural economy for generations). This situation could be changed by bringing pressure through the religious structure, reducing the area in poppy (and therefore the sanction of conformity), creating alternatives through irrigation and support to other economic activities (and therefore reducing the sanction of necessity), and providing government services that are perceived by non-growers to be endangered by continued poppy production and to imply a *quid pro quo* in their acceptance.

These factors cannot be measured quantitatively to predict how many acres of poppy will be eliminated for every acre destroyed by the police, every farmer or trader jailed, or every job created off the farm. Each change places another weight in the balance on the side of not planting poppy. For each farmer, the tipping point where he decides that poppy cultivation is not worth the risk will come at a different place. The farmers' decisions, though not collective, are not independent: the more farmers who decide not to grow poppy, the more difficult it becomes for the remaining farmers to continue to do so. The non-growers will not support the growers when enforcement begins, and may well invoke social sanctions against them if it is perceived that they are causing the village to lose government services. Moreover, many of the factors discussed are interdependent and can be affected by a single intervention (such as a road).

2. The Strategy for Development: Sectoral Focus

The proposed strategy for a development project in support of the eradication of the opium poppy has been chosen to maximize the project's impact on the factors identified above. The principal assumption underlying the strategy is that, since opium is a major source of income for the Gadoon-Amazai residents at present, a successful approach to eradicating it permanently must minimize the income lost. This does not imply, however, that opium must be replaced by a single crop (or mix of crops) that is equally profitable. Scenarios that envision the 6000 acres now in opium being planted to saffron or pistachio are simply not realistic.

The strategy instead proposes to replace the income from opium with income from three sources, all of which are based on an expansion of existing activities.

- Agriculture. Project activities will focus initially on increasing the net income from traditional crops (wheat, maize, and vegetables) and will progress toward introduction of new sources of income from new crops, livestock, and tree products.

- Off-farm employment. Employment opportunities off-farm range from work in or near the village (e.g., road construction, agricultural processing), to work in nearby towns (e.g., local workshops and government) and, ultimately, migration to the larger cities and work overseas. Skills that permit the villagers to capture the relatively high-paying jobs outside of the area are strongly desired by area residents, who correctly perceive that Gadoon has limited potential for rapid economic growth outside of agriculture.

- Public Services. Although not traditionally considered a source of family income, government services in fact are highly desired "consumer services." Such services as roads, schools, health facilities, water, and electricity are valued by the people for their direct benefits and also for their complementarity with other consumption goods and production activities.

A fourth potential source of substitute income is direct transfer of government monies, either in the form of cash payments to the growers or through purchase of the unlanced opium. This approach has been used in other opium-suppression projects, (in Turkey, for example) and has been suggested by the Gadoon-Amazai residents themselves. Both USAID and the GOP have rejected this option, however, believing that it has extremely undesirable long-term implications for the future development of the area and for the sustainability of poppy eradication.

3. The Strategy for Development: Application of an Area Development Approach

The development theory underlying this project has been distilled from lessons of projects initiated in the early years of the "new directions" mandate. It includes the concepts of a coordinated or integrated attack on constraints to development, building the capacity of both line agencies and local institutions, defining a project organizational structure that encourages decentralized responsibilities, and employing a process approach, that is, a rolling design approach to the phasing of project activities. While experience has tempered the early enthusiasm for multi-sectoral area projects, and shown them to be demanding of both flexibility and high-level implementation capacity, it is the appropriate strategy for bringing rapid development benefits to a limited, contiguous geographic area, such as Gadoon-Amazai. Previous reviews of area development projects have suggested the following problems:

- The project is often placed within an organization that cannot insure coordination or assign activities to line agencies over which it has no control. The Planning and Development Department of NWFP is the appropriate coordination agency, performing this function for all development activities within the province. The

Project Coordinator working within P and D will have the full sanction of the regular budgetary review to influence overall line agency policy, and specific responsibility to review and change project budgets directed to line departments on a quarterly basis. This review and budgetary control authority will help insure that necessary coordination does take place. Line agencies will be working within their own programs and policies, with staff review and approval taking place in their home institutions.

- Integrated approaches require timing and execution beyond the capacity of the implementing authorities. Each activity proposed for GAADP will contribute to the overall set of objectives stated. When coordinated activites are possible, the impact may be greater, but the interdependence of project components has been minimized so that delays or changes in procedures in one component will not stop forward progress overall or hold up other components of the project.

- Participation or local involvement in the development process commits the project to slow and hesitant implementation. There needs to be a balance between line agency programs for development, and those proposed and desired by the local population. Moreover, in the case of Gadoon, the population is not well-unified internally. A strategy has been devised to capitalize on existing cooperation and induce greater cohesion within the framework of provision of development benefits.

- Flexibility and process can replace rigid targets as objectives for project implementation. In GAADP, technology must be tested, and behavior must be changed. Neither can be specified with certainty at this time in view of the unusual circumstances of the project and the area. The project must have the flexibility to try various alternatives for income substitution and methods of working with communities and groups to produce a society not dependent upon opium poppy cultivation and sale. This flexibility must be supported by deliberate and systematic learning about the project area, alternatives, and levers for attitude and behavior change. The project purpose is clearly stated and must be achieved. The organizational structure, the strategy, and the project rationale are set. It is the method of introducing change into the local society which must be tried, tested and improved as the project moves ahead. For this reason a phased approach will be used, to learn, while the program is small, lessons to be used in fully defining interventions, methods and techniques to be used in Phase II.

- Integrated area development projects are often unimplementable as too many activities are started at once or in sequence, in too many places. GAADP has three distinct areas, one (Swat Amazai) calling for minimal involvement other than funding support. The second (Hazara Amazai) is not currently accessible by road, where projects other than simple disbursement for union council projects (small infrastructure schemes) must wait at least two years. In the third--Gadoon, the project will begin with two technical assistance personnel, working exclusively through two line agencies, the Local Government and Rural Development Department and the Agriculture Department. Thus, through the activities to be undertaken, the areas of project concentration, and the individuals involved in the early stages, the project has been designed to move with organized and deliberate speed in the highly circumscribed first phase, to allow a controlled expansion into planned, targeted multi-sector activities in the second phase.

- Integrated area development projects require complex implementation procedures that can only be undertaken by large teams of expatriates. Field activities will be undertaken by direct employees or contract employees of line departments operating under their normal chain of authority and responsibility. Funding will be provided directly to the operating heads of line departments, such as the Assistant Director for Local Government in Mardan and the Assistant Director for Agricultural Extension. The Project will assist with the definition of the work plan, provide training, technical inputs, and funding, and coordinate activities among the line departments. The routine supervision of those activities taking place on the mountain will remain within established systems of the GOP. The technical assistance team is small compared to similar projects, particularly those calling for immediate action, with three expatriates and four Pakistani professionals provided in Phase II.

III. DETAILED PROJECT DESCRIPTION

A. Project Goal

The goal to which the project contributes is the eradication of opium poppy production within a process of rapid socio-economic development in the remote areas of Pakistan. This formulation of the project goal recognizes the interrelationship between permanent eradication of opium poppy cultivation and integration of the remote, poppy-producing areas into the national economy and the mainstream of development in Pakistan. Achievement of the project goal is also clearly related to the more rapid development of the area's economy, improvements in the standard of living of the people, more complete integration into the political system of the country, and stronger ties with the national economy.

B. Project Purpose and Outputs

1. Purpose Statement

The purpose of the GAADP is to change the Gadoon-Amazai area economy from one based primarily on poppy cultivation to a diversified agricultural and non-agricultural system with strong ties to the national economy, which will facilitate and complement the GOP's enforcement effort with respect to poppy cultivation and narcotics production.

2. End-of-Project Status

At the end of the project poppy production in the area will have been eliminated and an area economy will have been established that provides area residents a standard of living at least comparable to present levels.

3. Project Outputs

To achieve the project purpose, the GAADP will produce the following four major outputs:

a. Provision of a Core Infrastructure System

The project will upgrade the core infrastructure system of the Gadoon-Amazai area in three critical areas: i) roads; ii) power, and iii) water. By the end of the project, a basic infrastructural network will be in place in each of these areas, providing the necessary precondition for the more rapid development of the area's economy and an increased level of government services.

b. Impetus to More Rapid Diversification of the Area's Agro-Economy

Activities will be undertaken to promote the diversification of the Gadoon-Amazai economy away from poppy cultivation by providing assistance to farmers in increasing the production and income from other agricultural activities. This program will build on the existing base of non-poppy agricultural activity and will strengthen it by expanding production in areas that are not now given much emphasis (including horticulture, tree production, and livestock).

c. More Productive Manpower Base

The project will finance training and other programs to increase the productivity of the Gadoon-Amazai labor force. Assistance will be focused on recent labor force entrants (men in the 15-35 age group who have dropped out of school or completed the education available to them in their area) to raise their skills in fields that will permit them to find jobs outside of agriculture. Many of these work force entrants now leave Gadoon for the job market in the Gulf States or Pakistan's urban centers, but they are only qualified for unskilled positions. By increasing their skills, the project will raise their ability to find jobs outside of Gadoon-Amazai. A related component will strengthen the economic capacity of the area by improving the facilities for basic education for both sexes.

d. Strengthened Planning and Management Capacity in NWFP Government

As a result of the project, the Government of the NWFP will have increased capacity to design, implement, and evaluate broad-based development and enforcement programs to eliminate poppy production. The improvements put in place by the project will be concentrated at two levels. At the provincial level, the Planning and Development Department will be strengthened in the planning and implementation of area development projects. This increased capability may strengthen the basis for developing and implementing a province-wide program for opium poppy growing areas.

At the local level, the district and union councils in the project area will have an upgraded capacity to select and implement small-scale development projects. The Local Government and Rural Development Department will have a greatly strengthened capability to support the programs of local councils in the project's three districts. In addition, the Department of Agriculture and other line agencies will have an enhanced ability to support area development programs.

The four outputs identified above can be measured by the following indicators of the project's direct accomplishments:

- 10,000 farmers assisted to increase agricultural production on their land (including crops, livestock, and tree products)
- 5500 residents trained in skills marketable both outside and within the area
- 33 miles of engineered roads built
- 150 miles of paths and feeder roads built
- 375 acres irrigated
- 30 villages reached by power lines with the potential to serve 48,000 people
- 27 new potable water systems established and 28 existing systems repaired
- 30 new schools built and 35 schools repaired
- capability in place within the area's seven union councils to develop and support three times as many small schemes as at present with a total budget seven times the current level
- staff capability and program content improved in major line agencies (e.g., agriculture, education, local government) such that the level and quality of service in Gadoon-Amazai equals that now provided in the lowlands (as measured by the services provided elsewhere in Swabi Tehsil)

C. Project Components

The project will be implemented in two phases. Phase I, which will cover approximately the first year of project implementation, will be focused on activities with a strong potential for generating immediate and highly visible benefits, as well as on activities to pave the way for more lasting interventions later in the project. Phase II, which will extend from the project's second year to the end of the project in year five, will be directed toward implementation of programs in three areas that together have the capacity to replace poppy as a mainstay of the Gadoon-Amazai economy: agricultural development, infrastructure, and promotion of off-farm employment.

1. Phase I

Phase I activities will concentrate on providing immediate benefits to the local population, particularly through increased availability and extension of improved varieties of wheat and immediate short-run employment creation through construction projects.

The Phase I program will include activities in three areas:

- Construction of local council schemes, together with construction of one major road.

- Agriculture, where work will focus on increasing the return to wheat, the only winter crop now produced to any significant degree in poppy producing areas and the crop that has replaced poppy elsewhere in the region, making it the obvious candidate for a short-term program. If necessary, seed and fertilizer may be supplied to farmers free of charge during the first year of enforcement in those areas where the income of small farmers is most affected.

- Start-up activities for all three programs to be implemented on a larger scale in Phase II, including off-farm employment in addition to agriculture and infrastructure construction.

In order to maximize the visibility of project activities in the Gadoon-Amazai area, an attempt will be made to work with the line agencies to identify other activities in the Phase II program or in their own plans for which imlementation can begin in Phase I.

a. Local Council Activities and Other Infrastructure Construction

During the first year of the project, the allocation of funds for locally-identified projects will be increased by Rs. 5.2 million (US$ 404,000), in effect raising the level of activity to nearly seven times the average level over the past four years. The additional funding will permit the seven union councils and three district councils in Gadoon-Amazai to undertake larger and a greater number of schemes than now funded. The types of project, however, will be the same as now funded: improved paths and feeder roads, small potable water systems, and school repair and construction. The projected rate of activity will require each union council member to supervise one to two projects during the year, rather than the one project now so managed, and will raise the average annual expenditure per union council to the equivalent of US$ 68,500 as compared to the present US$ 10,800.

Although the initial selection of projects will be largely up to the councils (with review for technical feasibility and equity by local government cadres and final approval by the Project Coordinating Committee), it is expected that the following will be funded during Phase I:

Union Councils

- Construction of 50 miles of improved trails (donkey paths)

- Construction of two new potable water schemes
- Repair of two existing potable water schemes
- Repair of four existing school buildings

District Councils

- Construction of three miles of feeder road
- Construction of a bridge at Nagrai in Swat
- Construction of one new potable water scheme

In addition, two major activities will be funded within the line agencies. First, WAPDA will be allocated funds for the connection of five villages located within a mile of the existing high-tension Bada-Ganichatra line, but not yet connected due to lack of funds.

Second, the project will fund the more rapid construction of the Utla-Amazai road by the Department of Communications and Works. The contract for construction of this road, on which contractor work has already begun, will be amended to permit execution under an MFAR arrangement with AID.

b. Agricultural Field Activities

The principal agricultural field activities in Phase I are likely to include:

- Field trials and demonstrations. Sixteen farmers will be selected as the initial group of cooperators and will receive inputs and technical assistance to grow wheat using the best available technology (Pak 81 or Lyallpur 73 plus fertilizer and improved management practices). The small amounts of seed and fertilizer needed for this activity do not pose a problem with respect to availability or logistics. Yields two to three times those now achieved are expected on these demonstration plots. The trials will be supervised by a special group of five extension agents funded under the project. During the summer (kharif) season, these same farmers will be called upon to help demonstrate improved cultivation practices for maize and conduct trials of alternative dryland crops (millet and soybean). These crops will be evaluated for acceptability and economic return (as well as technical suitability) in Phase II, based in part on the returns obtained in these field trials.

- Seed multiplication. The Department of Agriculture will contract with area farmers to multiply improved wheat seed for use in Phase II, supplying them with seed, inputs, and technical assistance.

- Seed and fertilizer distribution. Farmers in areas affected directly by the enforcement program will receive a package of improved wheat seed and fertilizer, pre-packed in the area under Department of Agriculture contracts with local merchants into quantities suited to the area's small plots.

c. Start-Up Activities

Activity will be needed in several areas to make rapid and effective implementation possible in Phase II. In some cases, the activity will be limited to procurement and contracting that will not be visible to area residents, but in other cases the preparations needed will themselves demonstrate that development assistance is indeed on the way.

The following preparatory activities will be carried out during Phase I:

- Field trials will be implemented on farmers' fields by the Departments of Agriculture, Forestry, and Animal Husbandry to provide the site-specific information necessary to complete formulation of the agricultural programs. In contrast to the demonstration and distribution of improved wheat technology described above this activity is designed to provide information to project managers, rather than simply to promote and demonstrate a known technology. These trials will extend the information base on wheat and other rabi and kharif crops under both barani (rainfed) and irrigated conditions and begin limited testing of program elements in forestry, range management, and animal husbandry.

- In-service training in planning and project management will be provided to raise the capability of the NWFP Planning and Development Department to manage and coordinate the overall project, as well as formal short-term training for specialized personnel in line departments who will implement Phase II activities.

- Special resource surveys, including groundwater hydrology and mineral resources, will be conducted by the GOP agency responsible for such surveys and funded by the project.

- Final engineering designs will be completed for roads, dams, and other major infrastructure to be constructed under Modified Fixed Amount Reimbursement arrangements during Phase II. The necessary surveys and design work will be funded by the GOP line agencies responsible for Phase II implementation.

2. Phase II Overview

Project components in all sectors will be implemented in a phased manner to respond to the unique characteristics of Gadoon-Amazai's four sub-regions:

- The Gabasni/Ganichatra subregion of Gadoon, as the major poppy region and the most accessible of the three, will receive the greatest attention during the early years of Phase II.

- The Gandaf/Kabgani subregion of Gadoon will also benefit significantly from early Phase II activities, although it will be involved to a lesser extent than the upper parts of Gadoon, in keeping with its relatively stronger economic position, lower dependence on poppy cultivation, and better ability to change without outside assistance.

- Activities in Hazara Amazai will be stepped up gradually beginning in the third year of the project, as the road linking Hazara to Utla is completed and activities in Gadoon become established.

- Support to Swat Amazai will be provided primarily through financial support to the ongoing line agency programs, which, for a variety of reasons, are much stronger than those in Gadoon and Hazara Amazai and do not require technical assistance to sustain a higher level of services than currently provided.

Under Phase II, activities will be carried out in the same areas as Phase I, but both the level of activity and its capacity for long-term impact on the development of the region will be increased. There will be three components, corresponding to the sectors identified in the project strategy section:

- infrastructure development
- agriculture, watershed management, and irrigation
- promotion of off-farm employment and basic education

The Phase II program will continue to use the two implementation channels utilized in Phase I: the majority of the activities will be implemented by the line agencies, while the local councils will play a major role in small-scale schemes, the division of responsibility prevailing in the NWFP. The majority of the program will be carried out through the line agencies of the NWFP, such as the Departments of Agriculture, Education, Communications and Works, and Public Health Engineering. This channel will be used for two types of activities: a) large-scale engineering projects, such as construction of all-weather roads, and b) programs that are normally the responsibility of the central government, such as agricultural extension, reforestation, and basic education.

The second channel will provide funds for small projects identified and managed by the local councils at the district and union council levels. As in the existing governmental system, this channel will be used for activities that meet three criteria: a) they are highly desired by the local residents (who are therefore willing to supervise their implementation); b) they are technically simple and require skills that are readily available at the local level; and c) local participation in design and implementation is required to ensure that the project is carried out quickly and that the final product meets local needs (as, for example, in the siting of irrigation works, where farmer cooperation is indispensable).

These two channels will be used in each of the three components, although the relative importance of each will vary with the types of activities to be funded. The local councils will be particularly important in construction of improved tracks and feeder roads, potable water schemes, school repair and construction, and irrigation. In the following discussion, the activities to be carried out by the union and district councils are included in each of the sectoral components, in order to clarify the relative importance and the interrelationship of line agency and council programs. It must be emphasized, however, that the union councils will themselves select the specific schemes to be implemented. The mix of activities funded through this channel is therefore likely to vary from that described in this section. (See Implementation Plan for a discussion of the selection and implementation of council-managed activities.)

3. Physical Infrastructure

The physical infrastucture corponent will expand the core network of basic facilities in the following areas:

- roads and paths
- potable water
- electricity

In each area, the major engineered facilities will be the responsibility of the line agencies, while the smaller, simpler facilities will be constructed by the local bodies.

a. Engineered Infrastructure

The construction of major infrastructure under the project will be carried out by the line agencies responsible for each type of construction: Communications and Works will be responsible for road construction, Public Health Engineering will manage the larger potable water schemes, and WAPDA will extend the electricity network. In all cases, the agencies will follow their existing technical and managerial practices, with minimum modifications to meet AID requirements.

i. Roads

The major construction activity in the project will be the strengthening and expansion of the road network in the area, which currently consists of an all-weather road from Topi to Utla, paved only as far as Kabgani, and a second unpaved road coming into Nagrai in Swat Amazai in the north of the project area. The total vehicular road network serving the highly dispersed population of 116,000 is thus only 26 miles. Many villages are reachable only by a walk of several hours along unimproved paths, which are so narrow that even a loaded donkey cannot traverse them safely. The region bordering Tarbela Lake, Hazara Amazai, is completely unreachable by road and can be reached by boat across the lake only nine months of the year. At other times, when the water is too low, travellers must hike from Utla, a journey of a day or more. (See map in Annex 12.)

The project will finance the following roads:

- Utla-Nara. Completion of the 11-mile extension of the Topi-Utla road, providing the first road into Hazara Amazai.

- Bada-Mangalchai-Gabai. Construction of a 22-mile road providing a second route within the Gadoon area and access to the southern part of Hazara Amazai (Bait Gali).

- Kabgani-Utla. Blacktopping of the existing engineered road for the remaining unpaved length of nine miles.

The following considerations were used to select the roads to be built and the type of construction to be funded:

- Feasibility. The construction methods used as the basis for costing and overall design are those now in use in the area and are therefore within the capacity of local contractors (such as those now working on the paving of the Kabgani-Ganichatra road and the new Utla-Amazai road). An additional margin has been included to permit a wider "cut" into the mountain, reducing the necessity for retaining walls and, in consequence, the long-term maintenance requirement.

- Economy. The roads to be built are the minimum absolutely necessary to provide access into the area. In general, the local demand for motorable roads exceeds both the capacity of the local construction industry and the economic return anticipated from road improvement. Many villages will remain unreachable by road for the foreseeable future. The technologies to be used are the simplest available that will serve the basic purpose of access. Thus, with the exception of

the major Topi-Utla road (already in existence), all roads will be twenty-foot roads with a shingled surface.

- Labor intensity. While a primary goal of the road-building program is the creation of short-term employment, the need for rapid road construction rules out the use of the most labor-intensive techniques on the major roads (nor, in view of the deep cuts required in many places, is it feasible to construct the roads without equipment). The techniques chosen therefore represent a balance between labor use, quality, and speed, with the engineered roads relatively capital-intensive and the council roads very heavily weighted toward labor-intensive techniques. Given the high level of activity, even the engineered roads will create a substantial demand for both semi-skilled and unskilled labor from the area.

Selection of the specific roads to be built or upgraded was based on three related criteria: a) the economic importance of the road, based on a rough assessment of the level of traffic and the importance for agricultural marketing; b) the potential number of beneficiaries, based on the number of major villages that the road will serve and the population served per mile, and c) the importance of the road in facilitating project activities and enforcement of the poppy ban.

ii. Electrical Service

WAPDA service will be provided to an additional 30 villages by: a) extending the existing 11-kilovolt line a total of 31 miles beyond its current terminus at Ganichatra, with approximately 25 miles of low-tension lines to villages along the route, and b) extending an eleven-mile high-tension line along the newly-built Bada-Mangal Chai-Gabai road, with four miles of low-tension line serving the villages along the road. The program will follow the existing WAPDA policy, which includes provision of link lines into villages and 50 free connections for each village. The latter generally covers all public buildings (guest house, school, mosque, etc.), as well as a portion of the private houses. As a result of the project, electricity will be made available to 48,000 area residents, including the 4000 beneficiaries in Phase I. In addition to raising the basic quality of life in the villages, electricity will support improvements in the level of public services provided (making it possible to store vaccine, for example) and open up additional economic possibilities.

iii. Potable Water

The Public Health Engineering Department, which has the responsibility for major potable water systems, will receive project funds to undertake the following activities:

- Repair of the two major existing systems in the area: the Utla-Sandhwa line and the Trait-Mangal Chai line.

- Construction of two new systems serving large villages now totally dependent on water carried by village residents. These systems will bring water from existing wells into storage reservoirs and public standpipes in the villages. One system will be constructed in Kabgani, the largest village in Gadoon without water, and the other will be in a village selected on the basis of population, distance that water must be carried, and availability of a suitable source.

b. District and Union Council Infrastructure

Infrastructure schemes constructed through the local bodies will include feeder roads, paths, and potable water projects. These projects will be selected by the councils and approved by the Local Government and Rural Development Department, following the existing practice (see Annexes 11 and 13). As at present, they will then be implemented by project sub-committees, each chaired by the councillor from the relevant area and including local traditional leaders. The council secretary and local government engineering staff will provide technical and managerial guidance.

i. Roads and Paths

An expanded program of road and path construction by the local bodies will be funded to strengthen the secondary network of non-vehicular roads. Under this program, the district councils will construct or upgrade relatively large roads and, where necessary, bridges, while the union councils will construct and upgrade smaller roads and donkey paths. The councils themselves will select the specific paths to be built in order to assure responsiveness to local priorities. Total construction, based on council requests presented during project design, is expected to be approximately as follows:

- District Councils. Completion of 16 miles of feeder roads linking villages to the main road, including the one-mile link to Gabasni.

- Union Councils. Completion of 100 miles of donkey trails, of which 30 miles will be "rough-engineered" to allow motorcycle use.

An important benefit of this road-building program will be the creation of additional employment for small farmers and laborers in the project area. An estimated 275,000 man-days of unskilled labor will be used in the program over the life of the project (including both engineered and local council schemes in Phases I and II). Union and district council construction will use hand labor almost exclusively, in line with the practices currently used.

ii. Potable Water

Small potable water schemes have been among the most important activities of the union and district councils and are therefore expected to receive a significant proportion of the funding available under the project for activities to be implemented by the local councils. For planning purposes, it has been assumed that the following activities will be undertaken:

- District Councils will construct nine new schemes serving relatively large villages and will rehabilitate six existing schemes.

- Union Councils will construct thirteen new schemes serving relatively smaller villages and will rehabilitate 15 existing schemes.

Typically, these schemes include a small holding facility at the source of water (a well, stream, or spring), a reservoir with a tap in the village itself, and a pipe linking the two. The systems operate by gravity flow and do not include house connections.

4. Agricultural Development

The strategy for agricultural development in Phase II will focus on raising the total productivity of the land base using four distinct approaches:

- Dryland agriculture. First, and most important in the short run, will be a program to increase the income from barani (rainfed) crops other than poppy. Rainfed agriculture is currently the backbone of the agricultural system and is likely to remain so, even in the absence of the present main crop. As a result of this program, the income per rainfed acre will be substantially increased over the return now obtained from unimproved wheat and maize, but the return will still be significantly below that provided by poppy.

- Watershed management. The project will increase the productivity of the non-cultivable range and forest lands, which constitute over 80 percent of the agricultural lands in the project area. Now covered by scrub and a few tenacious pine, the hillsides provide

only limited firewood and fodder for goats and cattle. Their potential will become much more important as poppy eradication reduces the productivity of dryland agriculture.

- Irrigation check dams and channeling. The project will assist area farmers to construct small check dams and to build additional channeling. Irrigation is the most promising vehicle for increasing non-poppy production to levels that approximate current returns from poppy and provides the only means of raising the production of high-value fruit and vegetable crops in the area.

- Agricultural Marketing. The project will support farmers' adoption of new crops and the rapid development of private sector marketing channels within the area, including both the markets for products not now produced in marketable quantities (such as oilseeds) and markets for agricultural inputs.

The agricultural development component will be implemented almost entirely through the line agency channel, although the union councils will be used as a means of contacting local farmers and gaining community sanction for the programs implemented. The sole agricultural activity in which the councils will be directly involved as an implementing agency will be irrigation, with the union councils taking responsibility for construction of the channels linking the check dams to individual farmer's fields.

a. Line Agency Programs

i. Rainfed Agriculture

The Phase II rainfed agriculture program to be implemented by the Department of Agriculture will build on the activities undertaken in Phase I. Work with the cooperating farmers will continue with a program of expanded trials on their land and the establishment of additional trial, demonstration, and contract-production plots totalling 2300 acres throughout the area. This program will provide inputs free of charge to farmers who agree to the use of their land for demonstration of proven technologies and testing of new practices and crops (including annual crops under rainfed and irrigated conditions, as well as fruit trees). The program will be supervised by the corps of five extension agents established in Phase I, in cooperation with the existing staff of five field assistants.

The trials will focus initially on wheat and maize but will expand in the second year to other dryland crops, particularly grain, oilseeds and fodder legumes resistant to drought (millet, barley, vetch, or sunflower). Although limited trials of higher-value crops such as vegetables will be made, these crops are expected to be too risky for dryland farming under Gadoon's low

rainfall regime and light soils. (See Annex 14 for a discussion of alternative crop possibilities.)

In addition, agricultural inputs will be provided on a one-time basis to current poppy farmers who agree to try the improved wheat package on their land in place of poppy. The Phase I program of emergency wheat seed and fertilizer distribution to farmers severely affected by enforcement will also be continued.

The second activity in this component will be a program of five field stations, one in each of five union councils. These stations, each with approximately two acres of cultivated land, will be rented from area farmers for the project period. They will be used to conduct adaptive trials that, by their nature, are not suited to farmer management, due to their complexity, potential risk, or the long time frame required.

Roughly one-quarter of the acreage (divided between irrigated and rainfed portions) will be planted in fruit trees, while the remainder will be used for testing annual crops and production of seed crops. The stations will be used to evaluate alternative rotations for their technical feasibility and suitability for area conditions. Crops to be tested will include high-value crops that can be grown under irrigated and non-irrigated conditions, including saffron and mulberry for sericulture (silk cocoon production). The stations will be operated by hired labor from the area, under the supervision of a second team of five extension agents supported by the project. As the program progresses, the stations will be used for demonstrations and distribution of material to area farmers.

ii. Watershed Management

As the value of dryland production declines with the end of poppy cultivation, it will become critically important for farmers to raise the productivity of lands that are now left essentially unimproved. These lands--steep, rocky slopes with very shallow soils--are not suited for annual cropping of any kind and will sustain fruit trees only in isolated locations along streambeds. At present, the poor quality grasses, shrubs, and small trees that grow there naturally are heavily exploited for firewood and animal feed. The practice of unrestrained grazing and firewood cutting has led to the gradual disappearance of adult tree species on all but the highest slopes. Formal efforts at reforestation have had only a limited effect and have not, in any case, reached most parts of the area. The situation is further complicated by the existence of forest lands along the mountain crest controlled by the government but communally owned by four villages in the area.

The poor cover on the upper slopes has a devastating effect on the cultivated areas immediately below. It is estimated that erosion now reduces the cultivable area by one to two percent annually, effectively cancelling out the impact of the farmers' extremely costly efforts to expand their available land through

additional terracing. The more rapid runoff and reduced water retention also exacerbate the shortage of soil moisture and stream water for agriculture and other purposes.

The watershed management sub-component, to be implemented by the Departments of Forestry and Animal Husbandry, will address these problems through five program elements:

- Reforestation on the upper slopes. The ongoing reforestation program of the Forestry Department will be accelerated within the project area by an infusion of additional funding for nursery production and planting activities. To the extent possible, the existing system of nurseries located outside of the mountain area will be replaced by one whereby local farmers produce seedlings on contract. The current practice of planting chir pine in pure stands will also be adjusted to local needs by the inclusion of a mix of slow-growing timber species, such as chir pine, with faster-growing species (predominantly leguminous trees, such as upland varieties of Acacia).

- Establishment of private woodlots near villages. Through the project, agricultural and forestry service personnel will be trained to assist villagers to establish small plantations of fast-growing trees with good regrowth capability so that they will sustain repeated harvesting for firewood and other uses. These woodlots will be sited on private uncultivable lands near the villages to facilitate protection from grazing animals and to provide an accessible source of firewood for local use and sale. Firewood finds a ready market in Swabi, where it is used to fuel the tobacco-drying operation as well as for domestic purposes.

- Establishment of improved pasture shrubs and grasses. After literally centuries of grazing, the mix of vegetation has deteriorated to a point where unpalatable and low-nutrient species predominate. The project will introduce new species and assist farmers to establish them on their lands. Both grasses and shrubs will be tried, as well as leguminous tree species for cut-and-carry feeding. Careful phasing of the planting efforts, supervision of the grazing stock, and possibly provision of supplementary feed will be necessary to ensure that the animals are both provided with adequate nutrition and kept off the areas being upgraded until the plants have sufficiently matured to sustain grazing.

- Introduction of improved ruminants and poultry. As the availability of pasture increases, the number and quality of ruminants in the project area can be increased. The project will introduce improved

varieties of sheep and goats to increase local production of meat, milk, and wool. The breeds selected will be hardy animals that have good foraging ability and are efficient users of available food supplies, such as fayoumi chicken, rambouillet sheep, and teddy goats. Such breeds have the capacity to outproduce the local varieties without creating the necessity for costly supplementary feeding or special care.

- Watercourse development. Several large streams and rivers have their headwaters in the lands above the project area's main villages. A trial program will be initiated along these watercourses under the auspices of the extension service. Lands along the streams will be opened up by constructing donkey paths up the watercourses and assistance will be provided to farmers with lands bordering the streams to plant fruit trees, nut trees, and productive permanent shrubs.

The activities in the watershed management component will be concentrated in the main watershed in Gadoon, which drains into the Sherai River and includes most of the major villages (See map in Annex 14.) This focus will take advantage of important complementarities among the different activities, such as the reinforcement of the planting of permanent trees on the upper slopes by the improvement of fodder supplies closer to the villages. Even by limiting activities primarily to this watershed, project resources will not be sufficient to reforest and rehabilitate the forage cover over the entire area (roughly 40 square miles), but project activities should at least double the value of firewood, livestock products, and other outputs from the non-cultivated areas of the watershed. The watershed management activities will also provide long-term support to the expansion of irrigation in the Sherai valley.

iii. Agricultural Marketing

Resources will be provided to local marketing organizations to promote the more rapid development of the agricultural marketing channels in the project area. The marketing program will focus on three types of agricultural institutions involved in the provision of marketing services: large-scale marketing organizations (for both inputs and outputs), local private sector merchants, and financial institutions. Efforts will be concentrated initially on existing large-scale marketing organizations, such as the Ghee Corporation, where such organizations exist with the capacity to provide a market for one or more of the products that may replace poppy as a source of agricultural income. Project personnel will work with these organizations to overcome existing barriers to their more effective operation in the area, such as the lack of intermediate storage facilities, poor contacts with local officials or area farmers, and inadequate information on production in the project area.

The marketing of fruits and vegetables in Gadoon-Amazai (as elsewhere in Pakistan) is currently the province of small-scale private traders. This system, once established, functions relatively smoothly and provides the farmers with short-term credit as well as marketing services, without which they cannot produce a crop. The traders, however, are reluctant to offer credit before they have seen evidence that a marketable crop can be produced, creating a short-term transitional problem that, unless counteracted, can effectively preclude the farmers' successfully moving to a different cropping rotation. Project staff will work with area farmers and traders to attempt to address the problems inherent in the transition from production of poppy to production of other cash crops. Activities will include assistance to farmers to establish contacts with fresh produce traders, whether individually or through the use of small producer groups, and assistance to small traders to overcome bottlenecks preventing them from moving rapidly into the area once farmers begin to produce a wider range of crops.

At the present time, formal credit for farmers or agricultural traders is effectively non-existent in the area. Although several formal credit institutions are located in the project area (including several branches of commercial banks), they do not at present operate the small farmer credit schemes that are utilized elsewhere in the country. While the weakness of such credit programs, even in the more developed regions of Pakistan, must be acknowledged, there is nonetheless a reasonable expectation that the programs can be made to work much more effectively than they currently do in the project area.

The development of the marketing sector in the project area is seriously hampered by the lack of an organization to support such development for the full range of agricultural outputs and inputs. In view of this situation, the marketing activities under the project cannot be designed around the established programs of a line agency, since no provincial government agency exists with this responsibility and no single institution can be identified that can serve as the appropriate organizational focus for this effort. The project staff therefore will work with the wide range of institutions that are active in the marketing area, each involved with one or another aspect of marketing, to create linkages and to improve the total effectiveness of the marketing system. The determination of precisely which institutions will be most important must be based on the needs of the altered agricultural system. This system, and the specific mix of outputs and inputs that comprise it cannot itself be specified fully in advance, since it depends not only on the results of agronomic work to be performed under the project, but also upon the degree to which the farmers respond to the different elements in the production programs. In view of this situation, considerable flexibility and exploration will be necessary in developing an effective marketing program.

iv. Irrigation

The project will assist small farmers in Gadoon-Amazai to enlarge their irrigated area, enabling them to expand production of high-value crops other than poppy (most of which require irrigation under the prevailing rainfall-temperature regime). The construction of new small-scale schemes will focus on the Sherai valley, in order to capitalize on the improved watershed management practices introduced by the project. (See map, Annex 14.)

The basic technology to be used will be construction of small check dams of local stone and concrete by the Department of Irrigation, which will also be responsible for their maintenance after completion. Each dam will irrigate five to fifteen acres, served by a system of channels constructed by the union council (see below). This technology is currently in use throughout the area and management of the systems (all gravity flow) is well within the capacity of local residents. The current constraint to greater construction activity is the lack of capital, not unfamiliarity with techniques or benefits, as shown by the fact that construction and expansion of small schemes is an ongoing activity in the area and by the repeated inclusion of irrigation projects on the council proposal lists.

Approximately 375 additional acres will be irrigated under the project, increasing the total irrigated acreage in Gadoon-Amazai by roughly 15 percent. Of these, approximately 250 acres will be in the Sherai watershed, raising the total irrigated acreage in the Sherai valley below Utla from roughly 450 acres to 700. The remaining 125 acres will be located throughout the project area, with the siting of schemes dependent on local requests and the availability of sites with high potential.

b. Local Council Activities

The major council activity, as indicated above, will be the construction of field channels in connection with the check dams to be constructed by the Irrigation Department. Construction of these channels, currently the responsibility of the union councils or the farmers themselves, requires that the farmers involved agree on the siting of the channels and the distribution of water among them. It is therefore more appropriate for the council to manage this activity. The Irrigation Department, however, will provide technical assistance in developing the plan. Siting of channels will not present serious difficulties, since very little if any cultivated land will be lost in the process; most channels will cross barren land lying between the individual terraces. (See Annex 18 for a further discussion of the social feasibility of this activity.) The union councils will also be involved peripherally in establishing contact with area farmers, recruiting farmers for participation in the demonstration trials, and distributing improved fruit trees and livestock.

5. Development of the Off-farm Economy

Agriculture in Gadoon-Amazai will not be able to absorb the additional labor entering the market from natural population growth and the cessation of poppy cultivation. This labor must find productive employment off the farm, whether within the area or outside. The latter will be increasingly important and holds more potential than the development of the manufacturing and service sectors in the area.

This component will focus on skills training to provide area residents with marketable skills, particularly those directed to employment in Pakistan's urban centers and the Gulf. In addition, the off-farm employment component will provide support to basic education in the project area, to improve the mobility of future labor force entrants. The component will consist of three subcomponents:

- Short-term training in basic construction skills will be expanded through establishment of a training program under the auspices of the Oversea Pakistani Foundation. The program, to be located at Kabgani, Utla, and Ganichatra, will produce nearly 1100 job-entry level artisans annually.

- Short-term training in construction trades requiring a higher skill level (for electricians, mechanics, fitters, turner-machinists, welders, and heavy equipment operators) will be provided by an engineering firm making use of existing facilities at Tarbela Dam.

- Basic Education. The quality and availability of basic schooling will both be increased, with an emphasis on greater opportunities for girls. Non-formal education programs to provide basic education to children who do not attend school and to illiterate adults will also be expanded.

The off-farm component will be implemented primarily by the line agencies. The main area of union and district council involvement will be basic education, particularly in the construction of new and repair of existing facilities.

a. Line Agency Programs

i. Short-term Training in Basic Construction Skills

The project will fund the establishment of a training program under the management of the Overseas Pakistani Foundation (OPF). A low-cost training center will be constructed in each of three villages in the project area (Utla, Ganichatra, and Kabgani) and a basic set of equipment and materials will be provided to permit classes to be offered in four construction

trades: carpentry, masonry, plumbing/pipefitting, and steel fixing. If possible, the staff for these centers will be hired from the area. Use of classroom space in the Kabgani school will make it possible to begin the training program in the first year of the project.

Participation in this program will be open to both literates and semi-literates. The basic literacy skills of participants will be upgraded as a part of the training program. Graduates will be given a trade diploma upon successful completion of the three-month course.

At least eighty percent of the trainees are expected to find employment in construction outside of the area, based on previous OPF experience with similar training and placement programs. Although graduates will by no means be skilled artisans upon completing the course, OPF experience indicates that basic trade skill training greatly increases an individual's ability to find work, particularly in Pakistan's environment of a deficit in skilled labor (created by the exodus of skilled workers to the Middle East). To further ensure that graduates find employment, OPF will provide assistance to trainees to identify employment or apprenticeship opportunities in the construction industry in other parts of the country. The daily wage earned by graduates is expected to be twice what they could have earned as unskilled workers (Rs. 60 versus Rs. 30).

As discussed in more detail in the Technical Analysis section and Annex 15, the program has been designed to suit the economic situation, educational background, and other circumstances of the Gadoon-Amazai population, focusing on short, informal courses with a large component of workshop time rather than a standardized institutional model of vocational training, with a high cost per graduate.

As part of the training, students will work on some of the buildings required by the training center and on construction projects financed by the project and undertaken by union and district councils. On completion of the training, most students are expected to leave the area for jobs in the construction industry in other parts of Pakistan or overseas.

The Overseas Pakistani Foundation, which will have full responsibility for operation of the program, currently runs a number of similar training programs in other parts of Pakistan. The Gadoon vocational training program will be the third program set up in rural and remote areas by OPF, the only agency in Pakistan that conducts vocational training in rural areas.

ii. Short-term Training in Higher-Level Construction Trades

The project will also support a training program for project area residents to be implemented by a construction contractor with facilities at Tarbela Dam. WAPDA

facilities that are no longer in use in the Pehur Labor Camp will be renovated and upgraded to produce a training center and an adjoining accommodation facility.

The Tarbela training program will complement the OPF training program by concentrating on those trades requiring a higher level of educational background (electrician, mechanic, fitter, turner-machinist, welder, and heavy equipment operator). For this reason, the program will only admit students who have completed middle school (eighth grade). The training program at Tarbela will graduate 300 trainees annually. The contractor selected will facilitate apprenticeship and employment opportunities for graduates of the training through WAPDA and other large construction firms in Pakistan.

iii. Basic Education

The basic education activities will follow the format laid out in the infrastructure and irrigation activities outlined above, in which major construction and ongoing programs will be the responsibility of the line agency (the Department of Education), while smaller schemes will be undertaken by the local councils. Project activities through the line agency channel will be limited to expansion of the mohalla schools program operated by the Department of Education, which provides basic literacy and skills to women and girls who would otherwise not be able to receive a basic education.

Under the mohalla ("neighborhood" or "community") school program, classes are conducted by lay teachers in the home of village woman (often the wife of a malik). The Department of Education will cover the salaries of teachers in the program, while the project will cover the additional operational and support costs to establish the program in the project area. Two employees of the Department of Education will be sent for training in Phase I. These personnel will then supervise the adult and child components of the program in Gadoon-Amazai.

b. Local Council Program

The project will finance both construction of new and repair of existing schools, the former carried out by the district councils and the latter through the union council channel.

i. School Construction

The project will finance a total of 30 new schools in the project area, including 10 boys' schools and 20 girls' schools. The additional boys' schools will permit the Department of Education to establish an adequate network of middle and high schools by upgrading existing primary and middle schools. The schools to be funded under the project have been identified by the Department as priorities within its ongoing

program of school expansion, and Department staff are fully committed to the staffing and operation of these schools.

The emphasis in the girls' school building program will be on construction of additional primary schools, with two to thre of the twenty new buildings housing upper level schools (at present there is only one girls' middle school in Gadoon, established in 1982). The girls' schools will include teacher quarters and boundary walls, in keeping with local social norms

Operation of the schools (once built and equipped with a basic set of materials) will be the responsibility of the Department of Education. To date, the Department has been able to keep the schools in the project area staffed and operational even in cases where four or five classes must be conducted in a single room rented from a village family. Schools now operatin in rented facilities will receive priority consideration for funding. Before construction of any new schools, the Departmen will provide assurances to the Planning and Development Department that it will staff and support the facility in accordance with its current practices.

ii. School Repair

Repair and expansion of existing schools has been identified by area residents as a high priority and is currently a major activity of the union councils. It is therefore anticipated that the projects proposed by the council will include a number of such small schemes. For planning purposes, it has been assumed that the councils will fund repai to 31 schools during Phase II, located throughout the project area, at an average cost per school of US $2000. Together with the four schools expected to be repaired in Phase I, this gives total of 35 schools repaired under the project, out of the tota of 111 in the project area.

IV. IMPLEMENTATION PLAN

A. Implementation Timetable

The project timetable is divided into two major periods:

- Phase I, beginning in August 1983 and ending in July 1984
- Phase II, beginning in July 1984 and extending to the end of the project in December 1988

1. Phase I

The first year of the project will be most critical for project implementation. This is in marked contrast to the first year of implementation in most projects, which is generally devoted to initial procurement activities and routine start-up procedures. In the case of the GAADP, however, the dual objectives of enforcement and development require that there be visible development activity in the project area at the time of the 1983 fall planting season (September to November). The need for this rapid project start-up will place a responsibility on the Mission to move quickly to begin implementation.

Some of the preliminary work necessary for this rapid start-up has already been completed. For example, the local councils have already been contacted and have provided lists of small schemes proposed for funding under the project. Discussions have been conducted with WAPDA relative to the use of the houses at Tarbela. The contracting for the Utla-Amazai road has already been completed by the GOP using non-project funds. Additional preparatory work will be completed prior to the signing of the Project Agreement, without which the schedule below would not be realistic.

Table 3 shows the major implementation activities in Phase I, together with the responsibility and expected date of completion for each.

TABLE 3

TIMETABLE OF PHASE I IMPLEMENTATION MILESTONES

Event	Date	Responsibility
Project Management		
ProAg signed	August 1983	AID/GOP
PD/P&D named	September 1983	NWFP
PCU established	September 1983	NWFP
Workplan developed covering first twelve months	September 1983	NWFP/AID/CTR1
Advance to PNCB	September 1983	AID
Advance to NWFP	September 1983	PNCB
Establishment of PLAs	September 1983	NWFP
Phase I evaluation	August 1984	AID/GOP
Technical Assistance		
Phase I team procurement (through existing contract)	September 1983	AID
Phase I team arrives	September 1983	CTR1
Offices/houses ready	November 1983	NWFP
Phase II contract signed	June 1984	AID/CTR1
Phase II team arrives	July 1984	CTR1
Participant Training		
Candidates identified and training plans developed	August 1983	AID/NWFP
Long-term participants depart	September 1983	AID
Long-term participants return	June 1984	AID
Road Construction		
Construction of Utla-Amazai road begins (now contracted)	July 1983	NWFP
Construction of Utla-Amazai road completed	July 1985	NWFP
Off-Farm Employment Program		
Contract with OPF	January 1984	AID
Contract with Tarbela	January 1984	AID
Tarbela Center Opens	March 1984	CTR2

Local Council Projects

Councils finalize proposals	September 1983	NWFP/CTR1
Proposals approved	September 1983	NWFP/CTR1
Construction begins	September 1983	NWFP
Completion of first group of small schemes	January 1984	NWFP
Completion of second group of small schemes	June 1984	NWFP

Agriculture

Identification of cooperators	September 1983	NWFP/CTR1
Identification of 200 acres of wheat trials and seed multiplication plots	September 1983	NWFP/CTR1
Fertilizer and seed distributed to farmers	October 1983	NWFP/CTR1
Planting of 200 acres	November 1983	NWFP/PCU
Order fruit trees	November 1983	NWFP/PCU
Identify and lease rangeland	January 1984	NWFP/PCU
Identify and recruit additional staff for range program	January 1984	NWFP/PCU
Order seed and seedlings for forestry program	January 1984	NWFP/PCU
Order equipment for ag. field stations	June 1984	NWFP/PCU
Identify and recruit ag. contract staff	June 1984	NWFP/PCU
Plant summer trials	June 1984	NWFP/PCU

Surveys and Engineering Designs

Meteorological stations established	January 1984	PCU
Mineral resource survey	January 1984	PCU
Design of major roads completed	May 1984	NWFP
Hydrological survey	May 1984	PCU

KEY:
- AID: USAID/Islamabad or Liaison Office/Peshawar responsibility, with support from AID/W
- GOP: Joint federal/provincial responsibility
- NWFP: Provincial or local government responsibility
- PNCB: Pakistan Narcotics Control Board responsibility
- CTR1: Phases I and II TA contractor, in cooperation with local contractors
- CTR2: Tarbela Construction Contractor
- PCU: Project Coordination Unit

2. Phase II

Phase II will begin in July 1984, which represents the coincidence of the following major events:

- evaluation of the success of the first year's efforts in both development and eradication
- arrival of the major technical assistance contractor's Phase II team
- beginning of the GOP fiscal year 1984/85
- completion of the first year's local council activity

Table 4 shows the key dates in the implementation schedule for Phase II.

By the time that Phase II begins, the Project Director will have established workable systems for cooperating with line agencies, reviewing activities underway against objectives, developing work plans, and integrating the various components of the project through quarterly budget reviews. The Monitoring and Evaluation Section of the PCU will have been established and will be receiving and generating quarterly reports on all project activities. With the initiation of Phase II, the focus of the technical assistance team will shift from a concentration on getting started to a concern for making the major transition from poppy to alternative sources of income. The line agencies will have had a year of working together, meeting in seminars, and continuing the process of cooperation begun in Phase I. From this collective knowledge, revised schedules, work plans, budgets and programs will emerge. The Phase II implementation will build on the lessons learned and opportunities uncovered during Phase I as well as during Phase II of the project. To permit the project implementors to take advantage of these opportunities, the implementation plan must be understood by all to be flexible, capable of responding to suggestions and innovations not now envisioned. The key dates and timing proposed below should be viewed in the context of a project designed to change, in which new ways of accomplishing the overall project objectives are expected to emerge throughout the implementation phase. The schedule, timing and specific activity set that results is likely to be both significantly different from and better than the preliminary set presented in Table 4.

TABLE 4

TIMETABLE OF PHASE II IMPLEMENTATION MILESTONES

Event	Date	Responsibility
Project Management		
Phase II begins	July 1984	AID/GOP
Training Program for Local Council Personnel		NWFP/CTRl
Midterm Evaluation	January 1987	AID/GOP
Final Evaluation	November 1988	AID/GOP
Technical Assistance		
Phase II team arrives	July 1984	CTRl
Watershed Management Advisor Departs	September 1986	CTRl
Agricultural Institutions Advisor Departs	September 1987	CTRl
Area Development Advisor Departs	September 1988	CTRl
Engineered Infrastructure		
Construction of Bada-Gabai Road Begins	September 1984	NWFP
Utla Water Line Rehabilitated	January 1985	NWFP
Electricity Extended to 3 Villages in Gadoon	April 1985	NWFP
Blacktopping of Utla Road Completed	July 1986	NWFP
Completion of Two New Water Systems	March 1986	NWFP
Extension of Electricity to 10 Villages in N. Amazai	September 1986	NWFP
Trait Pipeline Rehabilitated	January 1987	NWFP
Construction of Bada-Gabai Road Completed	April 1987	NWFP
Extension of Electricity to 5 Villages in Gadoon	April 1987	NWFP
Local Council Projects (Illustrative schedule: actual projects subject to local council decisions)		
7 New Village Water Schemes 7 Existing Water Schemes Repaired 4 Miles of Feeder Road Built 27 Miles of Track Built 8 Schools Built	1984/85	NWFP

8 Schools Repaired 100 Acres Irrigated 7 New Village Water Schemes 7 Existing Water Schemes Repaired 5 Miles of Feeder Road Built 27 Miles of Track Built 8 Schools Built 10 Schools Repaired 125 Acres Irrigated	1985/86	NWFP
7 New Village Water Schemes 7 Existing Water Schemes Repaired 6 Miles of Feeder Road Built 27 Miles of Track Built 8 Schools Built 9 Schools Repaired 110 Acres Irrigated	1986/87	NWFP
1 New Village Water Scheme 3 Existing Water Schemes Repaired 2 Miles of Feeder Road Built 17 Miles of Track Built 6 Schools Built 4 Schools Repaired 40 Acres Irrigated	1987/88	NWFP

Off-Farm Employment Program

First Group of Trainees Graduate	October 1984	OPF
2 Additional OPF Centers Open	March 1985	OPF
Mohalla School Program Begins	March 1985	NWFP

Agriculture Program

Fertilizer and seed distributed to Farmers for 1984/5 Season	September 1984	NWFP
Watershed Management Stations Established	September 1984	NWFP
First Group of Fruit Trees Planted in Upper Watershed	September 1984	NWFP
First Group of Range Cooperators Established	October 1984	NWFP
Small Irrigation Systems Established	December 1984	NWFP
All Small Irrigation Systems Established	December 1985	NWFP
Ag Field Stations Established	September 1984	NWFP

The overall schedule for project implementation recognizes that the project area is effectively divided into four areas, defined by the level of poppy cultivation, the capacity for economic development, and accessibility:

- Zone 1: Swat Amazai Union Council, where previous enforcement has greatly reduced poppy cultivation, at least for the past year, and the greatest need is for an immediate demonstration of government commitment to reinforce the cessation of poppy cultivation. The area has substantially more agricultural potential than any other part of the project area, and therefore needs less assistance to shift to a new economic system.

- Zone 2: Gandaf and Kabgani Union Councils, where poppy is an important crop, but not the only source of income, and where agricultural potential is greater than any other area except Swat. The area is readily accessible and, as a center of opium trading as well as production, is a priority target for enforcement.

- Zone 3: Ganichatra and Gabasni Union Councils, farther up the mountain from the other two councils in Gadoon and an area where poppy may be grown on 70 to 90 per cent of the land in the main agricultural season. Many of the villages in this area are now within half a day's walk from a road. Economic alternatives to poppy can be introduced, but substantial assistance is required to make the transition.

- Zone 4: Nara Amazai and Bait Gali Union Councils, both currently inaccessible to either development or enforcement efforts, although both include areas of major poppy cultivation. Here the priority will be initially on expansion of the road network and locally initiated projects.

Table 5 indicates the relative level of development activities planned in each of the four basic project areas over the life of the project.

TABLE 5

RELATIVE LEVELS OF PROPOSED DEVELOPMENT ACTIVITIES IN THE PROJECT AREA BY PROJECT YEAR *

	Zone**	1984	1985	1986	1987	1988
Local Council Programs	Zone 1	30	10	5	5	5
	Zone 2	40	40	20	10	10
	Zone 3	20	40	60	50	40
	Zone 4	10	10	15	35	45
		100	100	100	100	100
Line Agency Development Programs	Zone 1	10	10	-	-	-
	Zone 2	30	30	20	20	15
	Zone 3	60	60	60	50	50
	Zone 4	-	-	20	30	35
		100	100	100	100	100

On a scale of 1-100 for each project year.

** Zones:

1: Swat Amazai
2: Gandaf and Kabgani Union Councils (Gadoon)
3: Gabasni and Ganichatra Union Councils (Gadoon)
4: Nara Amazai and Bait Gali Union Councils (Hazara Amazai)

3. Relationship to Enforcement

The project is designed around two distinct programs of action:

- One program of action involves the effective achievement of the government's ban on poppy cultivation and requires an effective enforcement plan to be implemented by the Government of the NWFP to meet this goal.

- The second program of action involves a USAID/GOP development undertaking, which requires the planning and delivery of development inputs to the project area over a five-year period.

Prior to the initiation of project activities, the Government of the NWFP and the U.S. Mission will agree in writing to an enforcement plan. The USAID and the GOP will also agree in writing to a development plan (the Project Agreement). Each plan is independent and each will recognize the inherently different implementation pace of development and enforcement. It is intended that a substantial portion of the enforcement objective will be met in the early years of the project. The development plan, by contrast, will deliver the greater part of planned outputs in the later years of the project life.

Both the Federal and the Provincial Governments have stated their commitment to enforcement in the project area. In its Letter of Request (Annex 9), the GOP has affirmed its intention to enforce the poppy ban, expressing its determination to achieve eradication in the project area.

B. Administrative and Monitoring Arrangements

The major share of implementation responsibilities will rest with the Government of the NWFP, in particular the P and D Department at the provincial level and the offices of line departments at the district and local levels. Both AID and the technical assistance contractor will play an important role as supporters of the provincial government.

In order to reduce the administrative workload imposed by the project, the administrative strategy for implementation relies heavily on decentralization of implementation responsibility to agencies in the Government of the NWFP and outside of it that have the capacity to carry out the activities planned and can do so essentially without assistance (other than funding). For this reason, most of the activities included in the GAADP closely parallel programs already being implemented in the low-lying areas by the same agencies that will be involved in the GAADP. (See Administrative Analysis for a further discussion of this issue.)

1. AID Responsibilities

USAID/Islamabad's role in project implementation will primarily be one of support to the NWFP. The special circumstances of the GAADP will nonetheless dictate that AID take a more active role in certain aspects of implementation. USAID/Islamabad will have the following responsibilities during project implementation:

- Negotiation with the GOP on all matters related to the development program (including definition and review of financial and administrative arrangements)
- Initiation of periodic disbursements of funds for project implementation and follow-up on use of funds (See Financial Plan)
- Overall monitoring of project progress
- Procurement of local and expatriate technical assistance and contract personnel and management of these contracts (See Procurement Plan)
- Procurement and management of other contracts with federal agencies and non-governmental bodies (see Procurement Plan)
- Off-shore procurement of selected commodities (see Procurement Plan)

- Arrangements for overseas training programs (see Training Plan)
- Coordination of inputs from other AID projects, including particularly Agricultural Commodities and Equipment and Development Support Training (See Procurement and Training Plans)
- Participation in project evaluations
- Participation in U.S. Mission discussions with the GOP related to enforcement of the poppy ban

The responsibility for project monitoring and management will be assigned to the Project Manager within the Office of the Director. He will be responsible for coordinating the inputs and support of all other USAID offices regarding the project and will work closely with the Narcotics Coordinating Committee (NCC) within the U.S. Mission. The USAID Liaison Office in Peshawar will assist the Project Manager by providing logistical and other program and operational support.

2. GOP Responsibilities

Both federal and provincial agencies will participate in project implementation and monitoring, as further described below. Overall coordination of project activities will be the responsibility of a Project Coordination Unit (PCU) to be established within the NWFP Planning and Development Department. Two committees will also be formed to advise and support the PCU and to assist in coordinating and monitoring the activities of the participating agencies. At the senior management level, a Project Review Board (PRB) will be established within the NWFP Planning and Development Department to oversee project implementation and provide coordination with national agencies (including PNCB) and AID. At the project implementation level, Project Coordinating Committee (PCC) will be established to advise the head of the PCU (the Project Director) and to provide coordination at the operational level among participating agencies within the project area.

a. Federal Level

The Pakistan Narcotics Control Board (PNCB, a federal agency) will be the GOP counterpart agency for the GAADP. The role of this agency will include overall monitoring of project progress, membership on the Project Coordinating Committee (PCC) and the Project Review Board (PRB), transfer of funds from AID to the agencies concerned at the provincial level, and coordination with NWFP enforcement agencies on the enforcement program.

b. Provincial Level and Overall Project Management

The project will be implemented by the Planning and Development Department (P and D) of the NWFP. A Project Review Board will be created, consisting of senior officials at the provincial level together with a representative of the PNCB. The Board will approve work plans, coordinate the activities of all concerned line agencies, and monitor progress, reporting regularly to PNCB and AID.

P and D will designate one of its staff to be the Project Director (PD/P&D). The PD/P&D will head the Project Coordination Unit (PCU), which will assume primary responsibility for overseeing project implementation. The PCU will be established within the official structure of the P and D Department and will be based at Topi. P and D, as the agency currently responsible for the overall planning of development programs in the province as well as preparation of the annual development budget, is the most logical agency to perform this oversight function.

The PCU will include the following three sections:

- Administration, made up of three subsections: general administration (including office operations, accommodations, motor pool, etc.), accounting, and procurement (which will support procurement by line agencies as needed, as well as managing direct PCU procurement)

- Monitoring and Evaluation

- Development Support Communications and Training (which will handle participant training and support other activities through preparation of communications and community education materials as needed)

The PCU professional staff will be housed in Tarbela (assuming suitable arrangements can be made with WAPDA), and provided with an office in Topi, at the base of the Gadoon mountain. (The former office of the Integrated Rural Development Program, which is currently vacant, has been tentatively allocated for this purpose.) The technical assistance team will also be housed at Tarbela and will use the Topi office facility.

c. Operational Level

A Project Coordinating Committee (PCC) will be established under the chairmanship of the Project Director. The committee will meet periodically to decide on project activities, coordinate among implementing agencies, and integrate the field activities of the project. The representatives of the line agencies involved will sit on the committee as will the Assistant Commissioners for the three tehsils in the project area and a representative each from USAID and the PNCB. As needed, the

Deputy and District Commissioners may also attend, as well as other officials from the NWFP Government.

The PCC will:

- review past performance
- formulate future work plans for PRB and USAID review
- solve any problems that arise
- exchange information among line agencies

The principal planning documents for the project will be the semi-annual work plans, each of which will provide a detailed budget and plan of work for the upcoming six-month period, together with a preliminary budget and plan for the next six-month period. Draft work plans will be prepared by each of the line agencies participating in the project. A consolidated work plan will then be prepared for review by the Project Coordinating Committee and formal approval by both USAID and the P and D Project Review Board. The consolidated work plan will be used as the basis for AID's issuance of periodic advances to finance project operations (see Financial Plan below).

The Monitoring and Evaluation section of the PCU will also prepare a quarterly review of project accomplishments and a revised forward schedule of activities, targets, and estimated costs for each line agency. This document will provide the basis for developing the consolidated work plan from the individual agencies' proposed work plans and will serve the reporting requirements of AID and the Project Review Board.

i. Line Agencies

At the operational level, implementation responsibilities will follow the existing division of responsibility for development activities within the Provincial Government. Thus, the Department of Agriculture will manage the agricultural program, the Education Department will manage the basic education program, and so on.

Three exceptions to this basic system require explanation:

- Implementation of the off-farm employment training programs will be carried out by the Overseas Pakistani Foundation and a construction contractor at Tarbela, each under a direct contract with AID.

- Small construction included in the infrastructure, education, and irrigation components will be implemented by the local bodies (district and union councils), which are elected bodies falling administratively under the jurisdiction of the Department of Local Government and Rural Development and which are increasingly responsible for such small-scale construction. The appropriate line agencies wil

provide technical assistance as appropriate to the councils during design of the projects.

- The watershed management component will be carried out by the Departments of Forestry and Animal Health.

Each line agency will identify its own responsibilities and the type and amount of project support needed to carry out the program. The departments responsible for the various activities of the project will in general also be responsible for in-country procurement, training, and other implementation responsibilities falling under their respective activities. The PCU will provide support as necessary in administration, logistics, and other areas. Contract staff working on the various components will be under the direct supervision of officials of the departments concerned.

ii. Local Bodies (District and Union Councils)

Each elected council is a separate legal entity with individual decision-making responsibilities. The Assistant Director (Mardan) for Local Government and Rural Development employs the administrative staff that supports the activities of the local bodies (engineers, supervisors, council secretaries, community organizers, and so on).

In implementing the local council activities, each of the councils in the project area will allocate the resources assigne to it and certify the final mix of projects in its area. The first step in the process will be preparation by the councils of their own lists of proposed projects and consideration of proposals presented by the line agencies. The lists will then b reviewed for technical feasibility by the staff of the Local Government and Rural Development Departmen and for conformance to criteria to be established by the Project Coordination Unit (e.g., mix of different types of projects, geographic spread). The final step will be submission of the resulting program for approval by the councils.

Execution of these projects will be the responsibility of the councils, using their existing procedures (formation of loca project committees chaired by the council member from that area) Funds will be provided through the LGRD Department for the projects, with expenditures monitored by the LGRD Department staff.

3. Technical Assistance Contractor Responsibilities

The Phase I and Phase II technical assistance contractor will be responsible for the following, during the period that the teams are in place:

- overall technical support to the PD/P&D and the PCU as well as the implementing departments

- regular reporting to AID and P and D on project status, accomplishments, and actions required

In addition, the technical assistance contractor will assist as directed by the USAID Project Manager in a limited amount of off-shore commodity procurement and off-shore training funded under the project. Both of these activities will be minor, since training and procurement funded from GAADP funds are almost exclusively in-country.

C. Financial Plan

1. Project Budgets

a. Summary

The total cost of project activities will be $21.8 million, including an AID grant of $20.0 million and a GOP in-kind contribution equivalent to $1.4 million (consisting of inputs from the regular capital and recurrent budget that will support project-funded activities). The project will also utilize resources from other AID projects, with a total cost estimated at $0.4 million. A summary of the AID contribution by major project component is shown in Table 6.

The GOP contribution to the project is equivalent to six percent of the project cost. In addition, the GOP is expected to increase its enforcement effort (both allocation of manpower and budget) substantially within the project area. This increase is not reflected in the project budgets.

TABLE 6

SUMMARY OF PROJECT COSTS BY PROJECT COMPONENT
($ '000, AID Project Contribution Only)

Component	Cost	Cost as a Percentage of Total Cost Excl. Project Support*	Cost as a Percentage of Total Cost Incl. Project Support
Infrastructure	6824	.60	.43
Agriculture	2707	.23	.17
Off-farm Employment	1846	.17	.12
Subtotal Without Project Support*	11,367	1.00	.72
Project Management**	1658	---	.10
Technical Assistance	2917	---	.18
Subtotal without Inflation and Contingency	15,951	---	1.00
Inflation and Contingency Allowance	4049	---	
TOTAL	20.000	1.00	1.00

* Technical Assistance and Project Management, both of which support all three components.

** Project management includes the operation of the Project Coordination Unit as well as the following costs categories, many of which are direct project functions rather than management per se:

- Evaluation
- Housing for project staff and technical assistance
- Surveys necessary for project operations (including groundwater hydrology and mineral survey)
- Audiovisual equipment for the Development Support Communications Section
- Audit of project acounts
- Per diem and travel fund for GOP personnel not elsewhere included
- Personnel contractor's fee

The project will utilize three basic methods of disbursement: i) disbursement directly by AID for dollar costs (and certain local costs); ii) Modified Fixed Amount Reimbursement for relatively large engineering projects (principally in the areas of roads and power); and iii) advances by AID to NWFP line agencies for disbursement through their existing systems. The funds disbursed directly by the line agencies will be expended through two channels:

- The line agencies responsible for implementation will disburse funds in support of the programs funded by the project using the Personal Ledger Account procedure (PLA).

- The local bodies (union and district councils) will be allocated funds from those advanced to the Department of Local Government and Rural Development (LGRD), which they will disburse in accordance with the procedures now followed in the existing local small schemes program (RWP).

b. Detailed Project Budgets

Tables 7 through 11 show project expenditures by fiscal year, expense category, and source of funding. More detailed budgets of each component (including allocations by expense category and fiscal year) are presented in the Financial Annex. The basis for these cost estimates is discussed in the Financial Analysis, as well as in the individual component annexes.

TABLE 7

SUMMARY PROJECT BUDGET BY EXPENSE CATEGORY AND SOURCE OF FUNDS
(US$ '000 or equivalent)
(Rs. 12.8 = $ 1.00)

	AID			GOP	TOTAL
	GAADP	Other AID	Total AID		
Personnel*	3988	--	3988	147	4135
Commodities	642	128	770	--	770
Construction	8402	--	8402	188	8590
Operations and Other**	2919	289	3208	499	3707
Land	--	--	--	97	97
Infl. & Cont.+	4049	--	4049	433	4482
TOTAL	20000	417	20417	1364	21781
Percentage	.92	.02	.94	.06	1.00

* Including technical assistance, GOP staff, contract personnel, and local hire personnel.

** Including project operations, maintenance, evaluation, surveys, special per diem fund, training, housing, and credit funds.

\+ Inflation and contingency allowances for other AID projects are included in each line item (See Financial Annex for more detail.

TABLE 8

SUMMARY PROJECT BUDGET BY PROJECT COMPONENT AND FISCAL YEAR (GAADP FUNDS ONLY
(US$ '000)

	FY83-84	FY85	FY86	FY87	FY88	Total
Infrastructure	1180	2499	2194	542	409	6824
Line Agencies	784	2212	1884	255	267	5402
C&W Roads	684	2010	1474	0		4168
WAPDA	76	144	328	205	233	986
PHE		23	47	16		86
LGRD	24	35	35	34	34	162
District Council	180	132	155	132	47	646
Roads	170	94	117	94	47	522
Potable Water	10	38	38	38		124
Union Council	216	155	155	155	95	776
Roads	200	122	122	122	83	649
Potable Water	16	33	33	33	12	127
Agriculture	181	702	662	660	502	2707
Ag. Production	80	300	198	211	117	906
Agric. Marketing		25	75	75	125	300
Watershed Mgt	101	177	139	149	185	751
Irrigation		200	250	225	75	750
Irrig. Dept.		125	150	125	50	450
Union Council		75	100	100	25	300
Off-farm	537	337	337	340	295	1846
OPF Program	149	117	116	116	116	614
Tarbela	380	80	80	80	80	700
Education	8	140	141	144	99	532
Department		33	30	36	21	120
District Councils		91	91	90	70	342
Union Councils	8	16	20	18	8	70
Project Management	481	342	243	333	259	1658
PCU	232	118	103	101	99	653
Project Support*	249	159	140	132	125	805
Evaluation		65		100	35	200
Tech. Assistance**	477	790	775	545	330	2917
LT-US 200	367	600	600	400	200	2167
LT-PK 25	50	100	100	100	100	450
Sh-Term 15	60	90	75	45	30	300
Overall Subtotal	2856	4670	4211	2420	1795	15951
Sub Lcl Councils	404	469	521	495	245	2134
Sub Non-Council	2452	4201	3690	1925	1550	13817
Infl. and Cont.	72	607	1166	1072	1132	4049
TOTAL	2928	5277	5377	3492	2927	20000

*See Notes on previous tables.

**Amounts shown are annual costs for salary and fees. Housing and other costs are included in Project Management.

TABLE 9

SUMMARY PROJECT BUDGET BY FOREIGN EXCHANGE AND LOCAL COSTS

(US$ '000, GAADP Funds Only)

	Foreign Exchange	Local Currency	Total
Infrastructure		6824	6824
Line Agencies		5402	5402
C&W Roads		4168	4168
WAPDA		986	986
PHE		86	86
LGRD		162	162
District Council		646	646
Roads		522	522
Potable Water		124	124
Union Council		776	776
Roads		649	649
Potable Water		127	127
Agriculture	120	2587	2707
Ag. Production	60	846	906
Agric. Marketing		300	300
Watershed Mgt	60	691	751
Irrigation		750	750
Irrig. Dept.		450	450
Union Council		300	300
Off-farm	60	1786	1846
OPF Program	20	594	614
Tarbela	40	660	700
Education		532	532
Department		120	120
District Councils		342	342
Union Councils		70	70
Project Management	215	1443	1658
PCU	25	628	653
Project Support	70	735	805
Evaluation	120	80	200
Tech. Assistance	2285	632	2917
LT-US	2060	107	2167
LT-PK		450	450
Sh-Term	225	75	300
Overall Subtotal	2680	13271	15951
Inflation and Contingency	680	3369	4049
TOTAL	3360	16640	20000
Percentage Distribution	.17	.83	1.00

TABLE 10

SUMMARY PROJECT BUDGET BY PROJECT COMPONENT, EXPENSE CATEGORY AND FISCAL YEAR
(GAADP Contribution Only, US$ '000)

	FY83/84	FY85	FY86	FY87	FY88	Total
Infrastructure	1180	2499	2194	542	409	6824
Personnel	12	26	26	26	26	116
Commodities	3					3
Construction	1156	2464	2159	508	375	6662
Operations	9	9	9	8	8	43
Agriculture	181	702	662	660	502	2707
Personnel	16	65	65	64	64	274
Commodities	55	108	40	48	53	304
Construction	64	284	257	225	75	905
Operations	46	245	300	323	310	1224
Off-farm Employ't	537	337	337	340	295	1846
Personnel	47	86	85	85	79	382
Commodities	160	11	6	10	5	192
Construction	268	106	110	108	79	671
Operations	62	134	136	137	132	601
Project Management	481	342	243	333	259	1658
Personnel	34	67	67	66	65	299
Commodities	129	14				143
Construction	150	14				164
Operations	168	247	176	267	194	1052
Tech. Assistance	477	790	775	545	330	2917
Personnel	477	790	775	545	330	2917
Subtotal	2856	4670	4210	2420	1795	15951
Infl. & Cont.	72	607	1166	1072	1132	4049
Total	2928	5277	5376	3492	2927	20000
Subtotals	2856	4670	4210	2420	1795	15951
Personnel	586	1034	1018	786	564	3988
Commodities	347	133	46	58	58	642
Construction	1638	2868	2526	841	529	8402
Operations	285	635	620	735	644	2919

TABLE 11

SUMMARY PROJECT BUDGET BY FUNDING CHANNEL AND FISCAL YEAR
($ '000, GAADP Funds Only)

	FY83-84	FY85	FY86	FY87	FY88	Total
1. MFAR	760	2154	1802	205	233	5154
C&W Roads	684	2010	1474			4168
WAPDA	76	144	328	205	233	986
2. Line Agencies	959	1234	1221	1166	804	5384
Infrastructure	410	322	369	314	153	1368
PHE		23	47	16		86
LGRD	410	299	322	298	153	1482
LGRD Supt.	14	12	12	11	11	60
Dist Cncls.	180	132	155	132	47	646
Union Cncls.	216	155	155	155	95	776
Off-farm Empl.	8	140	141	144	99	532
Education	8	140	141	144	99	532
Department		33	30	36	21	120
Dist. Cncls.		91	91	90	70	342
Union Cncls.	8	16	20	18	8	70
Agriculture	175	676	635	634	480	2600
Ag. Prodn.	79	287	184	198	103	851
Ag. Mktg.		25	75	75	125	300
Watershed Mgt.	96	164	126	136	177	699
Irrigation		200	250	225	75	750
Irrig. Dept.		125	150	125	50	450
Union Cncls.		75	100	100	25	300
Proj. Mgt.--P&D	366	96	76	74	72	684
PCU	210	73	58	56	54	451
Proj. Support	156	23	18	18	18	233
3. AID Procurem't	1137	1282	1188	1049	758	5414
Off-farm Empl.	529	197	196	196	1[illegible]	1314
OPP	149	117	116	116	11[illegible]	614
Tarbela Ctr.	380	80	80	80	80	700
Tech. Asst.	477	790	775	545	330	2917
LT-US 200	367	600	600	400	200	2167
LT-PK 25	50	100	100	100	100	450
ST 15	60	90	75	45	30	300
Project Mgt.	131	295	217	308	232	1183
Housing--Trbla	90	126	112	105	98	531
Pers'nel Contr	41	104	105	103	99	452
Evaluation		65		100	35	200
Overall Subtotal	2856	4670	4210	2420	1795	15951
Inflati[illegible] and Cont	72	607	1166	1072	1132	4049
TOTAL	2928	5277	5376	3492	2927	20000

Note: Local council expenditures included in LGRD line agency program.

both cases, rupee costs associated with the dollar-funded activities (such as the local costs of TA team operations and in-country transport of commodities) will also be handled by direct AID disbursement or reimbursement to the TA contractor. USAID will also make direct payment to the in-country personnel contractor who will manage staff hired under the project, to the Overseas Pakistani Foundation for operation of the on-site vocational training program, and to the local contractor hired to operate the Tarbela training program.

ii. MFAR Disbursements

Engineered roads and electricity systems implemented by Communication and Works and WAPDA, respectively, will be managed under a modified FAR system, with periodic advances to cover implementation of the projects, liquidated upon inspection and approval of work completed according to an agreed upon schedule.

iii. Operating Grants to Line Agencies

USAID/Islamabad will provide funds for project activities under the line agencies and local councils. The following system has been developed during project design and is believed to represent the best arrangement consistent with both project needs and sound financial management. As more experience is gained in project implementation, this procedure may be modified by Project Implementation Letters.

- Every six months, P and D will submit a plan describing the program to be undertaken by the line agencies, including the local council expenditures managed by Local Government and Rural Development Department. Each plan will give detailed cost requirements for the upcoming six months as well as projected costs for the next six months (thus covering a total of twelve months). The workplan will be updated every six months. The first workplan will be prepared and submitted to AID as soon as possible after the Project Agreement is signed, so that project disbursements can begin as soon as the Conditions Precedent have been met.

- Upon approval of the first workplan, USAID/Islamabad will deposit a check to the account of the PNCB, covering the first three months of the workplan. Thereafter, advances will be made on a monthly basis, in accordance with the needs shown in the work plan.

- As each advance is received by the PNCB, it will forward the full amount received to P and D, which will transfer the funds to special project PLAs within the appropriate line agencies (including LGRD). The funds will be disbursed from these accounts in accordance with existing GOP procedures.

2. Financial Management Plan

a. Obligation Schedule

Table 12 shows the proposed obligation and expenditure schedule for the project.

TABLE 12

GAADP OBLIGATION AND EXPENDITURE SCHEDULE
($ millions)

Year	1983	1984	1985	1986	1987	1988	Total
Obligation	2.5	4.5	7.2	5.8	--	--	20.0
Expenditure	--	2.9	5.3	5.4	3.5	2.9	20.0
Implicit Pipeline at End of Year	2.5	4.1	6.0	6.4	2.9	0	--

b. Disbursement Methods

Project funds will be disbursed through three channels as noted above: direct disbursement by AID, MFAR, and advances to the line agencies in the form of operating grants. This latter method will be used for support provided to line agency programs not suited to an MFAR approach (such as the agricultural extension activities) and for the local council program.

The special nature of the project demands a funding system that ensures that money moves quickly as implementation needs dictate. The GAADP follows the precedent set by the other U.S. Government-funded program to eradicate poppy in Pakistan (the Malakand Area Development Project sponsored by INM), in which flexible funding mechanisms based on GOP accounting systems have been employed.

i. Direct AID Expenditures

Dollar costs under the project will be disbursed directly by USAID/Islamabad. The main technical assistance contractor will also be responsible for certain off-shore procurement and training expenditures included in the contract, as discussed above. The contractor will initiate training and procurement activities with the concurrence of the AID Project Manager, complete such procurement according to AID regulations, and receive reimbursement from USAID/Islamabad. In

- Reports on the balance in each PLA will be provided on a monthly basis to the PCU, together with reports on expenditures and supporting documentation. The PCU will consolidate these reports in summary form and transmit them to PNCB and AID on a monthly basis. In addition, PNCB will submit to AID copies of its bank statement on a monthly basis. A two-month lag is anticipated between the date an expenditure is made and the date that a report covering that expenditure is received by AID. AID will liquidate the advances on the basis of these reports.

- Advances will be issued to PNCB by AID at least one full month prior to the beginning of the period covered, in order to ensure timely receipt of the funds at the operational level. The amount of the advance will be adjusted by AID to reflect expenditures shown in the monthly reports.

In accordance with GOP procedure, full records will be kept at the level of each PLA, which will provide a clear "audit trail" for periodic post-audit by AID. The PCU will employ a major accounting firm to conduct an annual audit of AID-funded expenditures and accounts. Any PLA for which adequate monthly expenditure reports are not received will not receive additional allocations from P and D until it is fully up to date.

iv. Reprogramming of Funds During Implementation

As indicated in the discussion of the project implementation plan, successful execution of the project depends upon the ability to adjust the activities and programs as new information is gained. This reprogramming will inevitably require making parallel adjustments in the allocation of project funds. The primary mechanism for this purpose will be the semi-annual work plans, which, once approved, will be issued in the form of Project Implementation Letters (PILs).

The amount available for programming in any six-month period will be based on the amounts shown in the budget for the appropriate fiscal year, including the contingency and inflation amounts. Over the life of the project, it is not expected that reprogramming will result in a shift of more than 25 percent in any line item in the budget, but no a priori limits are set as to the maximum amount that can be reprogrammed through the workplan mechanism.

As additional changes are identified during each six-month work plan period, further adjustments of the programmed amounts may be made by the Project Director. He will have the authority to transfer funds from one line item to another, up to a total of 15 percent of each line item as shown in the work plan. Larger changes, if needed, will have to be approved in advance by AID.

3. Project Input Requirements

The budget presented above is based on a thorough analysis of the inputs needed to implement the project, including inputs financed by the GOP and other AID projects. The inputs needed include the following:

- Technical assistance
- GOP and other local staff (including allowances)
- Program management and staff support
- Construction
- Commodities
- In-country and U.S. short-term training
- Operations and maintenance (including expendable supplies, evaluation, land, and capital funds)

The types and levels of each input needed are described below, together with an explanation of the source of funds. The technical justification for these levels of inputs and the mix of inputs is discussed in the Technical Analysis, while the Financial Analysis includes a consideration of the cost factors used, providing the basis for determining that the project is adequately budgeted.

a. Technical Assistance

Technical assistance provided to the project will be financed entirely by AID, drawing on GAADP funds. In addition, minor amounts of TA will be provided by other AID projects. The majority of this latter category will consist of technical assistance personnel already funded under other projects who will provide informal support from time to time to the GAADP as part of their regular duties.

Technical assistance will be provided by one contractor. During Phase I, two expatriate advisors and two Pakistani advisors will be provided to ensure that the rapid start-up of project activities takes place and that, in doing so, mistakes are not made that endanger the future success of Phase II. This team, which will remain in place for about eleven months, is considered critical to the implementation of Phase I and to the project as a whole. The four advisors will provide the technical backstopping for the Phase I program and will include the following skills:

- Local Government Advisor (team leader, expatriate), who will be responsible for assisting in the establishment of the PCU and the Project Coordinating Committee, as well as for start-up of activities in the local council channel.

- Agricultural Development Advisor (expatriate), who will initiate the agricultural program, with particular reference to the rapid-impact program to increase area wheat yields.

- Community Development Advisor (Pakistani), who will work with P and D, LGRD, and local council personnel in the project area to establish sound working relationships within the project area and to develop a sound basis for later work with the communities (including information on current patterns of cooperation).

- Livestock Development Advisor, (Pakistani), who will work with the agricultural development advisor to initiate the programs in range management and livestock development. Although these programs will not be truly operational until Phase II, considerable preparatory work must be done to gain an understanding of the current management systems and develop further the organizational structures whereby the Departments of Animal Husbandry and Forestry will participate in the programs.

Short-term assistance will also be needed in Phase I. Four months have been budgeted for this purpose.

During Phase II, a second team, consisting, at its maximum level, of three expatriates and four Pakistani experts, will provide the technical and managerial expertise needed to carry out the activities funded under the project. Over the course of four years, the average staffing will be 2.2 expatriates and four Pakistani advisors.

The team will be composed of two groups, with responsibility, respectively, for: i) overall team management, off-farm employment, local council activities, and infrastructure, and ii) agricultural production and marketing, watershed management, and irrigation. Although the agricultural program is not the largest component of the project, the technical assistance input is concentrated in this sector because it is the most complex to deal with successfully, given the limitations of the project area, and because the particular expertise needed is not readily available in Pakistan. The team composition will be as follows:

Team Management

- Team leader (expatriate), with responsibility for advising on area development strategies, project implementation, and evaluation.

- Local government specialist (Pakistani), responsible for planning/management assistance for local leaders and support to the LGRD Department in carrying out the

major program of district and union council infrastructure construction.

Agriculture

- Agricultural institutions specialist (expatriate), with responsibilities for working with GOP and private sector institutions in the project area to develop the agricultural marketing system (including credit, input supply, and output markets) and to promote joint action by the farmers where necessary.

- Agricultural economist (Pakistani), with responsibility for performing the economic analyses of the current and proposed activities and for advising the Department of Agriculture on the profitability of proposed interventions in both agriculture and watershed management.

- Agricultural production specialist (Pakistani), with responsibility for providing technical support to the agricultural program, with particular reference to field crops, fruit and vegetable horticulture, and irrigation management.

- Range management specialist (expatriate), with responsibility for assisting the GOP institutions involved to develop a watershed management program, including assistance in establishment of productive tree, bush, and grass species under dryland conditions for firewood, animal fodder, watershed management and soil conservation.

- Livestock production specialist (Pakistani), with responsibility for assisting the Departments of Forestry and Animal Husbandry to develop and implement the animal production elements of the watershed management component, with particular emphasis on introduction of improved breeds.

Scopes of work for these individuals are contained in Annex 8.

Short-term technical assistance will also be provided in Phase II. Sixteen months of short-term assistance have been programmed. The specific technical requirements will be determined by USAID and the GOP during project implementation and are expected to include both technical and social science specialties.

b. GOP and Other Local Staff and Allowances

Staff for the project (excluding technical assistance and AID monitoring staff) will be provided through one of four mechanisms (see Annex 17 for a more complete discussion of personnel matters):

- GOP staff already in place, whether within the project area or working in administrative jurisdictions that include the project area within them (e.g., Mardan District) will remain and will be financed by the GOP. The project will fund supplementary travel and lodging allowances on an "actual use" basis. Personnel from Mardan District (i.e., the Gadoon area) have been allocated project funds in each of the component personnel budgets, which will be controlled through the PLA mechanism. Personnel from Swat and Abbottabad Districts, however, are expected to be much less involved in project implementation and will draw allowances as needed from the special fund created for this purpose and held in the PCU. The number of potentially eligible staff in the project area is estimated at 32.

- Additional supervisory staff will be assigned to the project area by the GOP and will continue to draw their regular salaries and allowances. As with the existing project area staff, the GAADP will fund supplementary allowances. The number of such staff is estimated at two, including the PD/P&D and an additional supervisor in LGRD.

- Additional field-level staff will be funded by the project (salaries as well as allowances) and managed through a contracting firm. The planned complement of such staff numbers 55.

- Additional local staff, including, for example, forest guards, laborers on the field station, and sub-clerical staff at the PCU, will be hired locally, with wages and allowances paid by the project and managed by the PCU or through the PLA of the supervising COP official, as appropriate. The local-hire complement, exclusive of daily laborers, is estimated at 71 persons.

c. Project Management

The project will finance the operations of the Project Coordination Unit, located within the NWFP P and D Department. This Unit will provide administrative and management support to project activities, as described above. The Unit will be dismantled following project completion, unless continued by the GOP to manage a broader developmental attack on poppy production in the NWFP.

With the exception of the salary of the Project Director, which will be financed by the GOP, all expenses of the unit will be funded by the GAADP or, in the case of most PCU vehicle procurement, by the ACEP, AID-financed Agricultural Commodities and Equipment Program (391-0468). GAADP-funded costs include, in particular, the salaries and allowances for the PCU staff, all of

whom will be hired on contract (except for the Project Director and a Training and Communications Specialist).

In addition to the operation of the PCU itself, the project will fund a range of special expenses associated with project implementation. These inputs are grouped together as project support expenditures in the project component budget. Each of these expenditures is included in the appropriate category in the input budgets (personnel, commodities, construction, and operations). They include the following:

- Housing for PCU staff and technical assistance staff at Tarbela, as well as a modest staff house at Utla
- The fee and administrative expenses associated with the contract personnel to be funded by the project
- Supplementary per diem and travel allowances for cooperating staff that have not been allowed for elsewhere (e.g., LGRD staff from districts other than Mardan)
- Surveys necessary for project implementation, including the hydrological and mineral surveys, as well as those associated with monitoring and evaluation
- The services of an outside auditor for the PCU and other PLA accounts
- Equipment to be held in the PCU Development Support Communications Section and used to support the operations of the other components

As described in the Evaluation Plan below, three outside evaluations are planned for the GAADP. The costs associated with these evaluations have been classified as operating expenses and included in the project support budget as a separate category.

d. Commodities

The principal commodities to be financed under the project will be agricultural inputs, extension supplies, educational supplies and equipment, and equipment to be used by the PCU or other project management functions. The commodities to be provided fall into two broad categories: i) commodities required by the project and cooperating departments for their own operations and ii) commodities provided to area residents under one of the project-supported programs.

In the first category are equipment and supplies (including vehicles) for the PCU and the Departments of Local Government, Agriculture, Irrigation, Forestry, Animal Husbandry, and Irrigation. Commodities will be provided to support the work of departmental field personnel (extension agents, teachers, etc). In addition, any facilities built by the project (notably the

training facilities) will be provided with a basic set of equipment and expendable supplies.

In the second category, the most important items are seeds, improved tree stock and animals, fertilizer, and other agricultural inputs to be made available at nominal charge to cooperating farmers in the project area.

Wherever possible, project-funded commodities will be purchased or rented within the project area. Small construction equipment, for example, can be purchased from suppliers in the area, as can many basic agricultural inputs. This policy will help to promote the more rapid development of private enterprise serving Gadoon-Amazai and will also maximize the project's employment-creating impact.

The project will require a total of 29 vehicles, including 12 trailbikes as well as 17 heavy-duty passenger and transport vehicles. Three of these larger vehicles will be financed by the project, with the remainder being funded under the AID-financed Agricultural Commodities and Equipment Program.

Assured transport will be needed not only for the technical assistance team and the senior staff of the Project Coordination Unit, but also for many of the NWFP departmental personnel who will be expected to travel regularly to the mountain or to work in the area's highly dispersed villages. At present, the lack of transportation for such key NWFP personnel as extension agents seriously limits their effectiveness, since there is virtually no public transport available in the project area. As the road network is improved under the project, it will become theoretically possible for many more villages to receive regular service from government officials, but in practice the rate of contact cannot be increased substantially unless transport is also provided.

The GOP will make only a limited contribution to project commodity requirements in the form of commodities included in its regular departmental budgets, which will continue to be provided during the life of the GAADP.

e. Construction

The project will finance construction of roads, electrical lines, small irrigation schemes, potable water systems, three vocational training centers, and government service facilities of various types (schools, extension storage sheds, etc.). The construction input to the project will include both small-scale and large-scale projects. The latter account for the largest share of project-funded construction. None of the construction will be of sufficient scale, however, to require supervision from an off-shore contractor. Project-funded construction will be carried out by local contractors and area residents, depending on the scale of the effort.

Annexes 12 and 13 discuss the line agency and local government construction activities that have been identified for funding under the project. An illustrative list of council-executed construction projects is also shown in Annex 11, including projects completed by both union and district councils. The actual mix of construction projects will depend on the choices made by the councils involved.

Also included in the project's construction budget are the renovation of the offices and housing to be used by the PCU and the technical assistance team and the construction of a staff house at Utla. This latter facility, which will be used by personnel of all the line departments participating in the project as well as project-funded staff, will serve as a "base camp" from which staff may operate when working in the villages that cannot be reached by car. The staff house will not be used as a permanent residence during the life of the project and will be turned over to one of the line agencies for its use at the end of the project.

The GOP contribution in the area of construction will be limited to performing the initial engineering design for the major infrastructure to be constructed under the project and the work on the Utla-Amazai road that is completed prior to the initiation of MFAR funding.

f. Training

The project will finance approximately 60 months of short-term training overseas. Training will be provided as required to personnel of the provincial government who will work on the project directly or who manage programs that the project will support, in order to strengthen the implementation of such programs and upgrade the capacity of the NWFP to expand its programs in these areas. (See Training Plan below and Annex 20.)

In-country short-term training will be provided under the project to support project-funded activities and to increase local capacity. These training programs will be of three types: informal project-managed training for local officials involved in project activities, attendance at existing short-term courses offered by Pakistani institutions, and establishment of permanent programs offering short-term training to area residents in the construction trades.

While most of the training input to the project will be financed from project funds, the overseas training and in-country attendance at formal courses will be financed from DSTP resources. The budget for training activities in the GAADP budget is included in the operations budget for each component, rather than being shown as a separate line item, since the amount is small.

g. Operations, Maintenance, and Other Costs

i. Operating Expenses

The extra costs associated with project operations will be financed from GAADP funds, as previously discussed, rather than through the GOP contribution. Project-funded facilities (such as schools and potable water systems) that will continue operations after the project, however, will be funded by the GOP or local residents, following the existing policies for such facilities. Where programs are initiated or substantially expanded by the project and both AID and the GOP agree that all or part of the expansion should continue after the project (as may be the case with some of the extension and forestry activities), the operating costs will be transferred to the GOP during the life of the project, such that they are fully covered by the GOP at the end of the project.

The GOP will also continue to finance the regular operating expenses of programs that will be supported by the project at the level provided before the project. Thus the support now provided to the agricultural field assistants posted to the project will continue. (The issue of project funding for operating expenses is further discussed in the Financial Analysis section.)

ii. Maintenance

The maintenance of project-funded facilities will generally be the responsibility of the GOP. The GAADP will, however, finance the maintenance of the PCU building, project housing, and project vehicles (with the exception of the two vehicles provided to the Assistant Commissioner/Mardan and the Assistant Director/LGRD Mardan, both of which will be operated and maintained with GOP funds).

iii. Credit and Other Capital Funds

Credit and other capital funds will not be a major input into the project, since it is not believed that such a program is feasible in Gadoon-Amazai at the present time on a large scale. While several banks are present in the area, there is virtually no formal credit for agriculture (since, in the words of one bank official, the banks do not make loans for poppy), nor would one expect a loan program initiated in conjunction with enforcement of the poppy ban to exhibit an acceptable repayment rate.

Despite these problems, one potential use for credit has been identified and a small pool of capital has been earmarked for it, as part of the allocation to agricultural marketing. The emphasis in this program will be on increasing the effectiveness of existing credit funds, but it may also prove necessary to capitalize a small credit fund serving area farmers. The marketing program funds will be used for this purpose only if it does not prove possible to build up the agricultural lending

activities of private sector institutions (including both the banks and the agricultural wholesalers), however. For this reason, these funds have been identified together with the remainder of the marketing program fund as operating expenses.

iv. Land

Land to be used in project activities, such as the agricultural field stations, will in almost all cases be rented rather than purchased. Where land must be purchased (as, for example, in the construction of an engineered road), GOP funds will be used. Local council roads and paths almost never require land purchase, since they are commonly constructed by upgrading an existing track and the right of way is traditionally conceded to be already in the public domain. Very little land will be purchased under the project, in any case.

v. Enforcement

Although enforcement activities will not be financed under the project as such, it is understood by both the GOP and the U.S. Government that enforcement of the poppy ban in the Gadoon-Amazai area is absolutely essential to the success of the project. Implementation of the enforcement program will require a considerable allocation of GOP resources, including both the direct costs of police operations in the area and the administrative costs imposed by active enforcement of the poppy ban.

D. Procurement Plan

Project implementation will involve procurement of commodities from three sources: GAADP funds, GOP funds, and other AID-funded projects. Of these, GAADP-funded procurement will be by far the largest. Plans for this procurement, including responsibilities in each area, are discussed below.

Procurement from GOP funds will be carried out by the departments and agencies concerned and will follow the existing procedures for such procurement. In general, the project will not require these departments to expand their procurement operations, since most GOP funds will not be additional to their current expenditures, and few difficulties are anticipated in this area.

The only commodity procurement planned from non-GAADP funds will be the purchase of 14 crew-cab pickups and 12 trailbikes through the Agricultural Commodities and Equipment Program. This procurement will be the responsibility of USAID/Islamabad.

1. Technical Assistance

Technical assistance will be provided primarily through two teams supplied by the same U.S. firm, one for Phase I and the other for Phase II. In view of the special circumstances of the GAADP and the limited experience of the NWFP Government in procuring expatriate technical assistance, the Mission will procure these services via a direct AID contract.

The technical assistance team for Phase I will consist of two expatriates and two Pakistani professionals for about one year each. (See scopes of work, Annex 8.) In order to simplify procurement and ensure cooperation, this group will be procured through a single contract.

The requirement for early enforcement makes it imperative that the Phase I team be in place as soon after signing of the Grant Agreement as possible and in no case should their arrival be delayed past the fall planting season (September-November 1983) Since this timetable clearly precludes standard competitive procurement procedures, the Phase I team will be provided by amending an existing centrally-funded contract. The technical assistance team for Phase II will be procured from the contractor providing the Phase I team on a non-competitive basis.

2. Personnel Contracting

Additional Pakistani field-level personnel necessary for project implementation but not now in place in the NWFP government will be provided through a contract with a Pakistani firm. These personnel will include, for example, extra agricultural field assistants, forest wardens, and stock

assistants for the agricultural program, as well as the non-supervisory personnel who will staff the PCU.

The Pakistani firm providing these staff will be responsible for recruitment and all matters connected with personnel administration. The contract staff will report directly to supervisory staff within their respective line agencies, however; the contracting firm will not have any responsibilities with respect to assigning responsibilities to these individuals or monitoring their performance. Where possible, qualified residents of the project area will be identified to fill these positions. In such cases, the contracting firm will serve as a valuable mechanism for bringing these individuals onto the project staff, which would be difficult if not impossible under existing government regulations.

The positions to be filled through the contract have been classified with reference to the existing job classification system in the GOP. Pay scales and allowances for these positions have been developed based on these classifications, but allowing for somewhat higher salaries than paid in the regular government service. Companies competing for this contract will therefore be asked to specify only their proposed charge for recruitment and administration, working with the numbers of staff and pay scale developed by the project.

3. Commodities

Commodities needed for project implementation will be procured following one of four procedures, as follows:

- Project vehicles funded through the Agricultural Commodities and Equipment Program will be the responsibility of AID.

- Off-shore procurement of project-funded commodities that must be in place during Phase I or shortly after the beginning of Phase II will be undertaken by AID.

- Off-shore procurement of project-funded commodities that will be needed six months or more after the arrival of the Phase II technical assistance team will be accomplished by the firm providing the team, as directed by AID.

- In-country procurement will be undertaken by the GOP line agencies responsible for the specific activity involved, assisted as necessary by the technical assistance contractor and AID. Procurement will follow the existing GOP procurement regulations, with the largest share of such purchases being managed through the Personal Ledger Account mechanism. Project procurement will be supported as necessary by the administration section of the PCU. The technical assistance team will also undertake a limited amount of

local procurement, primarily to meet the needs of the team itself.

4. Construction

Procurement related to project construction will be completed by the agency responsible for the construction itself, as follows:

- The local councils (both union and district councils) implementing small infrastructure schemes will complete all procurement themselves with funds provided by the project. As a rule, nearly all of the materials will be purchased near to the construction site.

- The line agencies completing larger infrastructure projects and other construction (most of which will be on an MFAR basis) will procure construction supplies in accordance with their existing procedures.

E. Training Plan

In addition to the major program of vocational training financed by the project, the GAADP will finance two types of training. First, a variety of management and technical training activities will be funded in support of project activities and to expand capacity within the NWFP to continue the programs after the project. Second, a program of informal training will be undertaken in project-area communities to increase area understanding of the aims and operations of the project and the role of villager participation in the programs. The latter activity will be carried out by the Development Support Communication Section of the PCU, and is described in more detail in Annex 20.

The training activities in the category of management and technical training will take the following forms:

- In-service short-term training for key GOP personnel to be involved in the project, conducted in the project area and organized by project staff

- Short-term training in Pakistan or overseas training institutions for a limited number of senior personnel

The training program, described in detail in Annex 20, will provide approximately 460 months of in-service training and approximately 80 months of short-term training in formal courses. The latter will be financed through the Development Support Training Project.

1. In-Service Training

The in-service training program will build on and strengthen existing training programs for field personnel and local government officials. In-service training courses (primarily informal seminars of one to two days' duration) will be provided in the following three areas:

- Agriculture. The existing training and visitation (T&V) system will provide the basis for on-the-job training for the field staff of the Department of Agriculture. Project staff will work with the departments involved in the project that do not have a regular training program (such as the Departments of Forestry and Irrigation) to develop short one- or two-day courses for their personnel in appropriate topics.

- Local Government. The project will offer short courses for both personnel of the LGRD Department and the councillors themselves in the planning and implementation of small-scale, local construction

projects. The training program will be keyed to the planning and budgetary cycles within which these councils work.

- Community Education. The project will support in-service training and teacher support for the "mohalla" school teachers, conducted by personnel of the Department of Education.

In addition to these special departmental training courses, the PCU will conduct regular inter-departmental seminars involving the key sectoral personnel to promote an overall understanding of the GAADP, integration of the various activities, and a systematic appraisal of project progress. These seminars will serve a joint training and management function. Additionally, many of the project activities, such as the work of the expatriate advisors with the field staff, will have the effect of in-service training, although it is not considered part of the training program *per se*.

An important non-formal training activity in this regard is the training of low-level cadres who will provide the field staff for project implementation. Many of these personnel will be hired from the Gadoon-Amazai area itself, in part because it is difficult to induce people from outside the area to take semi-professional jobs of this sort. It is expected that, following their employment on the project, many of them will be able to move into the regular government employment channel, helping to reduce the problem of finding qualified personnel for posts in the area.

In addition, project staff will work with area schools on an informal basis to identify promising students who could continue their education at the appropriate training schools for low- and mid-level cadre, making use of existing scholarships for students from remote areas. Although this activity will not have an immediate benefit in terms of the project itself, it will contribute to a future increase in the supply of suitable candidates from the area for these positions.

2. Short-Term Training in Pakistan

The project will draw on formal short-term courses offered by existing government training institutions to upgrade the expertise of middle- and senior-level project personnel and Gadoon-Amazai government staff. Careful matching of available courses with the specific needs of the personnel in place will be undertaken with the assistance of staff under the DSTP. The majority of this training is expected to be provided through the Pakistan Academy for Rural Development (PARD), which is a target for assistance under the DSTP, and through the National Center for Rural Development. Although for the most part the in-service refresher courses offered by the professional training institutions are too general to serve the GAADP's needs, project staff will work with these institutions to explore the

possibility of arranging short courses on specific topics where training is needed.

3. Short-Term Training Overseas

The project will sponsor overseas training for at least seven participants from the Gadoon-Amazai area, in order to provide key GOP personnel who will work on the project with the necessary skills to manage their expanded responsibilities under the project. These individuals will be sent for six- to nine-month courses at U.S. institutions, depending on the training available and the level of skill already attained.

Specific training needs have been identified in the following areas, although additional needs may be identified during project implementation:

- Training and Communication (one person, beginning in 1983)
- Non-Formal Education (two people, beginning in 1983)
- Regional Planning (one person, beginning in 1984)
- Local Government (one person, beginning in 1984)
- Range Management (one person, beginning in 1984)
- Semi-Arid Agriculture (one person, beginning in 1985)

F. Evaluation Plan

The GAADP raises an interesting methodological issue in project evaluation, since an important criterion of project success will be its impact on two activities in which the project will not be directly involved: the production of opium poppy by the farmers and the parallel effort by the Government of the NWFP to eradicate it. The activities of the project itself are all directed toward building up the non-poppy economy of the project area and will only indirectly support the enforcement effort *per se*.

Evaluation must encompass not only the project's direct impact on the area's non-poppy economy but also its indirect impact on the eradication of poppy. It is conceivable that the project will, in the end, be shown to have effectively supported the enforcement effort and led to a more complete eradication of poppy than would otherwise have occurred, while at the same time delivering only superficial benefits to the residents who have remained in the area and leaving them definitively worse off than they were before the project. In this case, the project may well be judged successful if poppy eradication were the only objective. It must be clear, however, that this outcome would not be viewed as a complete success by AID, which is committed to the eradication of poppy, but *within* a process of more rapid development for the poppy-producing areas.

The reverse situation, namely the achievement of significant development results but little progress in eliminating poppy, is an unlikely outcome. Inasmuch as inputs during the project's proposed implementation will only be sustained if the Government has undertaken and adheres to an eradication plan, the absence of progress on the enforcement front would undermine the development effort. This point underscores the interdependence of the enforcement and development programs, with achievements in each contributing to positive results in the other.

The evaluation plan for the GAADP, therefore, calls for evaluation of both enforcement and development to be conducted at three levels:

- The PCU Monitoring and Evaluation Section will evaluate project progress on a continuing basis, in order to provide the information for decision-making by project management as well as the information base upon which the periodic external evaluations can be conducted.

- The P and D Project Review Board and USAID will monitor project progress and conduct informal evaluations of project status as part of the six-monthly review of the rolling annual work plans.

- Three external evaluations will be conducted, one at each major point in project implementation.

1. Internal Monitoring and Evaluation

A Monitoring and Evaluation Section will be established within the Project Coordinating Unit at Topi. This Section, staffed by an agricultural economist, a statistician, and a clerk, will develop and implement a simple information system serving primarily the project's internal needs. This system, which will be developed and instituted with considerable assistance from the area development specialist, will collect information from a variety of sources, analyze it, and present it in a form that is relevent to project decision-making requirements. The Section will draw on the following sources:

- reports and documents prepared by project staff
- reports and documents prepared by the staff of line agencies who are cooperating in project implementation
- other line agency reports
- other information on the project area, such as that produced by other donor projects

In addition, small surveys will be conducted as requested by the project management and the line agencies to provide information of direct relevance to the project. The Monitoring and Evaluation Section will not conduct a general baseline survey, since experience elsewhere leads to the conclusion that such surveys are too expensive, tend to produce more bits of data than can usefully be analyzed or processed, and fail to provide information that later proves useful for evaluation. The Section will prepare status reports and proposed work programs for the upcoming period on a quarterly basis, serving both planning and evaluation purposes.

2. Internal Evaluations

The semi-annual review that accompanies preparation of the updated work plans will form the basis of the project's internal evaluation process. These reviews will periodically measure GAADP accomplishments in terms of project inputs and outputs (in logframe terminology). The purpose of the reviews will be as follows:

- to measure accomplishments against targets established in the previous work plan
- to identify problems that need attention during the next six-month period and outline necessary actions
- to develop targets for the next six-month period

- to determine whether individual components are proceeding satisfactorily and whether the original allocation of funds is appropriate or should be adjusted in light of experience to date

3. External Evaluations

Three formal external evaluations of the project are programmed, consisting of a Phase I evaluation, a mid-term evaluation for Phase II, and a final evaluation in the last year of the project. All three evaluations will be conducted by teams including USAID, NAU, and GOP officials and outside consultants not connected with the technical assistance contractor.

The Phase I evaluation will be conducted towards the end of the project's first year, with the specific date timed so that both the Phase I and Phase II technical assistance teams will be present. This evaluation will address three critical issues:

- Has the project achieved its Phase I purpose of a) providing visible development benefits to the residents in the target area, b) creating short-term employment opportunities, and c) completing the necessary groundwork for the Phase II programs?

- As measured by a quantifiable reduction in poppy acreage, has the enforcement effort to date been successful? Has the enforcement effort been reasonable?

- Is the program for Phase II still valid (with minor adjustment) or does the experience in Phase I suggest that major changes are needed? If so, how should the program be changed?

The mid-term evaluation has been tentatively scheduled for January 1987, when the acreages planted in the third cropping season will be readily ascertainable. It will measure project accomplishments at the purpose, output, and input levels. It will explore, in particular, the following issues:

- Have the local councils proven an effective means of delivering benefits to the local population?

- Have the line agencies cooperated effectively in project implementation?

- Has the agricultural program succeeded in increasing the farmer's return from non-poppy crops, particularly dryland crops but including as well irrigated crops, livestock, and tree crops?

- Has the infrastructure network been expanded as planned?

- Have the training programs been established successfully and have the graduates from these programs found jobs in Gadoon-Amazai or outside of the area?

- Has the combined impact of the enforcement and development efforts caused the eradication of poppy production?

The evaluation team will draw on the determinations made relative to the above issues to recommend changes in the program for the remaining almost two years of project implementation. It will also consider the implications of the GAADP experience for the development of the SDP/OPGA.

The third and final external evaluation has been tentatively scheduled for November 1988, after the fifth and last spring harvest season and the sixth and last fall planting season during the project's life. This evaluation will reexamine the issues addressed during the mid-term evaluation and in addition will consider the following major questions:

- Does the experience in Gadoon-Amazai support the hypothesis that an area development program can provide effective support for the GOP's policy of poppy eradication?

- If so, does it appear that the two together produce a total eradication program that is more successful in the short and long term?

- To what extent was the project successful in helping to shift the economic base of the area out of poppy and into another viable set of economic activities or was this too ambitious a goal for the short period of the project?

- What are the implications of the project's experience for future poppy eradication efforts?

- What are its implications for the development of remote areas of low potential such as Gadoon-Amazai?

The foregoing evaluation plan, covering the project's enforcement and development purposes, will be supplemented by systematic, continuing monitoring, with NAU playing the key role, of enforcement efforts and progress. All of the evaluation and monitoring activities will be shared with and reviewed by the Narcotics Coordinating Committee in the U.S. Mission.

V. PROJECT ANALYSES

A. Technical Analysis

1. Summary

The project as designed is technically feasible and can be implemented as described in this project paper. This determination is based on information gathered during project design, despite the fact that currently available data do not provide answers to every technical question with sufficient precision to permit a full specification of all project activities. This is particularly true in the area of agriculture, where the overall program and the initial activities can be specified, but the selection of new crops and other activities to be introduced in Phase II will require further exploration during implementation.

Technical feasibility considerations were addressed in the design of each component. A complete discussion of these analyses is included in the description annex for each component.

2. Infrastructure

The infrastructure component requires two types of activities: small-scale construction by local councils and larger-scale construction by the line agencies. In both cases, the organizations concerned have the capacity to carry out the construction required, as demonstrated by their established record with such construction.

The engineered infrastructure consists of rural roads, small electrical systems, and potable water systems serving a small groups of villages. In all cases, the line agencies responsible for the construction have completed similar works of a much larger order of magnitude and have established rosters of contractors qualified for the work.

The local council construction will involve completion of projects somewhat larger than those previously undertaken by the councils, but most of the increased expenditure is accounted for by more realistic budgets for the projects to be financed and by a larger number of schemes, rather than by a major increase in the scope of the activity itself. Thus, for example, the donkey paths to be built by the union councils will be longer than most of those built to date, but they will involve exactly the same construction techniques. The construction method involved consists essentially of removing rocks along the selected route and smoothing the path, both completed primarily by pick and shovel. The technical and managerial support capability of the LGRD Department will also be increased substantially during the project period to provide the additional backstopping necessary for the increased level of activity. Local council construction activities will not, therefore, pose a technical problem.

3. Agriculture, Watershed Management, and Irrigation

The varied and generally unfavorable agroclimatic environment of the Gadoon-Amazai area makes it difficult to develop a set of appropriate recommendations for the area without the benefit of field trials or reliable information on rainfall, temperature, and soils. The situation is further complicated by the wide differences among microclimates in the area, caused by the extreme ruggedness of the underlying landforms. Fruit trees, for example, may produce well at the upper elevations, where chilling requirements are met, but fail to set fruit at locations only a mile or two away. Even at the upper elevations, trees planted along a streambed may do well, while trees planted fifty yards away may not survive.

The lack of complete technical information is most severe in the forage and animal production subsector. The available data base is both meagre and internally inconsistent, since the reported animal population could not survive, much less produce, on the reported supply of feed and forage. Moreover, the social and economic relationships in the livestock sector (division of grazing rights, etc.) are both complex and poorly understood. The degree of understanding necessary to implement the program in the livestock subsector can only be gained by beginning a program on the basis of available information and adding to the base of knowledge as the program develops over the course of implementation.

In contrast to the other components of the project, the agricultural component requires technical expertise that is not available in the Government of the NWFP. Technical assistance to be provided under the project is therefore key to the technical feasibility of this component, particularly in the areas of watershed management and agricultural institutions. With regard to the former, the existing institutional structure provides skilled personnel in livestock health and forestry, but there is no branch of the government charged with animal nutrition, range development, or watershed management. This problem has received increasing attention within the GOP over the last few years; solutions are being actively sought, but cannot be expected to be implemented in time to benefit the GAADP.

While most of the specialties required, such as agricultural economics and livestock production, are readily available in Pakistan, two critical areas of technical expertise can only be filled by drawing on expatriate personnel and have been provided in the long-term technical assistance team:

- Range management, which as a discrete discipline is virtually unknown in Pakistan

- Agricultural institutions, including credit, marketing institutions, and small farmer organizations, an area of specialization that requires skills, experience, and

perspectives that will, in all probability, only be available to the project in expatriate personnel.

a. Agricultural Production

The overall approach developed for this subcomponent is technically sound and represents the most feasible method of rapidly improving agricultural production in the area. The agricultural production program will begin with the principal non-poppy barani crop, wheat, for which an initial technical package can be developed with available information. As experience with the area is gained through the field trial program, work will extend to additional crops. In some cases, this will include new crops (both barani and irrigated) for which there is no field trial data for the project area. Such crops will not be introduced on a large scale until the technical, economic, and marketability information is available to indicate that they are sound additions to the current system.

The program as a whole is thus designed to build on existing information and to expand the technical information base as the project progresses. The activities to be undertaken represent a mix of on-farm and field station trials to provide the necessary area-specific data base with a training and visitation (T&V) system to transmit this information to area farmers on a larger scale. Expansion of the program will keep pace with the growth of reliable information produced by the project itself or translated from applicable experience elsewhere.

The extension methodology to be used is the T&V system, now in use by the Agricultural Department in Mardan District under the Mardan SCARP activities funded by the World Bank. The Department is thus familiar with this methodology and should not encounter unusual technical difficulties in implementing it in the project area.

b. Agricultural Marketing

The technical design of the marketing component has focused on the incorporation of a high degree of flexibility into the proposed program. A set of methods and approaches has been identified, which responds to the differing needs of the wide range of marketing institutions active or potentially active in the project area, but it is not possible to determine in advance which of these tools will be used, since the marketing program must be developed in parallel with the agricultural program.

The timing of this program is key to its technical feasibility. The first crop to be developed, wheat, does not pose any marketing problem for the project area. It is projected that the additional wheat supplies will be absorbed within the project area for the first three years, progressively displacing wheat currently imported into Gadoon-Amazai (which is 80 percent deficient in wheat). Increased amounts of crops requiring

marketing assistance will not be produced until later in the project, allowing time for marketing problems to be identified and resolved as well as for the solution of production problems.

The component will also address the development of the market system for inputs, since greater amounts of outside inputs will be needed for some crops. To prevent a bottleneck developing in the first years of the project, the wheat seed needed will be produced in the project area under contract with local farmers. Thus only fertilizer will need to be transported. The amounts required are negligible in comparison to either the transport capacity of the local economy or total national production.

The inclusion of a capacity to address marketing problems within the project greatly increases the overall feasibility of the agricultural component, since the ability to address and remove constraints in the marketing sector is expected to be key to the success of both the agricultural production and watershed management components.

c. Watershed Management

The existing data support three conclusions upon which the technical design of this subcomponent is based:

- livestock production can be raised greatly by introducing improved breeds and improving the production of existing animals,
- the supply of firewood from naturally occurring species is insufficient and forces local residents to denude the hills in search of fuel, at a cost to both the forage supply and the future availability of firewood
- the basis of any livestock improvement program must be an improvement in the productivity of the range, which must address the need for firewood as well as the prevailing ownership and usage patterns on the hills.

There is sufficient information to begin work toward these ends, but many questions remain to be answered. The initial program will therefore be based on improvement of the existing species, with introduction of hardy livestock species once sufficient evidence is available to indicate that they can be supported. Fayoumi chickens, teddy goats, and rambouillet sheep have been identified as suitable breeds available in Pakistan that should do well in Gadoon-Amazai, particularly once the range is upgraded.

d. Irrigation

The irrigation schemes to be constructed under the project are small systems based on small checkdams and gravity-fed channels. The technology needed to construct and

operate such systems is already widely used in the project area and is not expected to pose any technical problems beyond the capacity of the personnel responsible.

To ensure that the dams are soundly designed and able to stand up to the rapid stream velocities of the rainy season, the necessary engineering work will be carried out by the Irrigation Department. The engineering staff of the Department, in conjunction with the engineers attached to the Local Government and Rural Development Department, will also provide technical advice to the union councils on the siting and construction of the irrigation channels, to ensure that the final system will work. The final layout of the channel system and the actual construction of the channels will be the responsibility of the farmers themselves (financed by the union council), since experience elsewhere indicates that farmer control of this part of the system both increases the technical suitability of the final design and ensures that the farmers will be committed to maintaining it after construction.

4. Off-Farm Employment

The implementation of activities included in the off-farm employment component does not present serious technical difficulties for the agencies responsible for implementation, as shown by their successful application of the approaches and techniques to be used elsewhere in Pakistan.

a. Vocational Training for the Construction Trades

Both the engineering contractor at Tarbela and the Overseas Pakistani Foundation have extensive experience in the types of training to be financed by the project. The design of the training program has been completed taking into consideration the way the market for construction manpower functions, as well as the capabilities of the residents who will be trained in these programs. This analysis has led the designers of the program to focus on the provision of entry-level skills based on short courses in specific technical areas. This approach is believed to be more suited to the needs of the area than the alternative approach of offering long-term training aimed at producing a graduate with a higher degree of skill in a single area or a broader range of skills. This conclusion is based on the following considerations:

- The amount of training needed to reach a high degree of skill implies a long training period of one to two years. The high cost of such training limits the number of trainees who can benefit from the program.

- Training is necessary to cross the barrier between skilled and unskilled labor, but once this barrier has been crossed, additional skills are generally built on the job, rather than in formal training. It is

therefore more efficient to provide entry-level skills to as many people as possible, rather than providing more in-depth training that may not be suited to the needs of the employing firms.

- The labor market in the construction trades is highly specialized, particularly where the large projects that provide the majority of positions are concerned. An individual with a sound grasp of one skill has a better chance of employment than one with very general training in a range of areas.

- Skill training should emphasize practical experience with the equipment in an environment similar to that in which the skills will later be used. An effective way to accomplish this is to contract for such training with institutions that are closely connected with the industry itself, such as OPF and the engineering contractor at Tarbela, rather than with general-purpose training institutions.

- The training should be offered in a way that maximizes the ability of the target population to benefit from it. Thus, training should be located close to their current residence, it should not require a higher level of preparation than they have, it should be based on a schedule that permits the trainees to continue to work on a part-time basis, and it should provide a modest stipend so that low-income residents are able to attend.

b. Education

The largest activity, school construction and repair, poses virtually no technical difficulties, since it simply continues an activity that is already widespread. The project approach to such construction has been selected in part to counteract the problem of poor construction by union councils, which is caused by insufficient budgeting and poor technical support during implementation. Both of these problems are addressed by the project, which assigns school construction to the district councils, provides for a larger budget per school, and raises the technical monitoring capacity of the LGRD.

The budget makes ample provision for the special design features needed in a girls' school to meet local requirements with regard to the appearance of women in public. These modifications greatly raise the feasibility of increasing education for females.

The mohalla school program will extend an existing program into the project area. The technical feasibility of this program, which has had mixed results in other parts of the country, will be supported by providing U.S. training in nonformal education for two women employees of the Department of

Education and by providing resources to permit a greater level of technical support to the mohalla teachers from the existing staff of the Department.

B. Administrative Analysis

1. Summary

Administrative responsibilities for implementation of the GAADP are shared among the PNCB and the provincial government line agencies and local councils of the NWFP. These organizations will be supported by USAID and the technical assistance contractor. The choice of an administrative approach and organizational structure for project implementation was based on an analysis of the differing strengths and weaknesses of these various organizations. Three considerations have been paramount:

- Wherever possible, the division of responsibilities in the GAADP is the same as that applying to the regular activities of the GOP.

- The structure is designed to fit in with the existing regulations and operating procedures of the government, particularly with respect to the critical area of personnel management.

- The creation of new organizations has been avoided, in part because of the widely-held perception that this practice was not successful when applied in the IRDP system instituted in the 1970's and in part because this approach is vehemently denounced by NWFP officials as one of the factors detracting from the UN Buner Project.

The results of the administrative feasibility analysis support the conclusion that the proposed project structure and administrative approach are sound and conducive to the efficient implementation of the project.

Several line agencies and other organizations will be involved in project implementation. The findings with respect to each organization will not be presented here. The administrative feasibility of the proposed activities is examined in each of the component description annexes with reference to the specific organizations that will be involved in implementation of that component. The overall conclusion of these analyses is that the organizations to be involved in the project have the administrative capability to implement the programs assigned to them, since with few exceptions these represent straightforward extensions of programs that they are already implementing elsewhere in the NWFP without serious difficulty. The expansion of activity within any one agency will be minor in comparison to the current level of agency operations, reinforcing the conclusion that administrative problems should be tractable.

Three specific issues have been identified, however, that merit discussion:

- The organizational structure for the project as a whole
- The administrative feasibility of the local council program
- The integration of the agricultural component (particularly the watershed management and agricultural marketing subcomponents)

2. The Project Management Structure

There is no prior experience in the NWFP with an integrated area development project to support enforcement of the poppy ban on the scale of the GAADP. In consequence there are no proven models upon which to depend in the development of an administrative approach for such a project. Experience with the Malakand Project has been positive but because it is on a much smaller scale than the GAADP, and because experience has been limited, conclusive judgment on the functioning of its administrative structure cannot yet be found. The UN Buner project's experience indicates that the choice made there--to circumvent the line agencies and establish a separate structure--would not be appropriate to the situation in Gadoon-Amazai.

It is clear that the project must have a single organization in the role of coordinator, if it is to avoid becoming simply an unrelated group of activities. It is equally clear that no institution in the NWFP government has an established record in playing such a role, nor is there any line agency that itself has a sufficiently broad scope to implement the project without drawing on the skills and resources of other departments. As discussed in Annex 10 and Background Papers 1 and 2, the structure, as is the case in most public sector situations, of the NWFP government is more effective at dividing responsibilities along clear lines than it is at integrating activities, either across fields or, within a single field, between planning and implementation.

There is thus not an obvious answer to the question of which organization should house the GAADP. Several alternatives were considered during design, including the following:

- An organization at the federal level, such as the PNCB or PARD
- The Planning and Development Department (P and D) of the NWFP
- The NWFP Regional Development Planning Section (RDP) of P and D

- The Department of Local Government and Rural Development in the NWFP

- The Offices of the Deputy Commissioners in the project area's three Districts (or the Assistant Commissioners in the project's three tehsils)

Each of these options has both strengths and weaknesses. The leadership of a federal organization provides the cooperating line agencies with additional flexibility, but it also raises problems because none of the potential federal agencies has the necessary degree of authority over NWFP agencies.

At the provincial level, both RDP and LGRD have in theory a broad mandate that would cover the range of activities planned, but both are small organizations that could not effectively coordinate the powerful line agencies that will participate in the project (such as Communications and Works). The Deputy Commissioners have the requisite authority, but their organizations are oriented toward maintaining law and order in their regions, rather than to development. Moreover, this choice would require three separate project offices. P and D, which controls the development budgets of the line agencies, has both the authority to control the line agencies and the developmental perspective to direct the project, but it has only limited experience with project implementation.

The recommended approach constitutes a hybrid of three of these alternatives, producing a structure that is expected to perform better in the project management role than would any of its component parts. The PNCB will serve as the formal federal level counterpart organization. The P and D Department will take the lead in coordinating and overseeing implementation and will manage the Project Coordination Unit. The line agencies and local councils will execute project activities, with the LGRD Department in a pivotal position between the two.

At the operational level, the LGRD will play a key role in the local council activities, bringing its strengths to bear in this important area. In addition, the supervisory role of the Assistant Commissioners is recognized by their designation as members of the Project Coordinating Committee established to advise the PCU and the PD/P&D and to approve project work plans.

The specific role to be played by the PCU received considerable analysis during project design. The definition of authorities and responsibilities that resulted from this analysis (specified in Annex 17) is guided by a concept of the PCU as a coordinating body rather than as a project management unit (PMU). The PCU will not have line authority over the implementing agencies, but instead will exercise control through the project budget, regular review of line agency performance in the project to date, and approval of work plans for the next planning phase.

ii. <u>The Mix of Inputs</u>

As discussed in the Technical Analysis, the mix of inputs proposed to carry out the project is based on the needs of the program and represents a reasonable balance among commodities, construction, technical assistance, and other inputs. Two inputs--technical assistance and project management--deserve special consideration.

With regard to the former, the allocation of project resources to technical assistance (roughly 18 percent before inflation) is by no means excessive in view of the difficult and challenging conditions (both institutional and technical) under

This mechanism parallels the operation of the P and D Department vis-a-vis the line agencies of the NWFP and is therefore well understood and accepted by both parties.

3. The Local Council Activities

The project assigns a major role to the local councils in project implementation. Since these organizations are relatively new (assuming their current form in 1979) and since the level of activity represents a significant increase over their current level of activity, the issue of their ability to perform their role has been seriously examined during design. This analysis reached the conclusion that the councils are the best structure on which to build the project's small infrastructure activities, but that the councils nonetheless have several weaknesses, including the following:

- At this point in their development, many councils have not yet established internal mechanisms to overcome factionalism and other organizational problems that have carried over to the councils from the society at large.

- The union councils are essentially organizations for dividing up funds received from the center; they have at present limited capacity to build consensus at the local level or to serve as a forum for discussion of other matters.

- As elective bodies, the councils are subject to pressure from other influential elements in the society and are not under the control of the NWFP line agencies. It is therefore not possible to ensure that individual council members (or even entire councils) will always cooperate fully with the GAADP.

- Despite some problems, the councils have a generally good record in implementing small projects that meet the needs of local residents often at a lower cost than comparable structures executed by the line agencies. If they are to perform equally well at a higher level of activity, however, they will need additional support in both the selection and implementation of such projects.

To overcome these weaknesses, the project will provide substantial assistance to the local councils and their supporting line agency, LGRD. This support will take the form of technical assistance, particularly in Phase I when the program is getting started, training for local councillors and LGRD staff, supplementary travel allowances to permit the present LGRD staff to increase their support to the councils, and, finally, additional technical and managerial staff to augment the capability of the LGRD. Included in this staff will be two community organizers, with two primary roles. The first will be

to monitor and attempt to prevent an increase in the internal divisions within the society as a result of project activities, as well as inappropriate use of the councils' powers in the selection and implementation of schemes. Their second role will be to build cohesion on the basis of user groups, producer or seller associations, or other community groups so that they can better take advantage of project support activities. They will be assisted in this latter task by the Development Support Communications Section of the PCU.

Together, these measures are expected to be sufficient to overcome the problems described above, resulting in the effective implementation of the local council activities. Problems are, of course, anticipated in this area, and the situation will be continually monitored by AID, the PCU, and the technical contractor to forestall serious difficulties.

4. Integration of the Agricultural Program

Two of the subcomponents in the agricultural program--watershed management and agricultural marketing--represent substantive areas that the existing GOP organizational structure does not yet deal with effectively. With regard to the former, several departments have responsibility for various parts of the whole (Forestry, Animal Husbandry, Irrigation, Agriculture, and others), but no agency takes responsibility for the area as a whole, nor do the individual agencies coordinate their programs. Important pieces of the puzzle (notably forage management) fall between the responsibilities of the agencies as currently delineated.

While this problem has attracted increasing attention at both the national and provincial level, there is at present no accepted administrative structure for dealing with range management in all of its complexity. A project has recently been funded in Hazara Division with many of these same activities (including range management and animal production). This project will be managed by the Forestry Department which has agreed to accept responsibility for the entire project. Until this approach is proven, however, an ad hoc sharing of responsibility as adopted for the GAADP will remain, of necessity, the only way to begin organizing a watershed management program.

The PCU and technical assistance personnel will work with both of the two major agencies involved (Forestry and Animal Husbandry) to bring them together into a coordinated effort to improve range management in the project area. The programs of the two agencies will remain administratively separate. This approach will be refined during implementation if it does not prove feasible to develop an effective program on this basis.

The administrative situation with regard to marketing is considerably more difficult, since no organization has the mandate to address the marketing problem as a whole. Moreover, many of the organizations that might be involved in marketing

cash crops produced in Gadoon-Amazai are not part of the NWFP line agency structure, but are instead autonomous or semi-autonomous agencies of the federal government, further complicating an already complex problem. Others are not government entities at all, but are private sector firms such as seed companies.

In the face of this situation, it is not possible to develop a foolproof administrative approach to meeting the marketing needs of the project. The exploratory approach to be used in the project will permit the project staff to work with a variety of institutions as necessary, promoting permanent ties to NWFP institutions and linkages to the private sector when possible. This activity will not begin until year three of the project, in any case, permitting a fuller exploration of the possibilities as the crop mix crystalizes. Under the circumstances, design of a more fully articulated administrative approach is not feasible.

Both the range management and marketing subcomponents thus represent a move away from the principle of dependence on the line agencies' existing programs espoused by the design team and USAID/Islamabad. The approach chosen in each case is admittedly a second best solution, dictated by the lack of any simple approach to dealing with these two critical issues.

C. Economic Analysis

In view of the special circumstances surrounding the Gadoon-Amazai Area Development Project, it has not been possible to perform a rigorous cost-benefit analysis on the project. A rigorous economic analysis of the project is neither feasible nor appropriate, for the following reasons:

- First, the standard criterion for judging the economic return to a project (the net present value of the increased production and income) does not apply, since, if the project is successful, the value of the project area's income at the end of the project will be the same as it was before the project. In other words, there will be no net increase in production, taking into consideration both poppy and non-poppy activity.

- Second, although the project could in theory be evaluated on the basis of the economic value of the reduction in opium production, any value placed on this reduction would be arbitrary in the extreme. Moreover, the project will not directly reduce the production of poppy (which will be the role of the accompanying enforcement program) but will only mitigate the economic impact of the ban, once it has been made effective.

- Third, the justification for many of the project's activities is basically political rather than strictly economic. The goods and services to be provided under the project have been selected in part because their provision is expected to increase the acceptance of the government's enforcement activities, rather than because they are economically justifiable. The activities identified for inclusion are believed to represent the most economically sound package from among the available alternatives, but there is no pretension that the level of assistance provided is based on strict economic criteria.

- Finally, there is a conscious subsidy element in many of the activities funded by the project. While an implicit subsidy is virtually inescapable in the delivery of services and infrastructure to remote areas under any circumstances, in the case of the GAADP the inclusion of services at levels over and above what the residents could or would be willing to pay for represents a conscious effort to compensate the residents for the loss of their main livelihood. Implicit subsidies have been chosen in preference to direct cash transfers for a variety of reasons, discussed below.

The economic analysis of the project that has been undertaken has, in view of the above, been restricted to a purely qualitative analysis of the following issues:

- The economics of poppy production relative to currently available alternative crops, potential alternative crops and other economic activities
- The expected economic return to the activities funded by the project in comparison to alternatives
- The appropriateness of including a subsidy element in project activities and the determination of what form such subsidies should take

1. Comparative Economics of Poppy Cultivation

The comparative analysis of poppy cultivation relative to the available alternatives leads to the following conclusions, as supported by the more detailed calculations shown in Annex 19:

- The alternative to poppy in the current cropping rotation--wheat--cannot provide an equivalent income under any reasonable set of assumptions. The projected drop in net income per acre ranges from 22 percent in the most optimistic case to fully 96 percent in the most pessimistic case.
- Agricultural alternatives to the current poppy-based rotation that take into consideration the possibility of improving the productivity of all parts of the farming system (including dryland and irrigated crops, livestock, and tree products) have the potential to produce a net income from agriculture that equals that of the current rotation.
- A broad gauge effort to replace the income from poppy from a mix of economic activities that includes off-farm income and improved social services as well as increased agricultural income can, at least in theory, yield a net family income well above the current income from poppy and other sources.

Government data on the income from poppy cultivation are, understandably, not available. Farmers and officials in the area report an average yield of 16 kg./acre, but this is believed to overstate the yield somewhat, particularly at the lower elevations. Such a rate of production would be well above the yields reported elsewhere in the NWFP, which are believed to be in the range of 8-10 kg./acre or even lower. In this economic analysis, the rate of 16 kg. was used for two reasons:

- The yield in Gadoon-Amazai is believed to be above that obtainable elsewhere in the NWFP. This belief is supported by the fact that no other area has such a concentration of opium acreage.

- An estimate of 16 kg. represents the upper end of the reported range and, as such, gives a correspondingly high esimate for poppy income. It thus represents a conservative standard against which to judge the project's performance in providing substitute sources of income.

The price for opium is similarly difficult to predict with assurance. The 1983 farmgate price for opium gum has been reported to be Rs. 350/kg. (US$ 27). This level represents a five-year low, considerably below the average for the period of Rs. 1000, and constitutes a drop of over 80 percent from the 1978 level of Rs. 2000/kg. (US$ 156). Since there is no indication that the price will soon return to the higher levels, the current price has been adopted as the standard for most of the following analysis. To the extent that this estimate understates future poppy income, it will tend to counterbalance any inflation in the yield estimate.

Wheat yields in the project area are somewhat more easily estimated, although many of the same measurement problems apply. The most realistic estimate for current average wheat yields is on the order of 500 kg./acre.

Using improved varieties and increased fertilizer, this yield could potentially be increased to 1000 kg./acre. Under the prevailing agro-climatic conditions in Gadoon-Amazai, wheat is grown under dryland conditions where it is subject to moisture stress. As a result, the high yields obtained elsewhere for irrigated wheat are not relevant to Gadoon. Trials in 1982/83 of improved wheat under dryland conditions in Buner (which has substantially better growing conditions than Gadoon-Amazai) yielded an average of 1300 kg. on demonstration plots and 794 kg. on farmers' fields. A yield of 1000 kg./acre in Gadoon is therefore an attainable goal.

As Table 13 demonstrates, however, opium poppy is substantially more profitable than wheat, regardless of the assumptions made. If the opium price regains the level it achieved in 1978, the increased return to opium would dwarf the increase in wheat income from adoption of improved practices.

TABLE 13

COMPARATIVE NET RETURNS FROM POPPY AND WHEAT
(Percentage Drop in Income from Growing Wheat Rather than Poppy)*

	Poppy		
Yield (kg.)	10	16	16
Price (Rs.)	350	350	2000
Wheat			
Current Yield (500 kg.) (Current Case)	65	77	96
High Yield (800 kg.) (Conservative)	56	73	95
High Yield (1000 kg.) (Optimistic)	22	51	91

* Though some experts, including those of the Embassy Narcotics Affairs Unit, believe that these estimates overstate the relative profitability of poppy compared to wheat, there is broad agreement that the loss of income anticipated in the project area from substituting wheat for poppy is substantial. Comparable statistics for other areas of the NWFP, most of which have lower poppy yields and better growing conditions for wheat, would give substantially different results.

Assuming a poppy yield of 16 kg./acre, a price of Rs. 350 and a wheat yield of 1000 kg./acre, the income lost from substituting improved wheat for poppy would be Rs. 3848/acre. Since the average poppy farmer has slightly over half an acre of cultivated land, this implies a loss per farmer of up to Rs. 2000, depending on the proportion of the cultivated land in poppy. This income could be replaced in a number of ways: off-farm employment in the area; off-farm employment outside of the area (in Pakistan or the Middle East); increased income from irrigated agriculture and alternative barani crops, and greater production from the forest and range lands.

a. Increased Income from Barani and Irrigated Agriculture

The technical analysis of feasible options for improving crop production concludes that it is not possible to replace the income from poppy in dryland agriculture with any reasonable rotation. The most profitable rotations (improved wheat--maize and improved wheat--soybean) fall short of poppy's income per acre by a factor of over 50 percent.

Significantly more possibilities exist in irrigated agriculture. The most profitable irrigated crops can produce a

greater income per acre than can irrigated poppy. An acre of almond trees, for example, would net the farmer Rs. 18,800, which compares very favorably with the Rs. 8500 from an acre of irrigated poppy. The drawback, of course, is that very little of the project area's land is or can be irrigated. Thus, even after the proposed improvements are made to irrigated agriculture, it will account for only 10-15 percent of the total income from crops.

b. Increased Income from Range and Forest Production

The economic situation in the non-cultivated areas parallels that in the cultivated areas. Firewood production, currently a token source of income to area families, could be increased nearly five times by the establishment of small woodlots. Nonetheless, income from firewood sales would still account for less than two percent of the area's income.

Livestock production, however, is currently a major source of income, accounting for approximately 17 percent of the total income from agriculture and off-farm employment, and could become an even more important income-earner for the area's residents. By improving the forage available on the uncultivated lands and introducing more productive breeds suited to the difficult conditions of the area, livestock income could be almost doubled.

c. Off-farm Employment in the Area

At the prevailing wage of Rs. 30/day, 67 days of labor would replace the lost income from cessation of poppy cultivation by the typical land-holder with one-half acre. The project will provide a major short-term source of off-farm employment through the infrastructure construction program; however, in the medium and longer term, employment opportunities in the area will be reduced, since the major source of such employment at present is poppy lancing.

d. Off-farm Employment Outside of the Area

The available information, although poor, suggests that workers in the Middle East remit an average of Rs. 5000 per month to their families. Since one in twenty area families are currently believed to have a family member in the Gulf, this implies a per-family average income of Rs. 250 per month from this source or Rs. 4000 per year. Thus an increase in the number of such workers by two-thirds (roughly 700 workers) would be necessary to replace the income lost by the average family. An increase of this magnitude appears unlikely. The great majority of families (those without a member overseas) would not, moreover, benefit directly from this income.

Information on income remitted by workers within Pakistan is extremely vague, but based on the average reported remittance for unskilled workers of Rs. 4000 per year, an average of .5

additional emigrant workers would be needed per family to replace the income lost. Although it is difficult to estimate what percentage of the additional income earned would be remitted, it seems likely that the "marginal propensity to remit" is well above one. In performing the economic analysis, a level of one was assumed, implying that a doubling of the daily wage leads to a doubling of the amount remitted.

The project will train 5500 work force entrants, or an average of .29 per household. Assuming that half of these would have left the area in any case, but that the project training will double their daily wage, and that half of the remaining 50 percent will leave for jobs elsewhere in Pakistan, remittances from project-trained workers would increase by Rs. 22 million per year, or Rs. 1164 per family. Thus, under these admittedly optimistic assumptions, off-farm income could replace over half of the income lost from poppy in the total project area.

e. Conclusion

The results of the analysis summarized above (for which further background information is provided in Annex 19) support the conclusion that it is possible to replace a substantial part of the income loss associated with enforcement of the poppy ban by income from a combination of sources. Table 14 compares the total estimated income loss for the project area with the possible increases in income to be obtained from the alternative economic activities supported by the project. While it is not expected that all of the income gains shown will in fact be realized, the information suggests that replacement of poppy income is not an impossible task.

Several caveats to the estimates in Table 14 must be stated. First, the estimates do not include income from other sources such as trade and government employment. While very few of the project area residents earn income from sources other than those shown, the earnings for some households are substantial.

Second, the "after-project" income levels should be regarded as "best case" estimates rather than as those that should be expected. Thus, for example, the agricultural estimates assume that the entire project area shifts to one of the new systems to be promoted by the project. This is clearly overly optimistic. The purpose of the estimate is to show that it is theoretically possible to replace the income, not that the project can be expected to increase area income by 30 percent above the current level.

Third, the e timates should not be interpreted as applying to individual farmers or families. Not only do individual family circumstances differ considerably, but the figures shown include the return to all project area factors. As such, they constitute a very rough approximation of area value-added, which,

translated, means that only the cost of inputs from outside of the area has been subtracted from the gross value of production. Wages paid to hired laborers, rent paid to landowners, and the

TABLE 14

PROJECT IMPACT ON PRIMARY SOURCES OF GADOON AREA INCOME
(Rs. million per year)

	Current Situation		After Enforcement				Percent Change Before/ After (%)
			W/o Project		W/Project		
	Income	%	Income	%	Income	%	
Agriculture	52.6	43.8	31.1	31.5	51.9	33.2	-0.1
Poppy	26.0	21.6	--	--	--	--	
Other	26.6	22.2	31.1	31.5	51.9	33.2	
Rangeland	21.1	17.6	21.1	21.4	40.2	25.7	.91
Firewood	0.5	0.5	0.5	0.5	2.4	1.5	
Livestock	20.6	17.1	20.6	20.9	37.8	24.2	
Employment Out of the Area	46.4	38.7	46.4	47.1	64.0	41.0	.38
In Pakistan	13.5	11.2	13.5	13.7	31.1	19.9	
Middle East	32.9	27.4	32.9	33.4	32.9	21.1	
TOTAL	120.1	100	98.6	100	156.1	100	.30

cost of hiring bullocks, for example, have not been deducted from total gross production.

Fourth, the "without project" case undoubtedly overstates the income loss somewhat, since no attempt has been made to estimate the increased return to non-poppy activities that could be achieved by area residents acting on their own. It would be expected, for example, that the farmers would increase their investment in wheat and livestock somewhat on their own, once the option of poppy cultivation was closed to them.

Finally, the figures shown reflect the situation in Gadoon as a whole. As such, they may not be applicable to other parts of the project area. Nor would they reflect the situation prevailing in the upper Gadoon area, where poppy is grown on a

much larger share of the acreage than in the area as a whole and, consequently, accounts for a larger share of total income in these areas. This effect may be magnified by the greater prevalence of off-farm employment reported at the lower elevations, although in view of the unreliability of the estimates of employment and remittances outside of the area, such a conclusion should be regarded as highly tentative. The net effect of both these potential corrections would be to raise the percentage of income coming from poppy cultivation in the upper part of Gadoon, and reduce it for the lower parts of the region.

It must be stressed, furthermore, that the distribution of the additional income will inevitably differ from the current distribution of poppy income. Some families will gain, while others will lose. An effort has been made in the design of each component to protect against the capturing of project-generated benefits by the wealthiest members of the society by developing programs that do not require a major investment and are suited to small farmers.

Nonetheless, the danger remains that families who are currently better off will also be in a better position to benefit from the project programs. Certain of the activities to be promoted, such as improved range management, are inherently more suited to holdings at the upper end of the scale. A conscious effort will be made to focus on small farmers with adjacent holdings who together can implement a range improvement program, but the advantage remains on the side of the larger farmers. Similarly, the OPF vocational training program will be open to individuals who do not have the formal education attainment necessary for most formal training programs (including the higher-level training to be offered at Tarbela), but some skewing of benefits toward the more literate (and wealthy) will undoubtedly remain.

The distribution of project benefits will be monitored by the Evaluation Section to be established within the PCU, in an effort to identify where project programs are not reaching the small farmers and, in particular, are not benefitting the landless who are currently believed to depend on seasonal employment in the poppy fields for a significant share of their income.

Wealth in the context of Gadoon-Amazai is a strictly relative concept, however. With the exception of a few traders and major landholders (mostly resident in Gandaf Union Council), very few of the residents of Gadoon-Amazai can reasonably be classified as anything but poor. The average family income, based on project calculations of income from agriculture and off-farm employment (as shown in Table 14 above), is only about US$ 890 per year, or US$ 144 per capita. While these figures understate income slightly (since they do not include income from employment in the secondary or tertiary sectors) and are, in any case, very rough estimates, they do provide an indication of the level of income of area residents.

2. Expected Return to Project Activities

a. Return to the Pakistani Economy

In view of the special circumstances of the GAADP, formal economic analyses of the project's components have not been undertaken, nor have formal cost-effectiveness analyses been performed. Taking into consideration only the increased economic production in the project area, it is not expected that the project would meet standard criteria of economic return (such as an IRR of over 15 percent) if the full cost of project inputs were measured against the returns indicated in Table 14. No attempt has been made to value the support provided to enforcement of the poppy ban and the expected reduction in long-term opium production in the area.

A large share of the project's cost, however, will finance improvements in infrastructure and social services (particularly roads) that will produce benefits that have not been included in Table 14. It is possible to argue that these investments, which are not strictly necessary for the implementation of the agricultural and off-farm employment, should not be considered as costs in estimating the net benefit flows from project activities. If these costs are subtracted from the total project cost, then a total real cost of approximately $9.1 million over five years would be required to generate the net benefit stream of roughly $4 million annually. Although an IRR has not been calculated, it is clear that it would be within acceptable limits for such a project.

b. Return to Project Participants

Of the project's three major components, only agriculture requires the participants to make an input from their own resources (labor, land, and other inputs). Infrastructure construction will be financed by the government, as will the activities designed to increase off-farm employment.

The activities in the agricultural component have been selected from among the available alternatives as the ones offering the best chance of providing a profit to the farmers cooperating with the program. Crops and other activities to be promoted have been evaluated with respect to their profitability, based on the information available. Partial farm budgets for the major crop and livestock activities to be supported are included in Annex 19, and indicate that they will provide a reasonable return to the farmer.

No attempt has been made to estimate the return to expansion of irrigation from the farmer's perspective, in part because the farmers are not required to finance the irrigation construction. Each proposal submitted will, however, be evaluated on its

economic as well as financial merits, and only those irrigation systems that may reasonably be viewed as justified on both grounds will be approved for funding unde the project.

The estimated returns shown must be considered highly tentative. Many of the crops and other agricultural activities to be tested in the project are not now grown in the project area and, in consequence, it is not possible to predict with certainty how well they will perform under Gadoon-Amazai's difficult conditions. Uncertainty is highest in the livestock sector, where the feasibility of introducing improved varieties depends on the project's success in building up the range and forage resource and therefore on a mix of agronomic and socioeconomic factors.

c. Cost Effectiveness of the Approach Chosen

i. The Mix of Activities

The project's mix of activities is based on an analysis of the project area's economic potential. The basic conclusions of this analysis are that:

- The area does not have a high potential for economic development.
- In order to achieve its potential, the first requirement is an improved infrastructural system, particularly in the area of roads and power.
- Value-added in agriculture, which is and will remain the base of the area's internal economy, can best be raised through a mix of dryland crop, livestock, and tree products, but the total increase in value-added from non-poppy agriculture will not replace that from poppy.
- Off-farm employment out of the area is increasingly a major source of income for the area and holds the best long-term potential for improving the economic position of the residents.

The program developed on the basis of these conclusions consists of a mix of infrastucture, agriculture, and off-farm activities. While the economically optimal combination of the three cannot be identified with available information, the balance implied by the proposed program (roughly 59 percent infrastructure, 24 percent agriculture, and 17 percent off-farm employment) appears to be reasonable. Arguably, the proportion allocated to off-farm employment could be higher than that proposed, but feasible activities could not be identified beyond those already included in the program.

ii. The Mix of Inputs

As discussed in the Technical Analysis, the mix of inputs proposed to carry out the project is based on the needs of the program and represents a reasonable balance among commodities, construction, technical assistance, and other inputs. Two inputs--technical assistance and project management--deserve special consideration.

With regard to the former, the allocation of project resources to technical assistance (roughly 18 percent before inflation) is by no means excessive in view of the difficult and challenging conditions (both institutional and technical) under which the project must be implemented. Experience with the area development approach demonstrates that the need for both technical and managerial skills is high in such projects; the other resources programmed may not be applied effectively in the absence of such skills.

The high degree of experimentation necessary for successful implementation of the program as well as the emphasis on skills not now present in the NWFP government (notably area planning, range management, and development of agricultural institutions) generates a need for technical expertise that can only be met by outside technical assistance. The proposed mix of expatriate and Pakistani expertise has been weighted toward the latter (representing 62 percent of the total person-months of long-term assistance), with the more expensive expatriate technical assistance limited to the three specific areas where Pakistani expertise is not available.

The second area, the Project Coordination Unit, has been allocated roughly four percent of project resources (before inflation). This allocation is appropriate, taking into consideration the importance of coordination among the different line agencies cooperating in the project and the equally critical requirements for careful planning of project activities and monitoring of the project, the situation in the area, and the impact of the program.

The total project management budget, which amounts to approximately 10 percent of total project costs, includes several items that would not normally be considered part of management, but have been included in this item for convenience. These include, for example, evaluation, surveys for final design of project activities, and equipment for the Development Support Communications Section.

3. Implications of the Program's Subsidy Element

The sharp drop in income implicit in the enforcement of the poppy ban makes an explicit or implicit subsidy necessary to prevent major disruption of the area's economy in the short term. Over the longer term, however, a sustained subsidization of the area's economy is neither feasible nor desirable.

in the NWFP, including the major road-building contract just executed for the Utla-Amazai road. Construction costs for local council projects are based on their past costs, adjusted by USAID estimates to allow for a higher quality of construction.

It must be noted, however, that the estimates of council construction costs are included for illustrative purposes only. These amounts will be provided on a block grant basis and there is therefore in effect no possibility of a "cost overrun" in these areas. Once funds allocated for this purpose are exhausted, additional allocations will not be made.

There is one exception to this principle: subsidization of public services is a well-accepted and necessary practice in a remote area. It is not possible to provide the desired level of education, health, and basic utility services to the dispersed, low-income population of the project area on a self-financed basis. While such services in consequence contain a subsidy element, the subsidy does not have a distorting impact on the economic incentive structure within the area (although it does distort the incentive structure between the "overserved" area and other parts of the country), as long as the government is prepared to continue the services. The Pakistani Government has made a commitment to provide such services to remote areas of the country and the level of services provided is well within the bounds of this commitment, although the increased government services have recurrent cost implications that cannot be ignored. In general, the project does not provide support for such recurrent costs, but instead subsidizes the one-time capital costs involved in increasing the level of services.

A serious issue arises, however, with respect to the subsidization of income other than the in-kind income derived from social services and infrastructure. Several project activities in the agriculture component include an explicit subsidy element (in addition to the implicit subsidy provided by regular government services such as extension). Cooperating farmers will in several instances be provided with agricultural inputs below cost or free of charge, for example.

This raises two potential problems. First, it distorts the farmers' economic choice, encouraging them to adopt practices at a higher rate than might be fully justified economically. Second, it provides an artificially high return that cannot be sustained, bringing into question the willingness of farmers to continue the new system after assistance stops.

The first problem, while applicable in most cases, does not apply in the special circumstances of the GAADP. Since the alternatives proposed are in general less profitable than poppy, it is necessary to distort the return in their favor if quick adoption is to be achieved. As enforcement removes the poppy option, the farmers should continue the changed practices.

The second problem, however, is more serious, since the drop in return will discourage farmers from continuing the practices. In theory, as long as the practices are still more profitable than the alternatives open to them, the farmers should not return to their former practices. In reality, however, the drop in return will constitute a disincentive. Despite this problem, the subsidy element has been included in the program for two reasons: 1) the need to achieve rapid adoption of the new practices in the face of effective enforcement (as discussed above) and 2) the need to subsidize the income of the farmers during the first year of enforcement.

The project strategy relies on a subsidy in the form of productive inputs rather than providing consumption goods (such as food or flour). It is believed that a subsidy that is explicitly tied to adoption of improved practices will avoid, at least in part, the danger of establishing a permanent subsidy system for former poppy areas. If income is provided in a more direct form, the residents may conclude that it is payment for ceasing to grow poppy, which should logically be continued as long as they do not grow poppy. Such a system would have extremely undesirable consequences, both socially and fiscally. The approach adopted represents, in effect, the lesser of two evils.

Wherever possible, the subsidy has been concentrated within the capital investment required for the proposed change, rather than the operating costs (as, for example, in the construction of irrigation systems and the provision of improved livestock). These infusions of capital have the potential to make agricultural expenditures more profitable than they are now by making the agricultural system more productive than it is at present, without seriously distorting the price incentives facing the farmer over the long term. To the extent that these investments artificially raise the area's long-term income over what it would have been had the farmers had to finance their own investments with credit at market rates, they reach their goal.

D. Social Soundness Analysis

The implementation of a development project in the Gadoon-Amazai area, particularly a project that attempts to address the difficult issue of poppy production, raises a range of serious social issues. These issues have been examined in depth during project development to produce a final project design that is believed to be both feasible and socially sound. The social soundness analysis, presented in full in Annex 18, has focused on the following questions:

- What is the social context in which the GAADP must operate? What are the existing social systems and structures that are likely to have an impact on the project's operations?

- Are the activities proposed culturally feasible, taking into consideration the nature of the activities, the planned intervention strategy, and the degree to which the activities require a change in the behavior of area residents?

- What is the distribution of project benefits, with respect to both the direct impact of project activities and the indirect impact on the society?

Although concrete answers to these questions are likely to prove illusive in almost any project design, they are particularly hard to answer definitively in the case of the

GAADP, for two reasons. First, the society of the project area is a highly traditional one, the internal workings of which are poorly understood, making it difficult to predict what the response to project initiatives will be. Second, the project proposes to make fundamental changes in the economic system that underlies and supports the area's current social structure, opening up the possibility of complex ramifications that cannot reasonably be foreseen.

1. Social Context of the Gadoon-Amazai Area

The population of the project area is made up primarily of members of two Pushtun tribes that entered the area from present-day Afghanistan in the fifteenth and sixteenth centuries. The Jadoon tribe dominates Gadoon and is made up of two main subtribes, the more populous but poorer Mansurs at the upper elevations and the wealthier Salars below (in an area very roughly equivalent to Gandaf Union Council). The Amazais, who are part of the major Utmanzai and Yusufzai tribal grouping within the Pushtun, are the major ethnic group in Hazara and Swat Amazai. Several other minor groups are to be found in Gadoon, notably the Stanadars (a religious clite) and the Tonolis and Gujars (both believed to be descendents of pre-Pushtun peoples), which together account for perhaps one-quarter of the population.

The leadership and value systems of the area are currently undergoing considerable stress, as the traditional systems have come under pressure from the government and from increasing contact with the world outside the region. The traditional leadership system, based on lineage groups and the council of male elders or jirga, faces challenges from both outside the society and within it. Since 1952, when Gadoon was reclassified as a settled area, the government has gradually extended its control. The creation of alternative channels for leadership (such as the local councils and the judicial system) has at times reinforced the traditional leadership and at times provided a means by which new leaders could gain a measure of legitimacy in the area. Although the area remains in many ways more truly "tribal" than many of the FATA and PATA areas, the new structures are gaining power. At present, both traditional and modern leadership institutions continue to function, interrelating in often complicated ways and, to some extent, each undermining the authority of the other.

Within the society, the traditional value system has come under stress as increasing numbers of area men migrate from the area to take jobs in the cities and the Middle East. The traditional code of the Pushtuns (pushtunwali) is based on hospitality, the honor of the family, the primary value of land, and formalized (but nonetheless violent) systems of rivalry and revenge. Reinforced by government pressure, the changed values imported into the area are gradually substituting monetary payments and peaceful arbitration for older, more direct means of resolving disputes.

Ownership of land remains the basic determinant of social position in the society. On average, landholdings are extremely small (averaging around three acres). The ownership pattern is highly skewed, however, with the top ten percent owning 50 percent of the land. While few families are landless, roughly one-third hold their land at least in part on a sharecropping basis. Within Gadoon, landholdings are smallest at the top of the hill. While nearly all land is held individually, a vestige of the old communal landholding system remains in the shamalots, or communal village grazing lands on the mountain ridges.

It is reported that residents of the Gandaf area are major landholders in the upper regions, where poppy is most widespread. Poppy cultivation is an economic activity of long standing in the project area, but it is not a part of the value system of the area. Strong social and economic ties, however, link the farmers to the trading interests in Gandaf both directly and through the network of middlemen (beoparis and arthis). In addition to the credit provided through the marketing system, which functions for opium poppy much as it does for other crops in Pakistan, the traders provide the farmers with hospitality while they are in the market towns and with assistance in dealing with outside government authority (the courts, for example). These services create social obligations, which are extremely important in the traditional code of behavior.

The residents of the project area have mixed feelings toward the idea of development and assistance from outside. While they are by no means as hostile toward outsiders as some of the residents of FATA areas, they have often been disappointed by promises of assistance in the past and are wary of unsubstantiated offers. They are also fully aware that increased contact with outsiders threatens their main source of livelihood, the cultivation of opium poppy.

There is strong evidence that the trading interests centered in Gandaf have actively sought to discourage area residents from cooperating with the GAADP. These efforts have apparently met with mixed success to date, as shown by the experience of the design team.

The experience during design is an instructive one. Over the course of the design, support for the project within the Gadoon-Amazai area ebbed and flowed in an often unpredictable manner (as it will probably continue to do throughout implementation). Villages that one day were wary or openly uncooperative might a week later bring forward elaborate requests for assistance and willingly provide any information requested. Over time, as it became more apparent that the offer of support was likely to lead to something besides visits by outsiders, support increased. The design team adopted a low profile strategy to initiate design work in the area, with considerable success. This decision was based on prior experience with a high-visibility strategy that had led to large and unfriendly meetings between government officials and local residents. If,

however, the residents' rekindled expectations are once again disappointed by the failure of real benefits to materialize within a very short time frame, there is a real danger that area residents will become hostile to the project and make it difficult, if not impossible, to implement a development program.

2. Cultural Feasibility of Proposed Program

On the whole, the activities proposed under the GAADP are essentially the same as those now carried out in the project area and their acceptability to the residents is not in doubt. All of the basic programs of the project--production of dryland and irrigated crops; rearing of livestock; construction of roads, schools, and other infrastructure; and training for employment outside of the area--represent extensions or improvements of the activities they now pursue. In several instances, however, project activities imply a degree of cooperation on the part of area residents. Since cooperation is not at present a marked feature of the Pushtun social structure, its feasibility requires comment.

Cooperation in implementing project activitis will be important in the following cases:

- Selection and implementation of local council projects
- Construction and operation of irrigation systems
- Management of rangelands

The first case, construction of small infrastructure through the local councils, does not appear to present a serious social problem for implementation. Based on the experience to date with the existing block grant program (RWP) and other schemes implemented through the councils, the local bodies appear to function effectively in the selection and execution of small projects within the budget allocated.

There is some evidence that the selection of schemes has been used to reward the supporters of the council members (a behavior pattern not unique to the NWFP). While this system seems to be an accepted part of the local government's operation, it does carry a risk of exacerbating existing factional divisions. To combat this problem, the selection of project-funded schemes will be monitored closely by the PCU and will be reviewed by a committee of elected officials and local government personnel. Although this will clearly not eliminate the problem, it should help to hold it within acceptable limits. (A problem does arise in the distribution of benefits implicit in this operation, and is discussed below.) The actual construction of the projects is undertaken through established procedures that delegate authority to specific individuals and do not require the villagers to make collective decisions.

In the second case, the construction of irrigation channels, the difficulty of achieving the degree of cooperation necessary to build and operate the systems is directly proportional to the

number of individuals involved. At present, small irrigation schemes are common throughout Gadoon-Amazai. The area served is usually a few acres and is often limited to the holding of a single lineage group or tappa, who collectively design and carry out the construction required. Water rights are established on the basis of past usage (if any) and disputes (a universal feature of irrigation systems) are resolved by informal means or, if necessary, by resort to the jirga.

The irrigation systems to be financed by the GAADP will follow this pattern and are therefore judged to be culturally feasible. While the project will work with the Department of Irrigation to identify sites for small systems, it will not in general become involved in forming water user groups to take advantage of the possibilities identified. Once the Irrigation Department engineers have identified a feasible checkdam site and delimited the potential command area, it will be up to the farmers holding land within it to form a group, which may well not include all of the farmers in the potential command area, and to decide how they will divide the water and manage the system. Project management, acting through the committee described above, will not again become involved until the farmers reach an agreement among themselves (which is by no means expected to happen in every case) and present a request through the union council mechanism. At this point, individual schemes will be approved or disapproved by the committee.

Proposals will be rejected if they do not meet criteria to be established (e.g., if they will benefit fewer than five families, if one individual owns more than 30 percent of the land to be irrigated, or if more than five acres belonging to a single person are to be irrigated). The GAADP will become involved in organizing groups and identifying potential projects only if sufficient technically feasible and socially acceptable proposals do not come forward.

The final case, range management, is the most complex. In most cases, individual farmers do not possess enough land to follow good range management practices effectively nor do they necessarily have the organizational capacity to protect an improved range from the predations of their neighbor's animals. All but the largest land wners (those with more than 25 acres) must therefore cooperate with adjoining landholders to institute improved management practices.

Available information on the prevailing systems for managing livestock does not permit a definitive judgment on whether this is feasible. The information supports two conclusions, however:

- The system of animal management is complex and involves a variety of mechanisms for exchanging grazing rights, animal outputs, and other goods and services (labor, money, etc.).

- The feasibility or infeasibility of increased cooperation can only be established by trying such a system and gauging the results.

While these conclusions are not wholly satisfying, the only alternatives to the proposed trial effort are unacceptable. The project can neither ignore the range and animal subsector, which constitutes an important source of current income and a promising opportunity to replace poppy income, nor limit its efforts to those farmers whose holdings are large enough to make cooperation unnecessary. It must be recognized, however, that collective action in range management is not a simple matter, even where collectively held land is not a major factor. The limitations to animal production are a result of complex interactions between technical and social factors resulting from the area's poor resource base and small landholdings. The attempt to overcome them may not succeed.

3. Beneficiary Analysis

An equitable distribution of project benefits is critical to the achievement of the GAADP's purpose, the eradication of poppy without lowering the income of the area residents. Since a large majority of poppy cultivators are small farmers, they must share in the benefits to be provided by all three components if their cooperation with increased enforcement is to be gained. A second group, the landless laborers, are a special concern of the project, since they are believed to rely to a considerable extent on the high labor demand in the poppy harvest season.

Since the project, if successful, will have far-reaching impacts on the area's economy and society, the consideration of benefit incidence must take into account the indirect effect of the project on the society and income distribution as well as the project's direct effects, to the extent that this is possible.

a. Direct Project Impacts

The distribution of benefits from the project's infrastructure and off-farm employment activities is expected to be relatively equal across the area's social classes. On balance, the benefits from improved infrastructure will flow to wealthier residents somewhat more than poorer residents, since they will be in a better position to take advantage of improved transport, access to electricity, and so on. The poor, on the other hand, should benefit more from the short-term employment provided by the construction itself.

The off-farm employment activities have been designed to equalize access to the training and education opportunities under the project. Specific elements of the design, such as the inclusion of an informal education component for poor village women and the decision to decentralize the OPF training program, were incorporated to make the programs fit the needs of the

poorer residents. Although the wealthier families have, generally speaking, a greater capacity to leave the area (more education, better contacts in urban areas, etc.), it is believed that the poorer residents are in fact more likely to leave, since they have fewer opportunities in the area and, in many cases, no land to hold them in Gadoon-Amazai.

The agricultural component, by contrast, raises serious questions with regard to the distribution of benefits and the equality of access to the programs funded (even leaving aside the usual caveats with respect to landless laborers). The problem arises because the project proposes a basic change in the agricultural system that, taken as a whole, lowers the productivity of dryland agriculture while raising that of irrigated agriculture and rangeland. Unless countervailing measures are taken, this is expected to benefit the wealthier elements in the society disproportionately, for two reasons (both extensions of the well-observed phenomenon that the wealthy are better able to take advantage of new opportunities and better positioned to recover from economic setbacks):

- The distribution of cultivated land is more equal than that of rangeland. In consequence, the wealthy will lose relatively less than the poor, since their losses in dryland agriculture will be more fully compensated by increases in income from the rangeland. The distribution of irrigated land is unknown, but is believed to be less equal than the distribution of total cultivated land. If this is the case, the assistance to irrigation will reinforce the undesirable distribution of income from the improved rangeland.

- The wealthier farmers are in a better position to adopt the changes proposed, because of their greater availability of capital, better education, etc. With regard to the rangeland activities, moreover, the larger landholders can adopt improved management practices much more readily than the smaller farmers, simply because they contol more land and do not have to cooperate with others (or at least not as many others) to achieve controlled grazing.

This problem has two implications for project implementation. First, it implies that a special effort should be made to ensure that the agricultural program, including both the dryland and other subcomponents, reaches the small farmers. This in turn implies that considerable effort must be directed to helping the small farmers to cooperate with each other in activities such as irrigation and range management. This task, which is universally recognized to be among the most difficult in rural development, is especially complex in view of the atomistic and factional structure of the Pushtun society.

Second, the inherent tendency toward a skewed distribution of benefits implies a need for careful monitoring of the project

as it proceeds to ensure that distributional problems are identified for corrective action at the earliest possible point. This monitoring will be the responsibility of the Evaluation Section in the PCU, assisted by the technical assistance team.

b. Indirect Social Impacts

Although it is not possible to identify in advance all of the indirect effects of the project, it is expected that such impacts will be a much more important factor in the GAADP than in most projects, as discussed above. Developments in this area will require careful monitoring to detect unforeseen changes of both a desirable and undesirable nature. The following areas have been identified as aspects of the society bearing close attention:

- Grazing rights. It is known that villagers graze their animals on land that belongs to others from the same village or to other villages and that many animals belong to landless families. Although the exact relationships are poorly understood, it is clear that the way this system works may well be affected by a change in the quality and profitability of the rangeland. Any such change is more likely to be in the favor of the landowner than the animal owner.

- Informal credit. Area farmers currently obtain credit from both the opium traders and legitimate middlemen. As the mix of crops changes, the need for credit and the nature of the marketing networks into which the farmers must link will both change.

- The role of women. The education component is directed in part toward increasing the access of women to education, particularly with respect to basic education for poor women and to education beyond primary school for girls from all social groups. The role of women is currently changing, albeit slowly, in rural Pushtun society. The project should promote this process, but it also has the capacity to reduce the role of women in the society by increasing the importance of income from outside the area and, potentially, by changing the division of labor roles as the agricultural system changes.

- Patterns of influence. The project will reinforce the growing influence of the local councils but will tend to undermine the traditional authority held by the opium traders. As the project encourages young men to leave the area, it also will accelerate change processes underway in the society as a result of greater contact with the outside and a more open economy. These changes will affect the existing social structure in complex and hard to predict ways, which should nonetheless be monitored.

E. Financial Analysis

The financial plan for the project, set forth in Section IV above, has been developed to ensure adequate funding for all project activities, based on an analysis of the types and levels of inputs needed and the associated cost. The financial analysis also supports the conclusions that: 1) the sources of funds needed have been identified to finance these inputs and should prove adequate for project implementation, 2) methods of financial management have been identified to provide the necessary flexibility and control for the implementation of the project, and 3) the project does not impose an unreasonable future recurrent cost burden on the GOP. The findings of this analysis are summarized below.

1. Sources of Funds

Inputs into the project will be financed from three sources: GAADP funds (AID source), other AID projects, and the GOP budget. Nearly all of the funds needed will be provided directly by an AID grant for the project, with GOP-funded inputs being limited primarily to an in-kind contribution. Selection of this approach to project funding is motivated by the desirability in this case of providing an assured source of funds that is relatively independent of outside pressure. Moreover, in view of the fact that the GAADP has not been included in the regular investment planning cycle and the ongoing fiscal restraint under which the GOP is operating, the Government of Pakistan and the NWFP would find it virtually impossible to assume more than a modest portion of the project's total cost. In the event that it is decided at a later date to continue or expand the project's activities, a larger GOP contribution will be sought.

The use of non-GAADP funds may be summarized as follows:

The GOP will finance:

- salaries of existing staff who participate in the project (both those currently working in the project area and those specially posted to the area for the project)
- the operations of its regular programs in the area at their current level
- the operations of additional government institutions where the capital expense is borne by the project (such as schools and electrical systems)
- any land that must be purchased for project programs

In addition, the GOP will make in-kind contributions, notably the office facility at Topi to be used by the PCU.

Only two types of inputs will be financed from projects other than the GAADP, as follows:

- 14 project vehicles and 12 trailbikes will be financed by the Agricultural Commodities and Equipment Program

- attendance of selected project personnel at short-term training courses in Pakistan and the United States will be financed under the Development Support Training Project

In addition, other projects will provide indirect support to the GAADP, including particularly the Rural Roads and Primary Health Care Projects.

Project funding of operating expenses deserves special comment, since it runs counter to the approach generally taken to funding such expenses. The rationale is two-fold:

- Project-funded activities will in many cases outpace the normal expansion of government programs. The project will accelerate the growth of government programs into remote areas, bringing schools, and agricultural extension services to the area at a more rapid rate than the current pace of expansion would dictate. Even at the end of the project, however, the level of services will not exceed that now provided to less remote areas of the NWFP. It is therefore reasonable to assume that such programs will be picked up after the project, as the ongoing expansion of programs catches up to the level of services provided under the GAADP.

- Several activities are funded by the project at a level that does not need to be continued afterward. The rapid pace at which infrastructure construction will proceed under the project is expected essentially to complete the core network serving the Gadoon-Amazai area by the end of the project. Although road building and other infrastructure programs will continue, there is no expectation that the same level of activity can or should be sustained. Maintenance of project-funded facilities will be covered within the recurrent budget of the line agencies, but the cost will naturally be much less than the initial investment.

Some project programs are covered by both of these principles. For example, the level of agricultural extension activity under the project will be much greater than that now reaching the farmers, implying a need for increased staff and funding. Some of this increase will be regularized over the course of the project and will continue after the project is completed. A portion of this increase, however, is necessary to help farmers make a one-time transition from a poppy-based system to a more diversified system. When this transition is completed

(by the end of the project), the need for continued support at that level will cease. Introduction of a new crop (such as vegetable seed production) requires a much greater level of assistance than continued improvement of that enterprise once established.

2. Recurrent Cost Implications

As the foregoing discussion suggests, the long-term impact of the project on the operating budget of the GOP is not proportional to the size of the project. Nonetheless, the project will establish a range of facilities and programs, such as schools and extension programs, that clearly have recurrent cost implications. Two strategies have been followed to minimize this impact.

First, in the case of project activities that will permanently raise the level of services, a substantial portion of the improvement in service will take the form of better facilities and improved staff training and will therefore not represent an additional recurrent expense for the GOP. Many of the facilities to be built or established would have been established in any case, although probably at a later date.

Second, wherever possible, the standards of construction have been raised to lower the long-term maintenance implications. This approach is most clear in road construction, where the deeper cut into the mountain reduces embankments needed and, in consequence, the major source of costly repairs on an unpaved road. The importance of recurrent cost implications must also be kept in perspective relative to the importance of the GAADP's overall goal and purpose. It must be recognized that the special circumstances of the GAADP require that a higher priority be assigned to provision of a visibly increased level of services during the transition from poppy than to containing the long-term growth of the GOP recurrent budget.

3. Financial Management and Control

The project funding and control procedures are designed to ensure that AID and other funds are closely managed, to safeguard against misappropriation and waste. Their development has also been guided by the critical necessity of providing for rapid flow of funds in the GAADP, particularly in the first year to two years of project implementation. Failure to ensure that there are no delays in project start-up could well lead to the failure of the project as a whole and the loss, in effect, of much of the project cost. Viewed in this light, the increased funding flexibility called for by the project design is fully justified.

Despite these factors, it is fully recognized that the special needs of the project do not reduce the interest of the U.S. and Pakistani Governments in assuring that there is adequate control over funds disbursed. This assurance has been provided

by limiting the financial mechanisms considered to the set of established GOP and AID procedures, with their known strengths and weaknesses, and by providing for a significant level of outside audit. Thus, nearly all project funds will be handled through one of three well-tested mechanisms: AID direct contracting for technical assistance, commodity procurement, and training, MFAR disbursement for construction, and Personal Ledger Accounts for the bulk of the remaining expenditures.

4. Cost Factors

Conservative cost estimation practices have been followed throughout the budget development process, in order to ensure inasmuch as possible that adequate amounts have been budgeted to cover the inputs programmed. The following factors deserve special comment:

- Technical Assistance
- Vehicle Purchase and Operations
- Construction
- Government and Local Staff and Allowances
- Contingency and Inflation Rates

i. Technical Assistance

The cost used for long-term U.S. technical assistance ($200,000 per year) is based on the cost of such personnel as provided by a large U.S. consulting firm. This figure does not include local housing, vehicle purchase or operations, or office support (all of which are budgeted for separately as part of project management). It is therefore regarded as quite conservative. The estimate for Pakistani professionals of $25,000 per year is based on USAID/Pakistan experience, estimates made by local consulting firms, and the USAID pay scale.

ii. Local Staff and Allowances

The existing system of government staff and allowances has been used as the basis for developing the budget for local staff, including the GOP's own personnel. Where staff are to be hired locally or through a labor contractor, an incentive allowance of one-and-one-half times the GOP salary for equivalent employees has been provided. The cost of contract administration has been included in the project budget (as part of staff allowances under project management) and is estimated at ten percent of the total salary plus allowances. This level is in line with the experience of both USAID and the private sector in Pakistan. Further details of staff costing are provided in Annex 21.

iii. Construction

Underlying cost estimates for construction are based on recent contracts let for similar work

in the NWFP, including the major road-building contract just executed for the Utla-Amazai road. Construction costs for local council projects are based on their past costs, adjusted by USAID estimates to allow for a higher quality of construction.

It must be noted, however, that the estimates of council construction costs are included for illustrative purposes only. These amounts will be provided on a block grant basis and there is therefore in effect no possibility of a "cost overrun" in these areas. Once funds allocated for this purpose are exhausted, additional allocations will not be made.

Since the largest share of project construction will be managed on an MFAR basis, these provisions are judged to provide fully adequate estimates of construction costs and to meet 611(a) requirements for project funding.

iv. Vehicle Purchase and Operations

Cost estimates used to construct the budget for vehicle purchase are based on USAID experience with landed costs for the types of vehicles to be funded under the GAADP or provided through the ACEP.

The average cost per vehicle for operations and maintenance has been estimated at $3000 per year. This figure, which is somewhat below the figure used for other projects, has been calculated with specific reference to the type of vehicles to be purchased, the planned "motor pool" approach (which permits economies of scale to be achieved through a single maintenance contract), and the very limited roads in the project area. In developing this estimate, it has been assumed that every vehicle makes the round trip between the FCU and the end of the current road in Utla twenty days a month. The resulting mileage figure has been doubled to give a conservative estimate of total vehicle use.

v. Other Cost Factors

An inflation and contingency allowance of 25 percent of the projected real cost of project inputs has been included in the project budget. This amount has been adjusted upward slightly to yield a total AID contribution of $20 million. A somewhat higher inflation rate has been assumed for the GOP's in-kind contribution.

The contingency and inflation allowance is viewed as adequate in the case of the GAADP, since the individual estimates of project expenditures have been made in a highly conservative fashion and since, in any case, the high degree of flexibility in the project financial plan permits funds to be reallocated as needed during implementation. This practice makes a contingency allowance somewhat redundant, particularly in view of the fact that forward planning in the prevailing circumstances of high uncertainty is difficult or impossible. Some of the project

activities will in all probability have to be reduced or, in the extreme, eliminated entirely due to changes in the political environment or new technical information. This expectation implies that unforeseen contingencies in one area can readily be met through reprogramming funds initially allocated to another.

Local costs have been converted to dollars at the exchange rate of 12.8 rupees to the dollar, based on the rate prevailing at the time of completion of the project paper.

F. Environmental Analysis

Activities funded by the GAADP will not have a major impact on the environment. The project's impact, moreover, will be primarily positive. A Negative Determination is therefore recommended (see Initial Environmental Examination, Annex 7; an IEE was not approved for the GAADP prior to final design because a formal PID was not submitted for this project).

The environmental analysis may be summarized as follows:

- The four project areas with significant potential for impact on the environment are: infrastructure construction, agricultural production, irrigation, and watershed management.

- With regard to the first three, the environmental impacts are expected to be minor. As a result of the dry, rocky environment of the project area, concerns that are elsewhere important do not apply to the GAADP (such as salinization and alkalinization when irrigation is expanded and topsoil loss when cuts are made during road construction).

- The environmental impact of the final component, watershed management, is expected to be primarily positive. Improvement of the natural vegetative cover in the project area will have direct benefits for the residents and will also benefit the environment of the entire area, by reducing runoff, increasing the volume and reliability of stream flow, and reducing erosion.

The project will not involve a major increase in the use of agricultural chemicals, which are now widely used throughout the area. Project funds will not be used to finance pesticides.

The design of project activities takes into consideration the environment of the project area. The highly limiting agroclimatic conditions, in particular, have been carefully considered in selecting the crop and livestock activities to be promoted. Specific design features have been included that will reduce the potential for negative environmental impacts as well as reduce long-term costs. The road construction plans, for

example, call for a deeper "cut" into the mountain side, which will both limit the danger of landslides and reduce the long-term maintenance requirement for the road.

G. Women in Development

The program to be funded for the GAADP has been developed with a view toward including women in the project as participants and beneficiaries to the greatest extent consistent with the special circumstances of the project area and the project itself. The project area is highly isolated and conservative, and one in which social and economic programs for women must balance the need to extend development benefits to them within the prevailing value system of the Pushtuns.

Women are at present involved in a wide variety of both productive economic activities and social programs, but these activities go forward in the context of female seclusion and strictly limited contact with men outside the immediate family. The poorer women can often be seen in public, working in the fields or gathering water and firewood, but their appearance outside the home is viewed as an unfortunate necessity to be avoided if economically possible. Women, whether government employees from outside the village or local residents, cannot travel freely in the area, nor do the village women leave their villages except in highly unusual circumstances. These values are deeply ingrained in the local social fabric and will change, if at all, only slowly.

Alongside these traditions, there is widespread acceptance of the need for improved education (particularly literacy) for women, better health services, and more rapid development in productive activities where women have traditionally played a major role (including livestock production, agricultural processing, and handicrafts). The project will build on this attitude by strengthening programs affecting women in three areas: education, agricultural production, and basic infrastructure.

1. Education

Project support to the formal education system will be weighted toward the provision of improved facilities for girls. The number of girls attending school will more than double (from 461 to approximately 1000) over the life of the project. as the number of schools rises, and access to education beyond ary school will be tripled by the opening of two additional middle schools. The schools to be built will respond to local values by incorporating boundary walls, enclosed toilets, and teachers' quarters, without which it is difficult to gain acceptance from village families or provide adequately trained teachers.

Increased basic education for women will raise their ability to benefit from other development programs, improve the ability of the line agencies to staff positions with local women (such as female health workers), and promote a greater role for women in all aspects of the society.

The project will also fund a "mohalla" (neighborhood) school program for women and girls, serving those who are unable to attend the formal schools because of age or poverty. In addition to providing basic literacy training to approximately 900 women per year, this program will potentially provide the basis for extension of other development programs to area women (such as health education and skill training).

2. Agricultural Production

The project's programs in agricultural processing, firewood production, and livestock will involve women directly (although it is not possible for extension agents to speak with area women). They will benefit from increased access to firewood and from improved processing facilities (such as flour mills) in the villages.

A significant part of the total agricultural program will be focused on the livestock subsector, which is currently largely the responsibility of women and children. The impracticality of directly contacting women poses a serious problem for this component, and it will be a continuing challenge during implementation. A large portion of this program depends on improvement of the range, which does not require the active involvement of women. It is clear, however, that the livestock program can only be partly effective if information on improved animal husbandry practices does not reach the women.

It must be noted that women will also be affected negatively by the eradication of poppy cultivation in the area. Women now provide a significant portion of the labor force for the opium harvest. These jobs will be permanently lost and will not, in all probability, be replaced through the expansion of other agricultural crops. They will also share in the general loss of income concomitant to poppy eradication.

3. Infrastructure

Area women will benefit both directly and indirectly from the improvements to area infrastructure. The improved access to potable water will reduce the need to carry water (which now, together with firewood gathering, occupies a large share of the workday), as well as improving the general quality of life in the village. Women will share in the general benefits derived from improved roads, including better public transport, increased services from the line agencies, and greater access to markets.

H. Narcotics Impact Statement

The primary goal of the Gadoon-Amazai Area Development Project is to eradicate the production of opium poppy in the project area. To further achievement of this goal, the project efforts are directed at an area that is the major poppy-producing area in the Northwest Frontier Province (and therefore in Pakistan).

Given the variance in reported poppy acreage, it is difficult to be precise with respect to the project area's share of opium poppy cultivation. It is clear, however, that the area is by far the most important single poppy-producing region in Pakistan. Design team estimates suggest that there were 6000 acres under opium poppy in the 1982/83 agricultural season, as compared to the INM estimate of 3900 acres in 1981/82. The former figure implies that the area produces 58 percent of the total national production and (assuming the other INM estimates remain valid for 1982/83) that it accounts for 73 percent of the production within the settled areas (i.e., those areas outside of the Federally and Provincially Administered Tribal Areas, where government forces operate under greater restriction than elsewhere). Using the INM estimates for 1981/82, the equivalent proportions are 48 percent and 64 percent, respectively.

The project is designed to serve as one part of a total eradication program, and to complement the enforcement activities, which form the other part of the program. A substantial expansion of both enforcement and development efforts is viewed as necessary for the permanent eradication of opium production in the project area, large sections of which are currently dependent on poppy as their main crop and the mainstay of their economy.

In addition to its immediate impact on the most important opium producing area in the country, the project will increase the capacity of the Pakistani Government to combat poppy production in other areas. The GAADP could serve as a model for the coordination of development and enforcement programs, which, if successful, could be replicated in other areas as part of the proposed Special Development Program for Opium Poppy Growing Areas (SDP/OPGA). It will also raise the GOP's capability to design and implement a developmental attack on poppy production, based on an area development approach.

VI. CONDITIONS, COVENANTS, AND NEGOTIATING STATUS

A. Conditions Precedent to Disbursement

1. Conditions Precedent to Initial Disbursement

Except as AID may otherwise agree in writing, prior to any disbursement under this project or to the issuance by AID of documentation pursuant to which such disbursement will be made, the Grantee shall furnish or have furnished to AID, in form

and substance satisfactory to AID, within sixty (60) days after the signing of the Project Agreement:

a. a written opinion of Counsel acceptable to AID that the Project Agrement has been duly authorized and/or ratified by, and executed on behalf of the Grantee and that it constitutes a valid and legally binding obligation of the Grantee in accordance with all of its terms;

b. a written statement setting forth the names and titles of persons holding or acting in the Office of the Grantee and representing that the named person or persons have the authority to act as the representative or representatives of the Grantee, together with a specimen signature of each such person certified as to its authenticity; and,

c. documentation confirming that the Parties have reached agreement in writing as to the actions to be taken by the Grantee in the project area to enforce the Grantee's ban on opium poppy cultivation and the processing and distribution of opium poppy, heroin, and/or illicit morphine base substances.

2. Conditions Precedent to Disbursement for Activities to be Implemented by Provincial Line Departments

Except as the Parties may otherwise agree in writing, prior to disbursement under this project for activities to be implemented by Provincial Line Departments other than for those activities for which disbursement will be made under the A.I.D. Fixed Amount Reimbursement (FAR) system or variant thereof, or to the issuance by A.I.D. of documentation pursuant to which such disbursement will be made, the Grantee will provide to A.I.D., in form and substance satisfactory to A.I.D.:

a. documentation confirming the establishment by the Grantee of a Project Coordination Unit within the government of the NWFP for the purpose of overseeing project implementation; and,

b. documentation confirming the appointment by the Grantee of a Project Director for the Project Coordination Unit, together with the name of said person and his specimen signature.

B. Special Condition-Control of Poppy Related Activities

The parties will, as a condition precedent to initial disbursement, reach agreement in writing as to actions to be taken by the Grantee to enforce the Grantee's ban on opium poppy cultivation and the processing and distribution of opium poppy, heroin, and/or illicit morphine-based substances.

The Grantee agrees to carry out said agreement, as it may be from time to time amended by the Parties, in a prompt and effective manner. If, at any time prior to the Project Assistance Completion Date (PACD) for this project, as it may be from time to time amended, AID should determine, in its discretion, that the Grantee has not substantially complied with said agreement or has failed to act in good faith in its efforts to fulfill the terms of said agreement, AID reserves the right to:

1. suspend all further assistance under the project or such part thereof as AID may deem appropriate, and/or,

2. terminate all further assistance under this project as provided for in the Project Grant Standard Provisions Annex (Annex 2).

C. Negotiating Status

The project as outlined has been discussed at length with the GOP and the Government of the NWFP, and there are no outstanding issues that would delay initiation of the project once the Project Agreement is signed and the above conditions are met.

ANNEXES

Standard Annexes

1. Logframe
2. PID Cable
3. Draft Program Authorization
4. Draft Project Description for the Grant Agreement
5. Project Checklist
6. Certifications
7. Initial Enviornmental Examination
8. Draft Scopes of Work for Technical Assistance
9. Letter of Request from the GOP

Background Information

10. Natural and Human Resources of the Gadoon-Amazai Area
11. Organization of Government and Operation of Elected Councils in the NWFP

Component Descriptions

12. Line Department Infrastructure
13. Infrasturcture Construction by Local Councils
14. Agriculture, Irrigation, and Watershed Management
15. Vocational Training, Apprenticeship, and Employment Scheme for Gadoon-Amazai Residents
16. Promotion of Education in the Project Area
17. Project Management

Project Analyses

18. Social Soundness Analysis
19. Supporting Data for the Economic Analysis
20. Training and Communications in Support of Project Activities
21. Additional Financial Tables and Costing Data

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 1983 to FY 1988
Total U.S. Funding $20 million
Date Prepared: June 30, 1983

Project Title & Number: Gadoon-Amazai Area Development Project (391-0485)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: Eradication of opium poppy production within a process of rapid socioeconomic development in the remote areas of Pakistan	Measures of Goal Achievement: Poppy acreage in Pakistan reduced by one bal. by end of project without serious economic hardship in areas now dependent on poppy income.	Embassy and GOP estimates	Assumptions for achieving goal targets: 1. Areas outside of project area do not increase opium production substantially as production eradicated in project area. 2. GOP able to provide sufficient assistance to achieve economic transition in other areas. 3. Economic alternatives providing satisfactory income base exist and can be applied in both project and non-project areas.
Project Purpose: To change the economy of the Gadoon-Amazai area from one based primarily on poppy cultivation to a diversified agricultural and non-agricultural system with strong ties to the national economy, which will facilitate and complement the GOP's enforcement effort with respect to poppy cultivation and narcotics production.	Conditions that will indicate purpose has been achieved: End of project status. Elimination of poppy production in the project area and existence of an area economy that provides residents a standard of living comparable to present levels.	Embassy and GOP estimates Results of project evaluat	Assumptions for achieving purpose: 1. Proposed economic alternatives prove to be applicable to project area in practice. 2. Opium price remains below Rs. 1800 during transition period. 3. Enforcement program implemented as agreed.
Outputs: 1. Provision of a core infrastructure system (roads, power, and domestic water). 2. Impetus to more rapid diversification of the area agro-economy, including crops, horticulture, tree production, and livestock. 3. More productive manpower basis trained in construction trades and able to find employment outside the area. 4. Strengthened planning and management capacity in NWFP Government.	Magnitude of Outputs: 1a. 33 miles of engineered road b. 150 miles of paths and feeder roads c. 10 villages reached by power lines d. 27 new potable water systems, 28 systems repaired 2a. 18,000 farmers assisted to increase alternative production b. 375 acres irrigated 3a. 5500 residents trained in marketable skills b. 30 new schools built and 35 repaired 4a. 7 union councils able to triple number of schemes managed per year b. Staff and program content in area equivalent to that in lowland NWFP	Project and AID records Project evaluations	Assumptions for achieving outputs: 1. Line agencies cooperate in program. 2. PCU effective in coordinating inputs from different sources. 3. Program not disrupted by failure to enforce or by noncooperation of area residents. 4. Roads completed in timely manner, permitting access to other areas. 5. Sufficient technically appropriate sites found for agricultural program and irrigation expansion. 6. Area residents cooperate with program and agree to participate in activities.
Inputs: Technical assistance and other personnel services Commodities Operations (including training) Construction GOP staff, facilities, and ongoing programs	Implementation Target (Type and Quantity) Personnel: $ 4.00 million Commodities: $ 0.64 million Construction: $ 8.40 million Operations: $ 2.92 million Infl&Cont: $ 4.04 million GOP inputs: $ 1.36 million (equiv.) TOTAL $21.36 million	Project and AID records Project evaluations	Assumptions for providing inputs: 1. Necessary contracts completed in timely manner. 2. Facilities available for project use as planned. 3. Commodities and training services made available through other AID projects as planned. 4. Personnel contractor able to find qualified Pakistani personnel as needed. 5. Seeds, planting material, and improved livestock available when needed.

ANNEX 1

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NAU2 INFO AMB DCM ECCN POL2 AID DEA

VZCZCILO929
CO RUEHIL
DE RUEHC #3208/01 1730351
ZNR UUUUU ZZH
O 220321Z JUN 83
FM SECSTATE WASHDC
TO AMEMBASSY ISLAMABAD IMMEDIATE 8469
BT
UNCLAS STATE 173228

LOC: 15 128
22 JUN 83 0353
CN: 03816
CHRG: PROG
DIST: NAU

AIDAC, FOR NARCOTICS AFFAIRS UNIT - EMB

E.O. 12356: N/A
TAGS:
SUBJECT: APAC REVIEW, AREA DEVELOPMENT IN NWFP

REF: ISLAMABAD 8761

1. APAC REVIEWED REFERENCE PID SUPPLEMENT CABLE ON JUNE 13. MISSION IS AUTHORIZED TO COMPLETE PP DESIGN. FOLLOWING ARE POINTS OF DISCUSSION AND DESIGN GUIDANCE.

2. PROJECT SITE: APAC DISCUSSED RATIONALE FOR EXPANSION OF PROJECT BEYOND GADOON ITSELF AND CONCURRED IN EXPANDED AREA WHICH WILL ENCOMPASS GREATER PROPORTION OF POPPY GROWING AREAS.

3. BUDGETARY SUPPORT: MISSION DIRECTOR EXPLAINED THAT PROJECT WILL RELY HEAVILY ON PROVINCIAL LINE DEPARTMENTS AS MECHANISM FOR IMPLEMENTATION, AND THAT PROJECT WILL INCLUDE BUDGET SUPPORT TO ENABLE THESE ENTITIES TO EXPAND THEIR ACTIVITIES. SUPPORT MAY INCLUDE, FOR EXAMPLE, SALARY COSTS, ALLOWANCES, OPERATING EXPENSES AND VEHICLES. WHILE THIS RAISES THE QUESTION OF HOW RECURRENT COSTS WILL BE MET AFTER PROJECT ENDS, IT WAS RECOGNIZED THAT RAPID

PROGRESS IN REDUCING POPPY PRODUCTION CAN ONLY BE ACHIEVED WITH SIGNIFICANT EXPANSION OF ACTIVITIES OF THESE ENTITIES. BUDGET SUPPORT IS CONSIDERED ELIGIBLE COST ITEM IN ACHIEVING MAXIMUM IMPACT OVER PROJECT LIFE.

4. FINANCING OF EXISTING CONSTRUCTION CONTRACTS: APAC DISCUSSED MISSION PLANS TO FINANCE LINE AGENCIES' EXISTING CONSTRUCTION CONTRACTS, FOR EXAMPLE, IN ROAD BUILDING, IN ORDER TO EXPAND RATE OF CONSTRUCTION AND ENHANCE PROJECT IMPACT. MISSION SHOULD SATISFY ITSELF ON QUESTIONS OF DESIGN, SPECIFICATIONS, CAPABILITY OF CONTRACTOR TO PERFORM THE REQUIRED WORK, MEANS OF VERIFYING PERFORMANCE AND PROCEDURES USED FOR CONTRACTOR SELECTION TO ENSURE THAT APPROPRIATE STANDARDS ARE MAINTAINED. AID FINANCING SHOULD BE LIMITED TO GREATEST POSSIBLE

EXTENT TO PROSPECTIVE CONSTRUCTION, TAKING COGNIZANCE OF AID PROCUREMENT RULES.

5. ENFORCEMENT STRATEGY: DIRECTOR DESCRIBED OBJECTIVE OF ELIMINATING POPPY PRODUCTION IN PROJECT AREA AS SOON AS POSSIBLE BUT NO LATER THAN BY THE END OF THE PROJECT, AND WITH MAXIMUM FEASIBLE ENFORCEMENT IN FIRST YEAR. PROJECT ACTIVITIES SHOULD BE STARTED PRIOR TO THE 1983 FALL CROP PLANTING. THE OBJECTIVE SHOULD ALSO BE TO HAVE THE GOP INITIATE ENFORCEMENT ACTIONS PRIOR TO FALL PLANTING. APAC DISCUSSED POSSIBILITY OF DEVELOPING "BENCHMARKS" OF PROGRESS IN TERMS OF REDUCTION OF POPPY PRODUCTION OVER PROJECT LIFE. SOME OBJECTIVES OR TARGETS, BROADLY DEFINED, ARE DESIRABLE BOTH TO HELP ENCOURAGE ENFORCEMENT ACTIONS BY GOP TO BUILD PROJECT MOMENTUM AND TO SHOW PROJECT'S RESPONSIVENESS TO CONGRESSIONAL CONCERNS AND U.S. FEDERAL DRUG ABUSE STRATEGY. AT THE SAME TIME, UNREALISTIC TARGETS WOULD REFLECT ADVERSELY ON LATER PROJECT PERFORMANCE. SEPTEL WILL DESCRIBE VARIOUS APPROACHES TO MEASURING PROGRESS WHICH ARE IN USE IN OTHER COUNTRIES ON NARCOTICS-RELATED PROJECTS. THESE MIGHT OR MIGHT NOT BE APPLICABLE TO NWFP BUT SHOULD SERVE AS A BASIS TO IDENTIFY AN APPROPRIATE MECHANISM. IN ANY CASE, MISSION, WORKING WITH INM REPS AND OTHERS ON NARCOTICS COORDINATING COMMITTEE, SHOULD DEVELOP FOR THE PP A METHODOLOGY APPROPRIATE TO THE PROJECT AREA FOR ASSESSING PROGRESS OVER PROJECT LIFE AND SHOULD REACH AGREEMENT WITH GOP ON A PLAN FOR SPECIFIC ENFORCEMENT ACTIONS. INM BELIEVES THAT ELIMINATION OF POPPY PRODUCTION MUST BE ACHIEVED BEFORE THE

TERMINATION OF THE PROJECT, AND THAT A TIME FRAME SHOULD BE ESTABLISHED FOR THE ELIMINATION OF THE POPPY CROP BY AREAS OVER THE SHORTEST POSSIBLE PERIOD, WITH REDUCTION COMMENCING AFTER THE AGREEMENT IS SIGNED. MISSION DIRECTOR AGREED THAT EARLIEST FEASIBLE POPPY ELIMINATION WAS AN OPERATING GOAL AND NOTED THAT THE MISSION BELIEVED THIS COULD BE ACHIEVED BY THE END OF THE PROJECT.

6. AID/INM ROLES: DIRECTOR DESCRIBED ROLE OF NARCOTICS COORDINATING COMMITTEE IN BRINGING TOGETHER THE CAPABILITIES OF PARTICIPATING AGENCIES TO PROVIDE GUIDANCE ON NARCOTICS RELATED MATTERS. IT IS UNDERSTOOD THAT INM AND USAID WILL CONTINUE TO COORDINATE CLOSELY THROUGH THE NCC AS WELL AS INFORMALLY THROUGH DAILY CONTACTS IN DEFINING THE ENFORCEMENT/DEVELOPMENT LINKAGE. THIS LINKAGE IS CRITICAL TO SHORT AND LONG TERM PROJECT SUCCESS. NAU SHOULD FACILITATE CROP REDUCTION AND ENFORCEMENT MEASURES

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WITH THE GOP, IN COORDINATION WITH USAID.

7. NON-COMPETITIVE CONTRACTING: BECAUSE IT IS ESSENTIAL TO INITIATE PROJECT ACTIVITIES BY SEPTEMBER/ OCTOBER PERIOD IF ENFORCEMENT IS TO BEGIN WITH NEXT CROP SEASON, IT APPEARS THAT NON-COMPETITIVE CONTRACT WILL BE NECESSARY. THERE APPEARS TO BE APPROPRIATE GROUNDS FOR WAIVER IN THIS CASE SINCE IT IS ESSENTIAL TO SHOW PROGRESS IN ENFORCEMENT DURING THE FIRST YEAR. WAIVER REQUEST WILL BE PREPARED HERE.

8. APAC DISCUSSED WAYS TO ACCELERATE AUTHORIZATION/ OBLIGATION PROCESS. HOWEVER, GIVEN IMPORTANCE AND SENSITIVITY OF PROJECT, IT WAS DECIDED THAT PROJECT SHOULD BE AUTHORIZED IN AID/W. INCREASED EMPHASIS IS BEING GIVEN BY ASIA BUREAU TO PURSUE RAPID REVIEW AND PROCESSING. AS MISSION IS AWARE, IF PROJECT BUDGET EXCEEDS DOLS 20 MILLION, AUTHORIZATION BY A/AID IS REQUIRED.

9. ECONOMIC ANALYSIS: IT HAS NOT YET BEEN POSSIBLE TO ASSESS THE RELATIVE ECONOMIC POTENTIAL OF THE ALTERNATIVE AGRICULTURAL AND NON-AGRICULTURAL ACTIVITIES INTO WHICH POPPY GROWERS MIGHT MOVE IT MAY BE APPROPRIATE TO INCORPORATE IN THE EARLY STAGES OF PROJECT IMPLEMENTATION SOME RESEARCH ON COMMODITY MARKET APPROACHES AND ASSOCIATED ECONOMIC FEASIBILITY ANALYSIS FOR ALTERNATIVE CROPS. THE PP SHOULD INDICATE, AT A MINIMUM, FOR THOSE AREAS WHERE ENFORCEMENT WILL BEGIN WITH THE COMING CROP SEASON, HOW THE

PROJECT WILL ASSURE AN ALTERNATIVE SOURCE OF INCOME FOR AFFECTED FARMERS. WHAT IS THE PROPOSED STRATEGY FOR PROVIDING SUPPORT THROUGH THE PROJECT, I.E., THROUGH WORK ON INFRASTRUCTURE ACTIVITIES, WHILE NEW AGRICULTURAL OR PERMANENT NON-AGRICULTURAL OPPORTUNITIES ARE DEVELOPED? HOW LONG WOULD SUPPORT BE PROVIDED THROUGH THE PROJECT AND HOW WOULD IT BE PHASED OUT? SHULTZ
ET
#3208

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PROJECT AUTHORIZATION

PAKISTAN

Gadoon - Amazai Area
Development
Project No. 391-0485

1. Pursuant to Section 531 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Gadoon - Amazai Area Development Project for the Islamic Republic of Pakistan (the "Cooperating Country") involving planned obligations of not to exceed U.S. dollars Twenty Million ($20,000,000) in grant funds over a four (4) year period from the date of 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 is designed to change the Gadoon - Amazai area economy from one based primarily on poppy cultivation to a diversified agricultural and non-agricultural system with strong ties to the national economy, which will facilitate and complement the Cooperating Country's enforcement effort with respect to poppy cultivation and narcotics production. Under the Federal auspices of the Pakistan Narcotics Control Board, the Government of the Northwest Frontier Province (Government of NWFP), through its Planning and Development Department, will implement this Project which will proceed in two interrelated phases. During the first phase, immediate benefits will be provided to the area inhabitants in the form of improved transport and other infrastructure (such as power), seed and fertilizer, and specific small scale priority development activities identified by the local councils of the area. Phase II will involve the implementation of development activities by local councils and provincial line departments in three major areas: (a) agricultural development, consisting of a program of on-farm trials and demonstrations, distribution of improved planting material, extension information, watershed management, marketing assistance, and small irrigation schemes to promote increased production of existing non-poppy crops, new cash crops, improved livestock, and productive trees; (b) infrastructure construction, consisting of primarily roads and power; and, (c) off-farm employment which will focus on improving the marketable skills of area residents through participation in project activities and vocational training and the support of basic education.

3. The Project Agreement(s) which may be negotiated and executed by the officer(s) to whom such authority is delegated in accordance with A.I.D. regulations and Delegations of Authority shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as A.I.D. may deem appropriate.

a. Source and Origin of Goods and Services

Goods and services financed by A.I.D. under this Project 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 the Project 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.

b. Conditions Precedent to Initial Disbursement

Except as A.I.D. may otherwise agree in writing, prior to any disbursement under this Project or to the issuance by A.I.D. of documentation pursuant to which such disbursement will be made, the Cooperating Country shall furnish or cause to have furnished to A.I.D., in form and substance satisfactory to the United States, within sixty (60) days after the signing of the Project Agreement, documentation confirming an agreement in writing with the United States as to the actions to be taken by the Government of the NWFP in the project area to enforce the Cooperating Country's ban on opium poppy cultivation and the processing and distribution of opium poppy, heroin, and/or illicit morphine base substances.

c. Conditions Precedent to Disbursement for Activities to be Implemented by Provincial Line Departments

Except as the parties may otherwise agree in writing, prior to the disbursement under this Project for activities to be implemented by provincial line departments other than for those activities to be implemented in accordance with the fixed amount reimbursement (FAR) system or variant thereof, or to the issuance by A.I.D. of documentation pursuant to which such disbursement will be made, the Cooperating Country will provide to A.I.D., in form and substance satisfactory to A.I.D.:

i. documentation confirming that it has established, or has caused to be established, a Project Coordination Unit within the Government of the NWFP for the purpose of overseeing project implementation; and,

ii. documentation confirming that it has appointed, or has caused to be appointed, a Project Director for the Coordination Unit, together with the name of said person and his specimen signature.

d. Special Condition - Control of Poppy Related Activities

As a condition precedent to initial disbursement, the parties will have reached agreement in writing as to actions to be taken by the Government of the NWFP to enforce the Cooperating Country's ban on opium poppy cultivation and the processing and distribution of opium poppy, heroin, and/or illicit morphine-based substances.

The Cooperating Country agrees to carry out, or cause to be carried out, said agreement, as it may be from time to time amended by the parties, in a prompt and effective manner. If, at any time prior to the Project Assistance Completion Date (PACD) for this Project, as it may be from time to time amended, the United States should determine, in its discretion, that the Cooperating Country or the Government of the NWFP, as the case may be, has not substantially complied with said agreement or has failed to act in good faith in its efforts to fulfill the terms of said agreement, A.I.D. reserves the right to:

i. suspend all further assistance under the Project or such part thereof as A.I.D. may deem appropriate; and/or,

ii. terminate all further assistance under this Project as provided for in the Project Grant Standard Provisions Annex (Annex 2).

e. Waivers

I hereby:

a. approve a waiver from A.I.D. Geographic Code 000 (U.S. only) to A.I.D. Geographic Code 935 (Special Free World) for the procurement of three right-hand drive, diesel station wagons, 14 right-hand drive, diesel, double-cab pick-up trucks, and 12 125-cc trailbikes, and related spare parts, for this Project;

b. find that special circumstances exist to waive, and do hereby waive the requirements of Section 636(i) of the Act; and

c. certify that exclusion of procurement from Free World countries other than the Cooperating Country and countries included in Geographic Code 941 would seriously impede attainment of U.S. foreign policy objectives and the objectives of the foreign assistance program.

Signature _____
Charles W. Greenleaf
Assistant Administrator
Bureau for Asia

_____
Date

Clearances:	Date	Initial
Herbert E. Morris, GC/Asia		
G.R. Van Raalte, Asia/PD		
Larry Smucker, Asia/DP		
Fred C. Fischer, Asia/PNS		
Clyde D. Taylor, State/INM		(Draft)

GC/Asia:HEMorris:hp:8/5/85

PROJECT DESCRIPTION

A. Summary

The Gadoon-Amazai Area Development Project (GAADP) will support the Government of Pakistan's efforts to eliminate opium poppy cultivation in the Northwest Frontier Province (NWFP). The project strategy recognizes that alternative economic opportunities and the integration of an ex-tribal area into the mainstream of Pakistani development play an important role in the decision of the farmers not to grow poppy, second only to their perception of the government's intention and ability to enforce the ban on opium poppy cultivation. The project is therefore designed both to provide short-term alternative sources of income to area farmers and to promote the long-term development of the Gadoon-Amazai area, which includes the Ganichatra, Gabasni, Gandaf, Kabgani, Nara Amazai, Bait Gali, and Nagrai Amazai Union Councils.

The project is designed around two distinct programs of action: (1) effective implementation by the GOP of its plan to enforce the existing ban on poppy cultivation; and (2) a development program that will finance development activities in the project area over a five-year period. A.I.D. funds will not be used to implement the enforcement program.

The development program covered by this Project Agreement will proceed in two interrelated phases. The first phase, which will last for approximately one year, will create the preconditions necessary to the success of the development program by:

1. providing immediate benefits to the population in the form of improved transport and other infrastructure to demonstrate the Government's commitment to providing real benefits through its development programs; and,

2. laying the groundwork for programs with more substantial and lasting benefits in Phase II, by, e.g., accelerating the construction of necessary access roads, completing engineering designs, gathering necessary meteorological and resource data, and beginning on-farm trials, demonstrations, seed multiplication, and other exploratory work to increase potential farmer income from alternatives to opium poppy.

During Phase II, covering the remainder of the project's five-year implementation period, three programs will be

income for area residents.

3. Off-farm Employment. The project will improve the marketable skills of area residents through participation in project activities and vocational training and provide increased opportunities for off-farm employment through the support of basic education for both male and female residents.

B. Project Goal, Purpose, and Outputs

The broad, national goal to which this project contributes is the elimination of opium poppy production within a process of rapid socioeconomic development in the remote areas of Pakistan. The project purpose is to change the Gadoon-Amazai area economy from one based substantially on poppy cultivation to a diversified gricultural and non-agricultural system with strong ties to t national economy. At the end of the project, achievement his purpose will be indicated by the elimination poppy production in the area and the establishment of an area economy that provides area residents a standard of living at least comparable to present levels.

To achieve this purpose, the project will produce four major outputs: (1) provision of a core infrastructure system in the project area; (2) rapid diversification of the area's agro-economy; (3) establishment of a productive manpower base; and (4) strengthened planning and management capacity in the Government of the Northwest Frontier Province (NWFP).

C. Project Components

The Phase I and Phase II programs will include the following elements:

1. Infrastructure

Two types of infrastructure construction will be funded: large-scale infrastructure to be implemented by the Departments of Communication and Works, Public Health Engineering, and the Water and Power Development Authority (WAPDA), and small-scale infrastructure to be carried out by the District and Union Councils of the project area. Large-scale infrastructure is programmed to include construction of two major roads, electrification of approximately 30 villages, repair of two major potable water systems, and construction of two new water systems serving large villages.

Infrastructure construction by the local councils will include the building of feeder roads and donkey paths and the construction of potable water systems serving small villages. These activities, as well as the irrigation systems and schools described below, will be selected and implemented by the local councils in cooperation with the Local Government and Rural Development (LGRD) Department of the NWFP.

2. Agriculture, Irrigation, and Watershed Management

The agriculture program will focus on wheat and other traditional dryland crops in the early part of the project. Activities will gradually expand to include non-traditional field crops, horticulture, tree crops, watershed management, livestock, marketing, and expansion of irrigation.

The dryland agriculture program will assist area farmers to increase their production by establishing a system of field trials and demonstrations on area farms, distributing agricultural inputs to former poppy farmers, and establishing a network of small field stations to test technologies prior to application on a wider scale.

The watershed management and l vestock program will introduce hardy, high-yielding varieties of livestock to the area, promote production of fruit trees where feasible, establish private woodlots, and assist area farmers to apply sound range management practices on their land, either singly or through participation in farmer groups.

The irrigation program will expand the irrigated area by approximately 375 acres (including roughly 250 acres in the

Sherai watershed). The NWFP Department of Irrigation will construct the check dams and provide technical assistance to the farmers, who will construct the channels.

Under the agricultural marketing program, project personnel will work with public and private sector marketing agencies to expand the availability of credit and inputs in the project area and to provide a secure marketing channel for the non-poppy crops promoted by the project.

3. Off-farm Employment

The project will assist area residents to gain skills marketable outside the area by establishing two short-term vocational training programs and by strengthening the basic education system in the project area.

The Overseas Pakistani Foundation will establish approximately three decentralized training facilities in the project area offering short courses in the construction trades to area residents. Short courses at a higher skill level will be offered by a construction contractor based at Tarbela Dam. Together, these two programs will train approximately 5500 area residents in the construction trades.

The project will also finance construction by the District Councils of approximately 30 new schools (of which the majority will be for women) and repair of approximately 35 schools by the Union Councils. The project will also finance extension of the "mohalla" (neighborhood) school system by the NWFP Department of Education, providing nonformal education to women and girls who are unable to attend regular classes.

D. Implementation Plan

1. Illustrative Implementation Schedule

The project timetable is divided into two major phases: (a) Phase I, which will last for approximately one year; and (b) Phase II, covering the remainder of the project's life. During Phase I, the following key activities are expected to occur: (a) appointment of a Project Director and establishment of the Project Coordination Unit; (b) preparation and approval of workplans covering activities to be undertaken by the NWFP line departments during the first twelve months of the project; (c) definition of agreed upon disbursement mechanisms and administrative arrangements; (d) arrival of Phase I technical assistance team; (e) departure of long-term participants for training; (f) execution of funding documentation to finance construction of the

Utla-Amazai road and extension of the electricity grid to villages in the project area; (g) execution of contracts to initiate the vocational training programs; (h) implementation of a series of small schemes by Union and District Councils; (i) initiation of agricultural field trials and demonstration including distribution of fertilizer and wheat; (j) recruitment of staff and ordering of commodities for the watershed management, livestock, irrigation and forestry programs; (k) completion of the design of major roads; and, (l) completion of mineral resource and hydrological surveys. An evaluation of the project is scheduled to occur at the end of Phase I.

By the time that Phase II begins, workable systems for cooperating with line agencies, reviewing activities underway against objectives, developing work plans, and integrating the various components of the project through quarterly budget reviews will be established. A Monitoring and Evaluation Section will have also been established in the Project Coordination Unit and will be receiving and generating quarterly reports on all project activities. The line agencies will have had a year of working together, meeting in seminars, and continuing the process of cooperation begun in Phase I. Using this base, appropriate work plans, budgets and programs will be developed. The Phase II implementation will build on the lessons learned and opportunities uncovered during Phase I. Project evaluations involving representatives of the Government of the NWFP, the Pakistan Narcotics Control Board, and A.I.D. are tentatively scheduled to occur at the end of both the third and the fifth project years.

2. A.I.D. Responsibilities

A.I.D. will be responsible for:

a. negotiations with the GOP on all matters related to the development program (including definition and review of financial and administrative arrangements);

b. initiation of periodic disbursements of funds for project implementation and follow-up on use of funds;

c. overall monitoring of project progress;

d. procurement of local and expatriate technical assistance and contract personnel and management of these contracts;

e. procurement and management of other contracts with non-governmental bodies;

f. off-shore procurement of selected commodities;

g. arrangements for overseas training programs;

h. coordination of inputs from other A.I.D. projects;

i. participation in project evaluations; and,

j. participation in U.S. Mission discussions with the GOP related to enforcement of the poppy ban.

3. GOP Responsibilities

a. Federal Level

The Pakistan Narcotics Control Board (PNCB) will be the GOP counterpart agency at the federal level for the project. PNCB's role will include overall monitoring of project progress, membership on the Project Coordinating Committee (PCC) and the Project Review Board (PRB), and coordination with NWFP enforcement agencies on the enforcement program.

b. Provincial Level and Overall Project Management

The project will be implemented by the Planning and Development Department (P and D) of the NWFP. A Project Review Board will be created, consisting of senior officials at the provincial level together with a representative of the PNCB. The Board will approve work plans, coordinate the activities of all concerned line agencies, and monitor progress, reporting regularly to PNCB and A.I.D. P and D will designate the Project Director (PD/P&D). The PD/P&D will head the Project Coordination Unit (PCU), which will assume primary responsibility for overseeing project implementation.

c. Operational Level

A Project Coordinating Committee (PCC) will be established under the chairmanship of the Project Director. The committee will meet periodically to decide on project activities, coordinate among implementing agencies, and integrate the field activities of the project. The committee is likely to include representatives of the line agencies involved, of the tehsils in the project area, A.I.D., PNCB, and possibly other officials from the NWFP Government. The PPC will:

i. review past performance;

ii. formulate future work plans for PNCB and A.I.D. review;

iii. solve any problems that arise; and,

iv. exchange information among line agencies.

At the operational level, implementation responsibilities will follow the existing division of responsibility for development activities within the Provincial Government. Thus, the Department of Agriculture will manage the agricultural program, the Education Department will manage the basic education program, and so on. Three exceptions to this system are as follows:

i. Implementation of the off-farm employment training programs will be carried out by the Overseas Pakistani Foundation and a construction contractor at Tarbela, each under a direct contract with A.I.D.

ii. Small construction included in the infrastructure, education, and irrigation components will be implemented by the District and Union Councils. The appropriate line agencies will provide technical assistance as required to the councils during design and implementation of the projects.

iii. The watershed management component will be carried out by the Departments of Forestry and Animal Health.

ILLUSTRATIVE

GADOON-AMAZAI AREA DEVELOPMENT PROJECT

SUMMARY OF PROJECT COSTS BY EXPENSE CATEGORY AND SOURCE OF FUNDING

(In 000's)

Expense Category	FY 1983		Life of Project Funding 1/	
	A.I.D. Grant (In $)	GOP (In Rs)	A.I.D. Grant 2/ (In $)	GOP (In Rs)
1. Technical Assistance	400	-	3,000	-
2. Training	-	-	50	-
3. Commodities	300	-	645	-
4. Other Costs				
a. Construction	1,600	2,496	8,405	2,496
b. Project Personnel and Operations	200	512	3,700	8,320
c. Land and Other Facilities	-	256	-	1,280
5. Evaluation	-	-	200	-
TOTAL	2,500	3,264	16,000	12,096
Contingency/Inflation	-	320	4,000	5,824
GRAND TOTAL	2,500	3,584	20,000	17,920

1/ Does not include funding under the A.I.D.-financed Agricultural Commodities and Equipment Program (391-0468) and the Development Support Training Project (391-0474) which may be used to finance some of the commodities and training, respectively, under this project, subject to the availability of funds to A.I.D. for this purpose.

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

(C(2) PROJECT CHECKLIST

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

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

Yes.

Yes.

A. GENERAL CRITERIA FOR PROJECT

1. FY 1982 Appropriation Act Sec. 523; FAA Sec. 634A; Sec. 653(b).

(a) Describe how authorizing and appropriations committees of Senate and House have been or will be notified concerning the project; (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than $1 million over that amount)?

(a) Congressional Notification and Congressional Presentation.

(b) Yes, assistance is within the FY 1983 operational year budget.

2. FAA Sec. 611(a)(1). Prior to obligation in excess of $100,00, will there be

a engineering, financial or other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?	(a) Yes. (b) Yes.
3. FAA Sec. 611(a)(2). If 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); FY 1982 Appropriation Act Sec. 501. If for water or water-related land resource construction, has project met the standards and criteria as set forth in the Principles and Standards for Planning Water and Related Land Resources, dated October 25, 1973? (See AID Handbook 3 for new guidelines.)	Yes.
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, a Mission Director's 611(e) certification is included in the Project Paper.

6. FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs.

No. This project is an area development project which focuses on a particular area in the NWFP of Pakistan and is designed to eliminate opium poppy cultivation. This project may well serve to accelerate favorable consideration by the GOP and GONWFP to the development of a GOP Special Development Program for Opium Poppy Growing Areas, which is currently under discussion among the GOP and donor agencies.

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 competition; 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) No
(b) To a limited extent in the project area.
(c) No
(d) No
(e) The project will support increased extension activities by NWFP line agencies which should result in improved technical efficiency in agriculture.
(f) No

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

U.S. private enterprise will participate as suppliers of both goods and services under the project.

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9.	FAA Sec. 612(b), 636(h); FY 1982 Appropriation Act Sec. 507. Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars.	This project is financed by ESF funds. Nevertheless, the GOP and the Provincial (NWFP) Governments will contribute the equivalent of $1,000,000 over the life of the project to help finance the local costs of the project. The Mission Director has certified the disbursement of U.S. dollars in lieu of U.S. Treasury-owned excess rupees to cover some of the local costs under this project. This action is consistent with one of the major objectives of the 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?	Yes. The U.S.-owned excess Pakistani rupees known as Mondale rupees have been fully programmed in support of other projects.
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.	FY 1982 Appropriation Act Sec. 521. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity?	N.A.
13.	FAA 118(c) and (d). Does the project comply with the environmental procedures set forth in AID Regulation 16? Does	Yes. A detailed Initial Environmental Examination which recommends a negative determination is included in the Project Paper.

the project or program take into consideration the problem of the destruction of tropical forests?	Yes. The project includes a watershed management and reforestation component.
14. FAA 121(d). If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (dollars or local currency generated therefrom)?	N.A.

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria	This is an ESF-funded Project.
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 assistance, to assist rural and urban poor to help themselves toward better life, and	N.A.
	N.A.

..therwise encourage ..mocratic 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?	N.A.
b. FAA Sec. 103, 103A, 104, 105, 106. Does the project fit the criteria for the type of funds (functional account) being used?	N.A.
c. FAA Sec. 107. Is emphasis on use of appropriate technology (relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?	N.A.
d. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activitiy with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)?	N.A.

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"? (M.O. 1232.1 defined a capital project as "the construction, expansion, equipping or alteration of a physical facility or facilities financed by AID dollar assistance of not less than $100,000, including related advisory, managerial and training services, and not undertaken as part of a project of a predominantly technical assistance character."

N.A.

f. 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.

g. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage

N.A.

institutional development; and supports civil education and training in skills required for effective participation in governmental processes esential to self-government.	N.A.
2. Development Assistance Project Criteria (Loans Only)	This is an ESF-funded grant 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.
c. ISDCA of 1981, Sec. 724 (c) and (d). If for Nicaragua, does the loan agreement require that the funds be used to the maximum extent possible for the private sector? Does the project provide for monitoring under FAA Sec. 624(g)?	N.A.
3. Economic Support Fund Project Criteria	
a. FAA Sec. 531(a). Will this assistance promote economic or political	This project will facilitate and complement the GOP's ban on opium poppy cultivation by changing the economy of the project area and providing the area's residents with alternative sources of income. By effecting this transition of the area economy and creating strong ties to the national economy, the project will promote economic and political stability.

stability? To the extent possible, does it reflect the policy directions of FAA Section 102?	Yes.
b. FAA Sec. 531(c). Will assistance under this chapter be used for military, or paramilitary activities?	No.
c. FAA Sec. 534. Will ESF funds be used to finance the construction of the operation or maintenance of, or the supplying of fuel for, a nuclear facility? If so, has the President certified that such use of funds is indispensable to nonproliferation objectives?	No.
d. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?	N.A.

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
MISSION TO PAKISTAN

Cable : USAIDPAK

HEADQUARTERS OFFICE
ISLAMABAD

Office of the Director

GADOON-AMAZAI AREA DEVELOPMENT PROJECT, 391-0485

FAA SECTION 611 (e) CERTIFICATION

I, Donor M. Lion, 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 proposed Gadoon - Amazai Area Development Project, 391-0485.

This judgement is based upon the project analysis as detailed in the Gadoon - Amazai Area Development Project Paper and is subject to the conditions imposed therein.

Donor M. Lion
Director
USAID/Pakistan

May 14, 1983
Date

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
MISSION TO PAKISTAN

Cable : USAIDPAK

HEADQUARTERS OFFICE
ISLAMABAD

Office of the Director

GADOON-AMAZAI AREA DEVELOPMENT PROJECT, 391-0485

FAA SECTION 612 (b) CERTIFICATION

A major purpose of the $1.625 billion economic assistance program negotiated between the Governments 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 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 Gadoon-Amazai Area Development Project.

Donor M. Lion
Director
USAID/Pakistan

Date

INITIAL ENVIRONMENTAL EXAMINATION

Project Location	: Pakistan	
Project Title and Number	: Gadoon-Amazai Area Development 391-0485	
Funding	: A.I.D.: FY 1983	US $ 2.5 million
	LOP a/	US $ 20.0 million
	GOP : LOP	the equivalent of US $1.4 million in local currency and in kind
Life of Project	: FY 1983 - FY 1988	
IEE Prepared by	: Jennifer Bremer, DAI	
Environmental Action Recommended	: Negative Determination	
Mission Director's Concurrence	: Signature _____ Donor M. Lion	
	Date _____	
Decision of Environmental Officer of the Bureau for Asia	: Approved _____	
	Disapproved _____	
	Date _____	

a/ Does not include approximately $0.5 million in commodities funded under the Agricultural Commodities and Equipment Program (391-0468).

A. Summary of Project

The Gadoon-Amazai Area Development Project is designed to support the eradication of opium poppy cultivation in a 215-mile area in the Northwest Frontier Province. The project, which will be implemented by the Provincial Government in coordination with the Pakistan Narcotics Control Board, will be implemented in two phases. Phase I will involve high-visibility infrastructure construction and small schemes implemented by the local councils, as well as a small-scale agricultural program and preparatory activities for Phase II. Phase II will include activities in three areas:

- Infrastructure construction, by both the local councils and the major line agencies of the NWFP
- Agricultural development, including crop development, livestock, tree crops, watershed and range development, irrigation, and improved agricultural marketing
- Off-farm employment, through training of local residents in construction skills and promotion of increased opportunities for basic education

B. Project Impact on the Environment

The following project activities have the potential to affect the environment in the project area:

- infrastructure construction (particularly roads)
- agricultural production (field crops and horticulture)
- irrigation
- watershed management

1. Infrastructure Construction

The project will finance the construction of 33 miles of engineered road and roughly 120 miles of feeder road, donkey paths, and other trails. This activity will have a short-term negative impact on the area's ecology, but this will be extremely minor.

The construction of the engineered road from Bada to Gabai will involve very little disturbance of soil or natural vegetation, since most of the roadway will traverse what is now barren rock. The construction techniques to be used have been chosen to assure adequate use of culverts and other road design features that will reduce the long-term environmental impact of the road, as well as its maintenance requirements.

The use of the road is not expected to have any negative impact on the environment of the project area. The road will pass through an area that is currently settled and thus no increase in population as the result of increased access is anticipated.

The smaller roads and tracks to be funded under the project will be constructed using simple techniques emphasizing manual labor. They will involve minimal disturbance of the area environment, since in general an existing trail will simply be improved by widening it and smoothing the surface.

2. Agriculture

The agricultural program will involve primarily the replacement of poppy cultivation with other annual crops. The principal crop to be expanded is wheat, already a major crop in the area. Other crops to be introduced or expanded include soybean, sorghum, and other annual field crops. No environmental problems have been identified that might result from this activity.

The project will increase area usage of fertilizer somewhat. Chemical fertilizers are already widely used in the area, and farmers are familiar with the storage and application of agricultural chemicals. No increased risk to the environment or the health of area inhabitants is therefore foreseen from this activity. Increased use of chemical pesticides is not anticipated under the project, nor is increased use of mechanized tillage. The project will not expand the area under cultivation, since as a practical matter cultivation is confined to areas where rock-walled terraces have been constructed, nearly all of which are already cultivated.

Erosion is a serious problem in the project area. It is estimated that approximately 1-2 percent of the terraced area is lost annually to erosion caused by rapid runoff during the rainy season. The watershed management and irrigation components are designed in part to help area farmers combat this problem by slowing the velocity of water flow down the slopes and increasing the infiltration rate (see below).

Most of the area's high erosion cannot be attributed to inappropriate practices on the part of the farmers. The steep slopes and short, violent rainfall pattern in Gadoon-Amazai contribute to a high rate of natural erosion that can be only partially controlled within the limits of available technologies and economic resources.

In theory, most of the cultivated land in the project area should not be used for agriculture at all, but should be left in its natural state or planted to permanent tree cover. Such a pattern of use could not sustain the area's population, even with the addition of controlled grazing of the undercover. It is simply not possible to support a family on the area's average

holding of slightly over three acres, unless part of the land is cultivated. In the absence of any realistic alternative to the current use pattern, therefore, it is not possible to speak seriously of returning the land to natural cover.

At the same time, there is little danger that the cultivated area will be significantly expanded over the current level, whether as a result of the project or otherwise. Additions to the cultivated land require construction of new terraces, which, at an average cost of US$ 2000-5000 per acre (unirrigated), is far too expensive to be applied on a large scale. The project will indirectly reduce the economic return to additional terracing, moreover, by helping to eliminate the most profitable crop that can be grown on such terraces (that is, opium poppy).

3. Irrigation

Project-funded expansion of the irrigated area will focus on delivery of water to existing terraces by means of the construction of small gravity-fed irrigation systems. These systems will utilize small concrete and stone checkdams built in the streambeds to collect the stream flow and raise it to the level of the fields. Water will be carried to the fields in small channel systems, unlined over most of their length. The total area to be irrigated in this manner is estimated at 375 acres, which represents a very modest expansion of the existing irrigated area (roughly 15 percent).

Although elsewhere in Pakistan waterlogging and salinization have been serious problems following the expansion of irrigation, neither of these poses any risk for the project area. The fields to be irrigated are small, isolated terraces on which a thin layer of soil has been accumulated and held at considerable effort. Such soils (formed primarily from granite parent material) tend to be very light, freely draining, and low in soluble salts. Below this layer and between the terraces, the surface is barren rock. Waterlogging is not a consideration under these circumstances.

A side effect of the irrigation program will be a somewhat increased rate of infiltration and a reduced velocity of runoff in the vicinity of the checkdams. Both factors will work to ameliorate the erosion problem downstream, although the total impact is not expected to be important. They will also have a slight beneficial impact on streamflow and water availability downstream, although again the effect will be very small.

The steep slopes and rapid streamflow of the project area pose some danger to the checkdams themselves. In effect, the environment threatens the expansion of irrigation far more than expanded irrigation threatens the environment. For this reason, the construction methodology recommended calls for a curtain wall to be built with its base on the bedrock of the streambed and [illegible]t of its height buried in the loose gravel of the bed, with [illegible]y a low wall appearing above the surface. To further ensure

the survivability of the systems built, the dams themselves will be built by the Irrigation Department, since proper placement and construction are necessary to prevent the dam's washing out. (See Technical Analysis for a further discussion of this issue.)

4. Watershed Management

Although the principal aim of the watershed management activities funded by the GAADP is increased productivity for the noncultivated areas, they will also have a highly beneficial impact on the area's environment. The component will focus on increasing the vegetative cover of the area, through controlled grazing to promote regeneration of the natural grass cover, planting of forage and firewood shrubs, and, on the upper slopes, reforestation. Supplies of fodder and firewood near to the village will also be promoted through establishment of woodlots, stands of perennial grasses, and other activities to reduce the burden on the open hillsides.

The increased cover will help to reduce total runoff, increase infiltration, lower the velocity of the streams and surface water, and improve the availability of water downstream. Over the long term, this will help to protect the area's supply of water for domestic use and irrigation and raise the amount of water available during the dry seasons. Thus the impact of this component on the environment will be entirely positive.

DRAFT SCOPES OF WORK FOR THE TECHNICAL ASSISTANCE TEAM

Following are draft scopes of work for the four members of the Phase I technical assistance team and for the three expatriate members of the Phase II team. Scopes for the four Pakistani members of the Phase II team will be developed during Phase I.

A final designation of the chief of party has not been made for either team. One of the expatriates will be selected to play this role in both cases, with the selection depending on the range of skills and experience among the individuals assigned to the team. It is anticipated, however, that the Area Development Adviser will serve as team leader in Phase II.

Both the Phase I and Phase II team leaders will report to the AID Project Manager and the Project Director/P and D.

Phase I Team

Local Government Adviser (LGA) (Expatriate)

The Local Government Adviser will have primary responsibility for working with the AID Project Manager, the Project Director/P and D, and the Assistant Directors of Local Government and Rural Development on the following tasks:

- Establishment of the PCU. The LGA will advise on the structuring and staffing of the PCU, including the initiation of relations with other parts of the NWFP Government at the provincial and local level. The LGA will assist the PD/P and D to establish the necessary reporting and accounting systems for PCU operation.

- Establishment of Project Committees. The LGA will assist the PD/P and D to establish and convene the Project Coordinating Committee at the area level and the Project Review Board at the provincial level. The LGA will develop a suggested scope of responsibility for these two committees, together with a proposed agenda.

- Development of Work Plans. The LGA will assist the PD/P and D to draft the first work plan for the project and to negotiate this work plan with AID and the NWFP Government.

- Local Council Program. The LGA will work with LGRD personnel in the three project area districts to develop procedures for the local council program, including draft selection criteria for the individual

projects and any modification necessary in the existing set of procedures. The LGA will advise the union council secretaries and LGRD staff on the selection and implementation of local schemes and will give short courses to these personnel to improve their performance. Finally, the LGA will monitor the local council program in Phase I for effectiveness, efficiency, and equity.

Community Organizations Adviser (COA)

The COA will be responsible for advising the NWFP Government, AID, and the other members of the technical assistance team on project operations at the village level, including the agricultural program and the overall acceptability of project activities as well as the local council program. The COA will support project activities at the local level by carrying out the following tasks:

- Local Council Program. The COA will assist the LGA and LGRD staff in implementing the local council program, with particular reference to the operation at the village level.

- Developing the Community Organization Staff. The COA will assist the LGRD to recruit and train two individuals who will support the local council program in the villages by helping to explain project activities to area residents, assisting in the selection and implementation of projects at the local level, and monitoring the total process.

- Development Support Communications. Prior to the return of the PCU staff member trained in mass media and communications, the COA will provide assistance to other project staff in developing communication programs to explain project activities at the local level.

- Overall Community Relations. The COA will monitor the attitudes of area residents to the project and to the various activities undertaken, in order to identify problems at an early stage and develop a response to them. This responsibility will include monitoring project activities for undesirable equity impacts and for disproportionate participation by one or another group in the project area.

Agricultural Adviser (AA) (Expatriate)

The AA will have primary responsibility for ensuring that the Department of Agriculture succeeds in implementing the Phase I agriculture program as planned. The AA will carry out the

following tasks:

- Technology Selection. The AA will finalize the selection of technology for Phase I (wheat variety, level of fertilizer, etc.) and work with area suppliers to ensure that an adequate supply of inputs is available for distribution to area farmers. The AA will advise the agricultural authorities on a continuing basis with respect to technologies that could increase production and incomes in the project area. The AA will make a final determination as to the suitability and acceptability of the technologies tested.

- Cooperating Farmers. The AA will work with the Department of Agriculture staff in all phases of the cooperating farmer program, including the recruitment and training of an appropriate group of farmers for seed multiplication and varietal testing and their supervision during the year.

- Field Stations. The AA will assist the Department of Agriculture to establish field stations in the project area, and will provide training and supervision as needed for the Department's staff assigned to this program.

- Distribution of Seed and Fertilizer. The AA will be responsible for ensuring that the distribution of seed and fertilizer to former poppy farmers takes place as necessary.

- Support to Other Agricultural Programs. The AA will assist the Livestock Adviser and government personnel working on the range management programs to understand the total farming sytem in the project area and to develop and implement appropriate interventions to raise the productivity of the non-cultivated areas.

Livestock and Range Adviser (LRA)

The LRA will be responsible for the design of the range and livestock program to be implemented in Phase II and for the preliminary testing of possible components for this program. The LRA will work closely with the AA and the COA to develop an understanding of the current livestock system, including the organization of grazing rights, the current distribution of livestock ownership, the utilization of animal products, and labor patterns in the livestock sector as well as production factors including the source of animal feed and forage, the mix of animals owned, and animal health. The LRA will carry out the following specific tasks:

o Small Forage Trials. The LRA will work with personnel

of the Animal Husbandry and Forestry Departments to conduct small-scale trials of forage species in a variety of locations throughout the project area.

- Preparations for Farmer Groups in Phase II. The ADA will work with other project and NWFP staff to develop plans for cooperating farmer groups for improved range management in Phase II. This will include the preliminary identification of interested farmers and development of an initial group organization for improved range management on a cooperative basis.

Phase II Team

Area Development Adviser (ADA) (Expatriate)

The ADA will work closely with the personnel of the PCU, advising on overall project planning, administration, and coordination. The ADA will also work with P and D at the provincial level to develop an understanding of the requirements of area development projects, in opium-producing areas and elsewhere, as the basis for expanded activities in this area. The ADA will undertake the following tasks:

- Project Monitoring and Evaluation. Work with the personnel of the PCU Monitoring and Evaluation Section to ensure that the information necessary for project implementation and evaluation is gathered and analyzed.

- Project Work Plans. Work with AID, the Project Director, and the NWFP Government to develop project work plans on a timely basis and to gain final approval for these plans from AID.

- PCC and PRB Operations. Advise the PCC and the PRB on project activities to ensure that the necessary coordination across agencies takes place.

- Monitor Infrastructure and Local Council Programs. Work with the PD/P&D to ensure that the infrastructure construction and local council programs are implemented as planned.

Agricultural Institutions Adviser (AIA) (Expatriate)

The AIA will focus on the development of area agricultural institutions to handle the increased volume of legitimate cash crops and the changing structure of agricultural production in the project area. The AIA will concentrate in particular on measures necessary to improve the functioning of the markets for inputs (including credit) and outputs (in fresh and produced form). As necessary, the AIA will work with public and private sector institutions currently or potentially working in the

project area to ensure that increased production is marketed smoothly. The AIA will be responsible for determining how the funds allocated for marketing should be used and for including proposals to this effect in the six-monthly work plans. The AIA will also undertake the following tasks:

- Economic Analysis. The AIA will assist the staff of the PCU to evaluate the economic potential of the various activities supported under the project, in order to support a determination that such activities do or do not provide an adequate return to motivate farmer acceptance.

- Farmer Organization. The AIA will work with the Local Government Specialist to determine whether farmer organizations are a feasible means of improving marketing in the project area (including input purchase and credit) and, if so, to develop a program encouraging farmers to form such groups.

Range Management Adviser (RMA) (Expatriate)

The RMA will assist the GOP institutions involved to develop a watershed management program, including assistance in the establishment of productive tree, bush, and grass species under dryland conditions for firewood, animal fodder, watershed management, and soil conservation. The RMA will, in particular, be responsible for the following tasks:

- Fodder Trials. The RMA will continue the program of small-scale field trials begun in Phase I, using both the land of cooperating farmers and land rented by the project for this purpose. These trials will explore the interaction between the natural vegetation, improved species, and varying animal stocking rates as these affect net production from the rangeland.

- Farmer Organization. In cooperation with the GOP and the Phase II local government adviser, the RMA will develop a program to assist farmers with adjoining land to work together to raise the productivity of their land through controlled grazing and replanting.

- Woodlots and Firewood. The RMA will work with area residents to develop small, private woodlots with plantings of fast-growing firewood species for the production of marketable firewood supplies.

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Government of Pakistan
MINISTRY OF FINANCE AND
ECONOMIC AFFAIRS
(ECONOMIC AFFAIRS DIVISION)

JOINT SECRETARY.
Tele. 21520

Islamabad, the 27th July, 1983.

Dear Mr. Lion,

As part of our two Governments' Agreementon a six year $1.625 billion economic assistance program, the Government of Pakistan formally requests from USAID/Pakistan twenty million dollars ($20,000,000) in United States assistance to fund an area development project in the Gadoon-Amazai Area of the Northwest Frontier Province. The Gadoon-Amazai Area Development Project (GAADP) is designed to change the Gadoon-Amazai area economy from one based substantially on poppy cultivation to a diversified agricultural and non-agricultural system with stronger ties to thenational economy. The project encompasses two distinct programs of action. One involves the effective achievement of the government's ban on poppy cultivation and requires an effective enforcement plan to be implemented by the Government of the NWFP to meet this goal. The second program ofaction involves a USAID/GOP development undertaking which requires the planning and delivery of development inputs tothe project area over a five year period.

Subject to the availability of funds, U.S.$20 million in ESF Grant funds is to be provided to finance, among other things, technical assistance, commodities, trainingand operating expenses for the following types of activities:

(1) Agricultural Development

The project will support a program of on-farm trials and demonstrations, distribution of improved plant varieties, extension information, watershed management, and small irrigation schemes to promote increased production of existing non-poppy crops and to introduce new cash crops.

(2) Infrastructure Construction

The basic transport and service network of the project area, primarily roads and power, will be improved to raise the residents' standard of living, increase the flow of goods to and from the mountainous project area, and reduce the farmers' dependence on poppy production. Labor intensive components to be implemented over the life of project will provide a source of income for area residents.

(3) Off-Farm Employment

The project will improve the marketable skills of area residents through their participation in project activities and local training. It will also provide increased opportunities for off-farm employment through the support of basic education for both male and female residents.

(4) Project Management and Technical Assistance

A Project Coordination Unit will be created and will function under the supervision of a Government-appointed Project Director. The Unit will provide personnel, administrative and logistical support to the project. In addition, Pakistani and expatriate professionals will help coordinate and manage specific project activities.

Prior to the initiation of Project activities, the Government of the NWFP and the U.S. Mission will agree in writing to an approach to enforcement in the project area. TheUSAID and the GOP will also agree in writing to a developmentplan (the Project Agreement). Each plan is independent,and each will recognize the inherently different implementation pace of development and enforcement.

The GOP assures the USG of its full cooperation in carrying out the Gadoon-Amazai Area DevelopmentProject and its commitment to enforce the poppy ban and to eliminate opium poppy

cultivation in the project area. The manpower, financial, and enforcement inputs required of us will be provided expeditiously. Once the Project Agreement is signed, A.I.D. is hereby authorized to proceed with the implementation of the project in accordance with the terms and conditions as set forth in that Agreement.

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

Yours sincerely,

(SYED NISAR ALI SHAH)

Dr. Donor M. Lion,
Director,
USAID Mission,
Islamabad.

NATURAL AND HUMAN RESOURCES OF THE GADOON-AMAZAI AREA

A. Introduction

This annex describes the natural and human resource of the Gadoon-Amazai project area. In so doing it presents a portion of the background against which the project was designed, setting forth information and evidence that influenced strategies, decisions and proposals put forward in the project paper. The information presented, and its subsequent interpretation, results from the examination of quantitative information made available, extensive interviews with relevant officials, and the limited opportunities for field visits and interviews. There are inevitably shortcomings in the data and information readily available and, in many cases, discrepancies and mismatch between different sets of data. Nevertheless, the overall "picture" presented does represent the current situation in the project area.

In summary, the project area is a single, heavily populated mountain tract. The vast majority of its inhabitants rely upon the cultivation of a very small plot of land, frequently growing poppy, for their livelihood. Remittances from family members working outside the project area provide a further important source of income. The nature of the terrain and the pressure of population have forced the cultivation of the marginal steep valley sides. However, about 80 percent of the land remains uncultivated, covered with low scrub on the lower slopes but near the peak with heavy tree cover. High population growth is leading to increased pressure on the land and further sub-division of the cultivated areas.

The project area comprises part of three administrative districts which coincide with three sub-areas which will be referred to throughout this annex. The sub-areas are Gadoon (Mardan district), Swat Amazai (Swat district), and Hazara Amazai (Abbottabad district). Administratively the area is further divided into seven union councils (the lowest level of elected representation). Parts of Mansehera Tribal Area also extends into the mountain entity that comprises the project area. This has been excluded from initial project activities, because the tribal area's particular administrative status precludes immediate access necessary for implementation.

B. Sub-Regional Setting

The project area lies immediately to the west of Tarbela lake, (formed on the river Indus by the Tarbela dam). The area is some forty miles north of Islamabad and sixty miles east of Peshawar (see Map 1). Some 215 square miles in extent the project area lies wholly within the North West Frontier Province.

Physical links form the southern edge of the project area are relatively good, two blacktopped roads on either bank of the Indus river connect with the Grand Trunk Road. A further road links with Mardan (35 miles), the headquarters of Mardan district and with Peshawar, the provincial capital, via Swabi. The small town of Swabi is the sub-district (tehsil) administrative center and accommodates a full range of government offices. Immediately to the south of the project area lies Topi; this large village, relatively wealthy as a result of the Tarbela dam construction and remittances, is the local service center for Gadoon (the most important of the three sub-areas of the project, see Section A and Map 2). From Topi one of the two road accesses into the project area itself runs as far as Utla. The project's northern sub-area, Swat Amazai, is more isolated than the Gadoon portion. One gravel road leads to the blacktopped Mardan-Daggar road, a distance of 15 miles. From this junction it is some ten miles to Daggar, a small administrative center and 30 miles to Mardan the nearest large town.

The third sub-area, Hazara Amazai, is the most isolated from the immediate sub-region. There are no existing roads and the most immediate access for many residents is by boat across Tarbela lake to Haripur. This route, however, is only open for nine months of a year as the lake level drops too low to be navigable. The only alternative to the water-borne route is by road and foot through Gadoon.

The single mountain system making up the project area is physically part of the southern most extension of the Indus Kohistan mountain range, which itself merges with the Himalayas. From the south the project area rises dramatically out of the Indus Valley plain. The Swabi plains area, within the Indus valley, is one of the most productive agricultural areas of Pakistan and stands in marked contrast to the barreness of the ridges and valleys of the mountain.

With the exception of its southern fringe the project area is quite isolated from its immediate environs, a result of difficult terrain and poor communications as well as its social, political and administrative history (see the Social Soundness Analysis). Such isolation has, perhaps, been reinforced by the area's dependence upon poppy production which creates an economy that does not lead to a direct trade with surrounding areas.

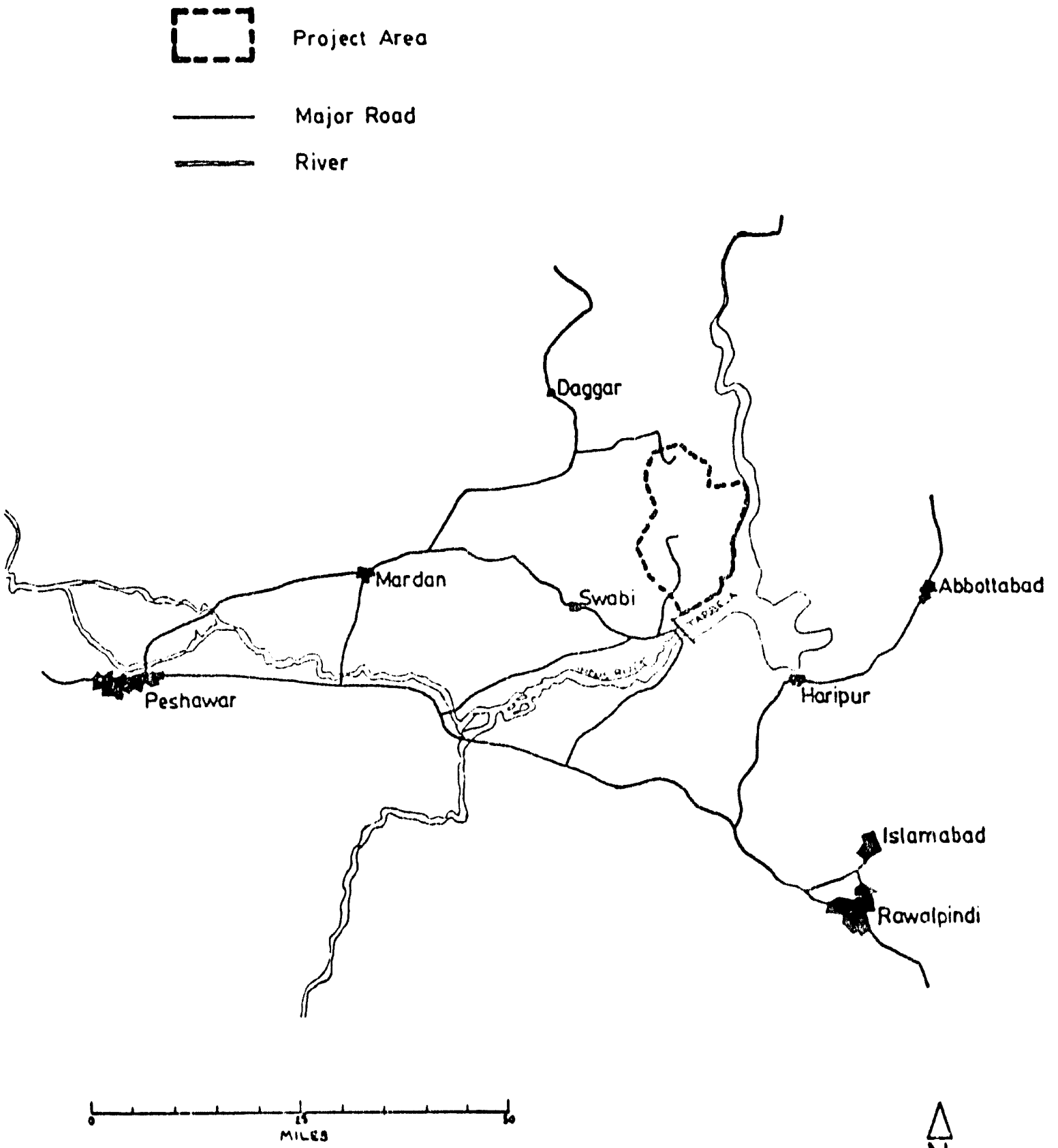
C. Physical Features

The mountain ridge, named Mahaban, dominates the project area, it runs north-south and, at its southern end, east-west. Its highest peak is 7,381 feet above sea level. Off this spine a series of high ridges run in all directions with altitudes above 4000 feet above sea level being quite common (see Map 3). The area is typified by narrow, steep valleys cutting up into the body of the mountain with very limited amounts of flat land. Interpretation of satellite imagery carried out for the project reveals over 25 percent of the area examined having slope over 25

GADOON AMAZAI AREA DEVELOPMENT PROJECT

Sub Regional Setting

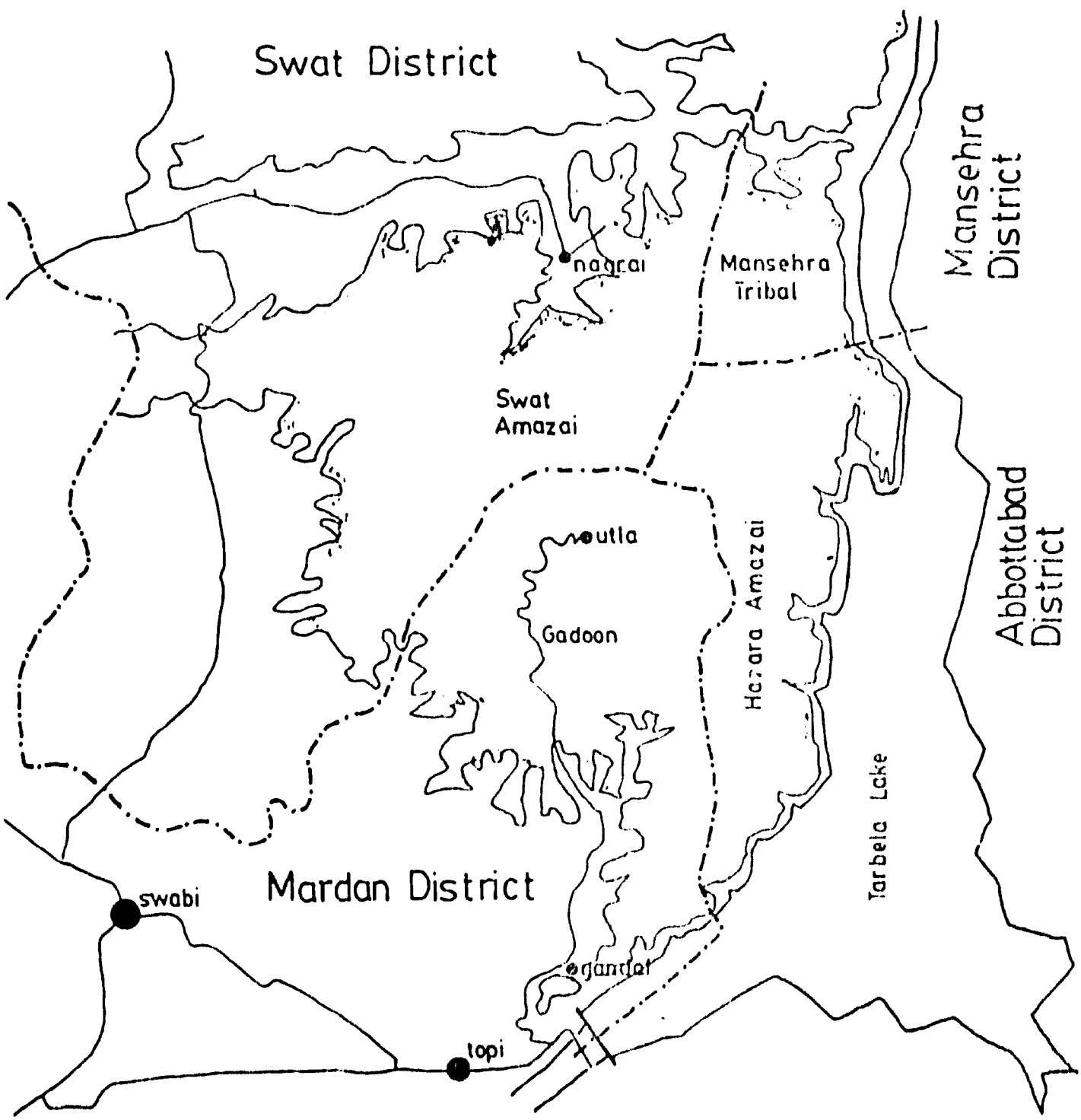
MAP 1



GADOON AMAZAI AREA DEVELOPMENT PROJECT

LOCATION

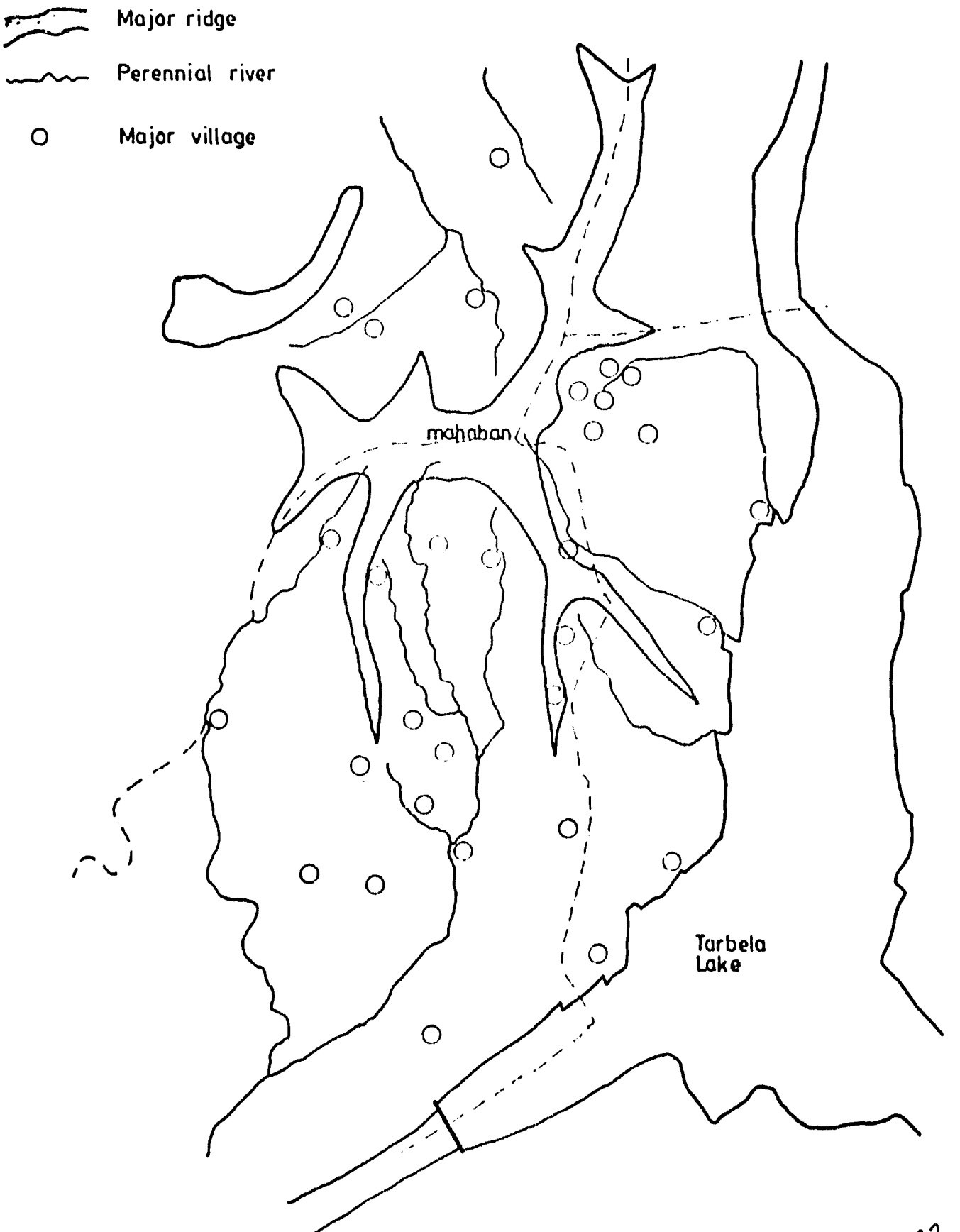
MAP 2



GADOON AMAZAI AREA DEVELOPMENT PROJECT

Physical Features

MAP 3



degrees. Such physical features have greatly influenced the settlement pattern and determined the land utilization pattern of the area (see later sections). The total area is some 215 square miles and only at the south-western extremities does the ridge and valley system open out into more extensive "plains" (ironically this area was extensively "destroyed" by the construction of the Tarbela dam as much of the dam-wall-fill was excavated from here).

The soils are sandy loams with some areas of clay loams. Away from the valley floors topsoils are thin with a high rock content. Although not unsuited for agriculture the soils are highly porous and do not retain water. Furthermore the destruction of the natural vegetation has led to very fast rain run-off reducing further water retention and increasing erosion. Bedrocks are made up of granites and schists with small deposits of marble and limestone. A reconnaissance minerals survey carried out by the Sahad Development authority in 1976 revealed no commercial deposits of minerals.

There are no records of rainfall, however general estimates indicate an annual rainfall of 40 inches at the highest altitudes on the north-west of the Mahaban ridge, decreasing to some 12 inches in the lowest slopes to the south. Swat Amazai, to the north of the ridge, would seem to receive significantly higher levels of rainfall than the east and southern slopes. The rainfall pattern is bimodal, with peaks in mid-winter and mid-summer, with the summer monsoons providing the higher, if less dependable, rainfall. There is little precipitation at other times. In winter there is occasional snowfall at the highest altitudes. There are no records of temperature variation, but there is verbal evidence of infrequent frost and in summer of temperatures up to 90-100 degrees fahrenheit. Whatever the actual figures there is a marked difference between summer and winter seasons.

At least six perennial river systems run off the mountain; these are greatly augmented during the rainy season by numerous seasonal streams. Permanent and seasonal springs occur throughout the area at all elevations.

The name of the ridge, Mahaban, means the "place of the large forest" but today most of the forest has vanished, a result of population pressure. The last vestige of the natural forest remains at the highest altitudes and in the Swat Amazai (where the forest was long protected by the ruler of the independent state of Swat). Elsewhere a few solitary mature trees are all that remain, although it is reported that at little as 15 years ago the forest still existed around Sandhwa, a village about half way down the mountain. Satellite imagery appears to have recorded this recession, between 1975 and 1982 a change in land use covering an area of about 1000 acres were recorded. It is believed that the changes shown were caused by forest cover being replaced by faster growing grass and scrub. Where the forest has disappeared it has been replaced on the valley sides by low

scrub. Three species predominate: acacia modesta (local name "pholi"), adhatoda (local name "baiker") and a shrub locally named "sanata". All three are used for firewood and forage for goats and sheep, local grass species are also present.

D. Population

It is estimated that the total population of the Gadoon-Amazai area in 1983 is some 116,000 persons. As no statistics have officially been published since the 1972 census (the last census held in 1981 is not yet publicly available) this estimate is based upon several sources: 1972 census, partial figures for the 1981 census released unofficially, estimates made by the Department of Local Government and Rural Development and Land Revenue records. The resulting population figures match quite reasonably with the estimates made of their own population by individual villages..

For the three sub-areas the following totals are estimated:

Gadoon:	65,000
Hazara Amazai:	28,000
Swat Amazai:	23,000

1. Population Make-up

It is assumed that the population age make-up is the same as elsewhere in the province. This being so the following age distribution will be present:

Age Distribution Gadoon-Amazai 1983

Age	Number	Percent	Total
0-5	18,560	16	
5-10	20,880	18	45
10-15	12,760	11	29
15+	63,800	55	
Total	116,000	100	

Thus at present there is a slight preponderance of adults over children (less than 15 years of age). However, with a birthrate of three percent per annum and the existing numbers of young children this situation will fairly soon be reversed. The 1972 census revealed a male/female ratio of 51/49 and there is no reason to suppose that this has changed. This makes for an economically active male population of 32,538 and a female one of 31,262. In reality many of those under 15 years of age are also, at least partially, economically active. Records show that only 36 percent of boys and four percent of girls actually attend school.

The assumptions made were, in summary:

- the overall growth rate will be three percent per annum
- outmigration will increase by one percent per annum naturally but that project activities in vocational training will increase the number leaving by 500 per year. The project plans to provide training to about 1,000 persons per year but it is assumed that half of those taking advantage of these courses would have left anyway
- outmigration will effect only the adult population.

The impact of this population growth upon the project area's natural resources is discussed later in this annex. One significant factor is that although outmigration will reduce the growth in the number of people attempting to earn a livelihood from the area it will not equivalently reduce the number of households. However, unless more is learned of the social patterns of the area such a phenomenon cannot be quantified.

E. Settlement Pattern and Communications

The traditional settlement pattern is one of highly nucleated villages built away from the valley floor and the best agricultural land. Such villages can vary in size from well over 8,000 (Gandaf) to less than 100 persons. More recently "satellite" settlements have become established close by the original village and tied socially to that village. This movement toward a more dispersed settlement pattern has become quite marked and results in part from a decreasing need for defense and in part from increasing population. With agricultural land at a premium there is an understandable reluctance to build on useful land, therefore families that can no longer be accommodated in the original village are forced to move to other, less valuable, land nearby.

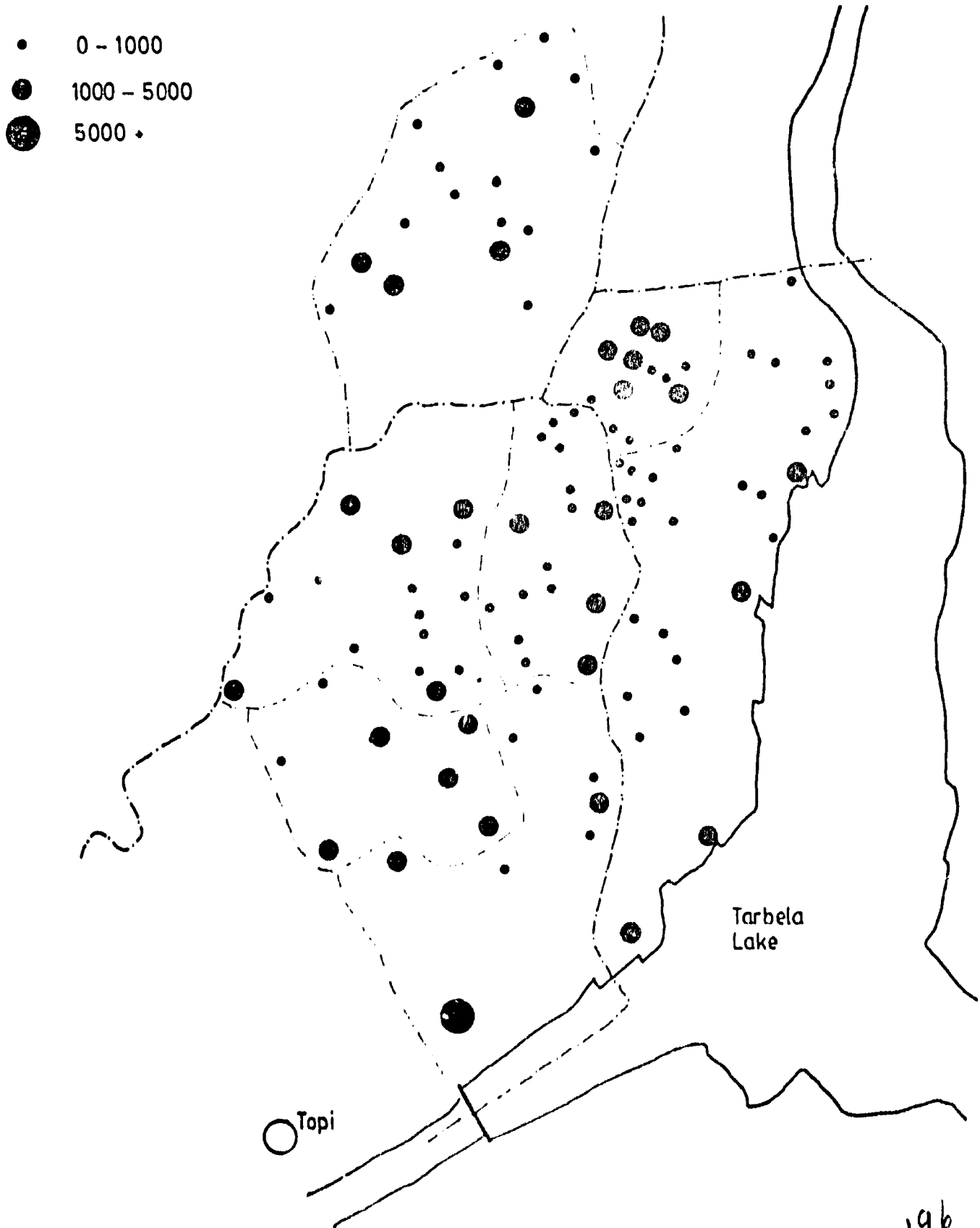
All population and land records are aggregated by the "hadbast" (local revenue area) which usually includes one main village and several smaller "satellite" settlements, although sometimes two significant villages are included in the one hadbast. There are 90 hadbasts in the project area and perhaps 200-250 recognizable settlements. The distribution of hadbasts is shown on Map 4. Population is spread evenly over the project area that lies under 5000 feet. Somewhat surprisingly there is not a significantly higher density of population at the lower levels where agricultural land is more readily available, another indicator of the population pressure in the area. The viability of agriculture at the higher levels has obviously been greatly enhanced by the production of opium poppy.

GADOON AMAZAI AREA DEVELOPMENT PROJECT

Settlement Pattern

MAP 4

POPULATION BY HADBAST



The villages themselves are highly compact settlements with houses tightly packed together and narrow passages threading through providing access. Sometimes the roof of one house forms the "front yard" of the house a little further up the hillside. Almost all houses are constructed of mud, although some of the larger villages will possess dwellings built of concrete block. All villages will include at least one mosque and the larger villages will have a number of small shops selling essential items. Only at Bada is there a "bazar", a street of shops.

The vast majority of movement between villages is by foot, utilizing the extensive system of footpaths and donkey tracks that link to all settlements no matter how small. The major routes follow the valleys up the mountain, leading off the few roads or in the east from the lakeshore. Goods move on donkey or camel, which is not only slow but severely restricts the type and quantity of goods that can be transported. It also means that goods are expensive in the more remote villages. A bag of flour that costs Rs. 157 at Topi will cost Rs. 190 in Gabasni. Without roads all imports, for example building materials, must be laboriously packed in on animal back and it is simply impossible to bring in any item that cannot be so carried.

Two roads do provide limited vehicular access, one, leading north from Topi to Utla, is the more siginificant in terms of the number of people served. It provides the only access into Gadoon (except on the southern most fringe of the project area) and Hazara Amazai. An extension to this road from Utla to the village of Nara in Hazara Amazai has just been started. Once complete it will enable a further 15,000 people to gain direct access to a road. The original road to Utla is being upgraded, the carriageway is being widened and for a portion of its length blacktopped. Into Swat Amazai there is also a road, but again only a relatively small number of people are able to benefit directly. These roads are used to transport in both people and goods and also by government officials. Although access is severely restricted the situation today is much improved over what it was as little as ten years ago when no engineered roads existed.

F. Land Availability and Utilization

With a total land area of approximately 140,000 acres (215 square miles) and a total population of some 116,000 Gadoon-Amazai has an overall population density of 1.2 acres per person. This density is slightly higher than that for the NWFP as a whole, which has a density of some 1.5 acres per person. The total areas of the three sub-divisions of Gadoon-Amazai are as follows:

Gadoon	68,000 acres	(population 65,000)
Hazara Amazai	44,000 acres	(population 28,000)
Swat Amazai	28,000 acres	(population 23,000)

Hazara Amazai has a comparatively low density of population, particularly the southern portion, a consequence of exceptionally poor land and, possibly, the result of large-scale population movement brought about by the flooding of the Tarbela lake.

However, the relationship between population and land becomes more accurately represented when account is taken of the quality and utility of that land. The following table summarizes the situation in each of the project's sub-areas.

Land Utilization in Gadoon-Amazai

	Cultivated Land (Acres)	Uncultivated Land (Acres)	Total Land (Acres)	Percent of Total Cultivated
Gadoon	15,967	52,612	68,579	23.2
Hazara Amazai	8,020	35,192	43,212	18.6
Swat Amazai	5,878	21,876	27,754	20.9
TOTAL	29,865	109,680	139,545	21.4

Source: Land Revenue Records

When population is put against the area under cultivation then a truer picture of overpopulation and land pressure can be presented. Again for the three sub-areas the following is the crude situation.

Population and Cultivated Land

	Population	Area Cultivated (Acres)	Average Available Cultivated Per Person
Gadoon	65,000	15,967	0.25
Hazara Amazai	28,000	8,020	0.29
Swat Amazai	23,000	5,878	0.26
TOTAL	116,000	29,865	0.26

Source: Land Revenue Records

Although it is a very crude figure an average availability (discounting the land tenure situation) of 0.26 acres per person is indicative of land shortage. An average person (man, woman or child) requires 15 kg of wheat per month (World Food Program) or 180 kg per year. Under existing circumstances the 180 kg of

wheat can be grown on 0.36 of an acre. With only 0.26 acres available an acute shortage would result. However, the availability of opium poppy as a cash crop enables the purchase of basic foodstuffs to be made and this cash income is supplemented by remittances from outside. Furthermore using improved wheat varieties yields can be doubled. Despite these counter arguments all indications are that the area is one that cannot directly sustain its population.

However, as is usual in societies, access to land is not evenly distributed. Exisitng records do not allow a direct comparison to be made between people or households and access to land, whether through ownership or other tenure. There are three forms of land tenure: ownership, sharecropping and rental but again it is not possible to gain an accurate picture of the division between them from records available. The 1978 USAID study, using figures based on the Agricultural Census of 1972, estimated that for the Swabi Tehsil as a whole, 60 percent of the land was worked by owner-occupiers, 30 percent under sharecropping arrangements and ten percent through renting. The impression gained from field investigation is that the proportion of owner-occupiers in the project area is higher than that of the tehsil, perhaps up to 80 percent of the population own some land. Rough estimates provided by the local Land Revenue Officers (Patwari) further indicate that about one third of households are engaged in sharecropping. The proportion of those sharecropping who also own some land is unknown. A further body of people have no access to arable land at all, again, very rough estimates imply that this group makes up about ten percent of the total.

There are detailed records available on that portion of the population who do own land. Accurate records are kept by the Patwari's for taxation purposes (there is a land/crop taxation on all land holdings over 12.5 acres). The only drawback of these figures is that they are recorded by individual and thus there are two unknown, firstly the number of households having more than one landowner, (this is known to be quite common), and secondly the number of landowners who "sub-let" part of their land. It is known that in Gadoon some 400 landowners do not work their own land at all and it can be presumed that these are the very largest landowners of all. The table below presents a summary of land ownership in Gadoon (only). Although such detailed figures were not collected for the other two sub-areas all the indications are that much the same situation exists in them.

Land Ownership Pattern in Gadoon

Size of Holding (Acres)	Number Owners	Percent Total Owners	Total Land (Acres)	Percent Total Land	Total Culti-vated Land (Acres)	Percent Culti-vated Land	Average Total Land Per Holding (Acres)	Average Culti-vated Land Per Holding (Acres)
0-5	16676	89.6	28365	49.8	8997	56.4	1.70	0.54
5-25	1719	9.2	20241	35.5	5235	32.8	11.78	3.05
25+	205	1.2	8360	14.7	1735	10.8	40.78	8.46
Total	18600	100	56966*	100	15967	100	3.06	0.86

Does not include 11,000 acres of land held communally by certain villages.

Source: Land Revenue Records

This table shows that there are 18,600 landowners in Gadoon (there are just over 10,000 households). Most striking is the fact that 90 percent of these owners posess very small units of land, the average for this cohort being 1.7 acres of which a mere half acre is cultivated. The remaining ten percent of owners posess just over half the total land in private possession. Some of the 90 percent will have access to further land through sharecropping. Over and above these owners are perhaps another 1,000 to 1,500 households owning no land at all whose only recourse is sharecropping or outmigration.

The implications for any agricultural development efforts, of these stark figures are highly significant. Such a situation can only continue, under existing practices, through the cultivation of a high-value cash crop, such as poppy at present. Clearly any interventions must focus on the productivity of the vast majority of very small farmers and attempt wherever and however possible to reduce the pressure on the land. Under the best of circumstances the land of Gadoon is marginal (although there are some promising possibilities for cash crops) and the levels of land holding reinforce the marginal nature of agriculture. Nor does the situation pertain just to arable land. Land available for livestock or other extensive usage, although comprising 80 percent of the total area, is equally maldistributed. The 90 percent owning less than five acres of land have on average only 1.16 acres available for livestock rearing in their private possession. Under the best existing conditions this land would be unable to support a single goat for a whole year. While there exist about 11,000 acres of "communal" land in Gadoon, there is a system of rights over this land that allocates according to land ownership. So the largest landowners have the rights (if not in practice) to graze or cut

grass from the largest proportion. Given the livestock numbers and the apparent distribtuion (whereby almost all households own at least some stock) it is evident that a complex system of access and tenure exists that is improperly understood at this time.

The situation described above relates to the Gadoon portion of the project area only. However, it is evident that much the same situation exists in the other two sub-areas.

The situation is unlikely to ease in the future. The population projections presented earlier, that took as its basis an optimistic assumption on outmigration, show a total population for the whole project area of some 136,000 in 1990 and 172,000 by the year 2000. It is unlikely that the area under cultivation will increase significantly, already terraces have been made on very marginal land at great cost and any widespread increase is really not practical. So by 1990 the crude density of population will have risen to barely one acre per person (1.2 today). The assumptions written into the population projections may disguise the true situation. For although there may be quite high levels of outmigration there will not be a corresponding drop in the number of families attempting to cultivate a plot of land (unless the emigrant earns very considerable wages). What is more the social values of the area mean that the possession of land is highly regarded. So a person is most unlikely to ever give up his land, at best he may allow others to cultivate his land on a sharecrop basis.

Relatively marginal land held in extremely small plots typifies the situation in Gadoon-Amazai. It is a situation that has been able to come into being through the cultivation of opium poppy, aided to some extent by remittances from outside. It has resulted in a very fragile and "false" economy that has enabled so many to remain on the land who under "normal" circumstances, would have been forced to move off the land some time ago. Now the only possibility is to introduce pra
ctices that will enable most to gain some portion of their livelihood from the land while encouraging as many as possible to gain their livelihood elsewhere.

G. Government Services

Gadoon-Amazai is served by nearly all the line "nation-building" departments of the NWFP government. In general, the level of services is below that in the nearby lowlands, as a result of the difficulty of access into the area and the well-recognized problems of providing services to an isolated, dispersed and low-income population. In recent years the government has recognized the area as being "underserved" and efforts have been made to provide infrastructure and services. However Gadoon-Amazai is not regarded as an attractive area, particularly being thought of as "remote", and there are problems concerning the provision of staff to facilities.

1. Education

Existing facilities comprise: 98 primary schools, 21 of which are for females, nine middle schools including one for females (middle schools cover grades 1-8) and four high schools all of which are male. The construction of school buildings is now the responsibility of district councils but until this year was under Education. Staffing remains the responsibility of the Department of Education. The nearest further education colleges are, for Gadoon at Topi and for Swat Amazai just outside Daggar.

The main features and problems of the education sector may be summarized as:

- low school attendance, 36 percent of boys and four percent of girls start primary education (the comparable figures for the province are 45 percent and 15 percent respectively).
- existing buildings are often in a poor state of repair and some schools, particularly female, do not have buildings at all.
- there is an acute lack of teachers quarters which acts as a disincentive for teachers. This is particularly so for female teachers who in the vast majority of cases, do not come from the area.
- the formal system of education, again particularly for females, does not meet with widespread approval. There are, however, good possibilities of providing such services through informal means.

2. Health

The existing facilities comprise: one small civil hospital at Kabgani with only four beds, seven Basic Health Units (BHU) and four dispensaries. Larger civil hospitals with comprehensive facilities are to be found outside the project area at Swabi, Daggar and Haripur. The hospital at Kabgani and one BHU (Ganichatra) are staffed by qualified doctors, however the staffing situation in general is not good.

The two BHUs in Swat Amazai have no professional staff at all and none in the area are staffed to their full complement. Facilities also lack many basic pieces of equipment.

There are existing government plans to provide two more BHUs and to upgrade the hospital at Kabgani. In the longer term all the dispensaries are to be upgraded to BHUs.

3. Potable Water

The responsibility for constructing potable water supplies is split between the Department of Public Health

Engineering, the district councils and the union councils. Those provided by the councils are described elsewhere, suffice to say here that almost 100 of the larger villages within the project area have water supplies. Of these schemes 16 have been constructed and are operated by PHE. These are usually the larger systems serving more than one village. Briefly the systems operated by PHE are:

- an eight-mile pipeline serving the villages of Ganichatra, Shingrai, Narrobanda, Sukali, Sandhwa and Dewal. A total population of some 7,000 persons is served
- a tube-well supply to Gandaf, the only village to be provided private connections. Population of this village is 8,500
- a seven-mile pipeline originating at Trait supplies the villages of Satketar and Mangal Chai with a combined population of 3,500
- the existing Utla water supply scheme which is presently being expanded, takes water from two miles away. The population that will eventually served is about 4,000
- four further villages (Malakabad, Besek, Bada and Takail) have been supplied water under separate schemes taking water from local sources. These villages have a combined population fo some 7,000.

The major problem is one of maintenance. PHE does not have enough funds to keep all the lines in good working order. The two major pipelines mentioned above are in bad repair and consequently do not supply the quantities of water they potentially could.

4. Agriculture

Four attached departments of the Department of Agriculture operate staff and programs in the project area. These are the departments of Agricultural Extension, Forestry, Animal Husbandry and Cooperatives. These activities are briefly described below:

Agricultural Extension: the project area is divided between two ADAs, one covering Gadoon and Hazara Amazai and the other Swat Amazai. Within Gadoon/Hazara Amazai there is a post of an Agriculture Office (post vacant) and five Agricultural Field Assistants. This level of staffing is not sufficient to permit the T and V system of extension to be operated successfully. In Swat Amazai the situation is better. There are four field staff servicing a single union council (population 23,000) and a successful T and V system has been established.

Forestry: with two Range Officers and six Forestry Assistants the Forestry Department has a reasonable staff to carry out the traditional "large-scale" commercial timber production programs the department undertakes. Some 120 acres of forestry planting has been undertaken in Gadoon over the past two years. In Swat Amazai a considerable area of established forest remains, estimated to be some 8,000 acres in extent.

Animal Husbandry: two Animal Health dispensaries exist at Gandaf and Kabgani. Staffed by Stock Assistants they are the only facilities and staff in the project area.

Cooperatives: on paper there is one multi-purpose cooperative in each union council. However, as far as can be ascertained, only one, in Gandaf, is actually operating.

5. Roads

As previously described only two roads constructed and maintained by the department of Communications and Works enters the project area. The total length is some 30 miles while an extension to the Topi-Utla road will add a further 13 miles to the system when it is completed.

6. Electricity

A single 11 kv high-tension line services six villages in Gadoon. There are no funded proposals to extend this line other than to the police station being built between Utla and Ganichatra.

7. Other Services

Police: three police posts at Nagrai, Kabgani and Gajai are in existence. A large police station is presently being built between Ganichatra and Utla.

Post Office: postal services are available at Nagrai in Swat Amazai and at Kabgani, Bada and Gandaf in Gadoon.

THE ORGANIZATION OF GOVERNMENT AND THE OPERATIONS OF ELECTED COUNCILS IN THE NWFP

A. The Administrative Structure of the Government

The North West Frontier Province is one of four provincial governments in Pakistan. It has direct control over roughly thirty executing agencies, including the administration of health, education, and agriculture. The NWFP receives policy guidance, finance, and senior administrators from the federal government. The governor heads the NWFP government and is appointed by the president. The governor appoints and is assisted by five ministers. The senior civil servant in the province, who reports directly to the Governor, is the chief secretary. He, rather than the ministers, has direct line authority over the provincial government. Below the chief secretary is an additional chief secretary, who supervises the Planning and Development Department of the NWFP government, and fifteen secretaries, who in turn supervise the activities of over fifty technical departments. Together the secretaries and their assisting section officers make up the civil secretariat, the chief policy-making body of the NWFP government.

The secretariat is staffed almost entirely by a specialist cadre of administrators provided by the federal and provincial civil services. Strictly speaking the only civil servants in the provincial government are these administrators; technicians and other officials are more properly employees of their departments, or government officials. This follows the model of the colonial Indian Civil Service whose members comprised only senior British administrators.

Within the federal and provincial civil services, the senior management personnel comprise the District Management Group (DMG), which in addition to the secretaries, includes the commissioners, deputy commissioners, and assistant commissioners, and certain technical senior staff. The commissioners are government's senior representatives in the civil divisions, which encompass districts, and tehsils throughout the country. The DMG also provides the political agents who act as government's chief representatives in the tribal areas. The DMG is a prestigous group and posts within it are increasingly filled by federal civil servants (FCS) who are viewed as the superior service, the elite few who have succeeded in passing the difficult FCS entry exams and training courses.

The fifty technical departments (usually referred to as attached departments) that make up the operational level of the NWFP government are each headed by a director. He is the senior technician in his field and reports directly to one or another secretary. Secretaries supervise between two and ten attached departments or special projects. The secretary for agriculture, for example, supervises the Departments of Agricultural

Extension (Settled Areas), Agricultural Extension (Federally Administered Tribal Areas), On-Farm Water Management Project, Agricultural Research, Animal Husbandry, Veterinary Research, Forestry (including Wildlife, Fisheries & Sericulture), and Cooperatives. The secretary for education supervises five attached departments, four special projects, and four special boards, each of which is headed by a director who reports to him. Table 11-A shows the most important attached departments in the province under their supervising Secretaries.

As technical and operational agencies, the attached departments usually have staff throughout the province, extending in some instances down to the village level. There are four main levels to which staff are posted: the divisional, district, tehsil, and union council. Staff posted at the level of one of the five NWFP divisions are usually senior technicians whose main responsiblity is to supervise district level operations. The chief officers at district level (there are 12 districts in the NWFP, and seven tribal areas), are known as subordinate officers. Nearly all departments have a representative at this level. District subordinate officers supervise the activities of the tehsil-level offices, and, where applicable, staff posted at the union council or village level. Table 11-B summarizes the staffing within this framework for the project area.

Not all departments are consistent in following the above framework. The Department of Forestry, for example, has divided the province into divisions that do not coincide with the civil divisions but relate to the presence of official forest areas. Their subordinate staff are deployed to area designations known as circles, ranges and beats.

The district operations of each department are in many senses self-contained units. District officers have considerable authority over their staff, including the right to hire, fire, promote, and transfer staff at the lower grades. In the case of health and education cadres this responsibility is being transferred over to district councils. The working relationships between district councils and the subordinate offices of attached departments (line or "nation-building" departments) are still in the process of consolidation. The district coordination committee chaired by the district council chairman considers and discusses the plans and progress of line departments, parastatals, and the council itself. As yet, however, there is no consolidated district development plan equivalent to the provincial ADP; line departments still submit their own plans upwards to the director, and the district council submits a plan and request for expenditure only (coordinated with the line deparment requests).

Horizontal coordination is not well-developed in the NWFP, either across districts within a single line department, or between the district offices of the various line agencies, even those that work in one sector and fall under one secretary. For the most part, each district office operates as a distinct

TABLE 11-A

LIST OF SECRETARIES AND THEIR ATTACHED DEPARTMENTS

Secretaries	Attached Departments
Additional Chief Secretary	Planning and Development
Secretary, Services and General Administration	Sports Tourism Archives Anti-Corruption Public Service Commission Provincial Services Tribunal
Senior Member, Board of Revenue	Excise and Taxation
Board of Revenue	Augaf
Secretary, Finance	Local Fund Audit Treasuries
Secretary, Education	Schools Colleges Technical Museum FATA
Secretary, Communication and Works	Building and Roads (maintenance) Building and Roads (new schemes)
Secretary, Health and Social Welfare	Health Social Services
Secretary, Agriculture, Forestry, Animal Husbandry, and Cooperatives	Agricultural Extension (settled areas) Agricultural Extension (FATA) Agricultural Research Agricultural Engineering On-Farm Water Management Forestry Animal Husbandry Veterinary Research Institute Cooperatives
Secretary, Food	Food

Secretary, Local Government and Rural Development	Local Government and Rural Development Hazara Hill Tract Improvement Tract Administrators, Municipalities, and Districts
Secretary, Physical Planning and Housing	Urban Development Board Kohat Development Authority Peshawar Development Authority Mardan Development Authority
Secretary, Irrigation and Public Health Engineering	Irrigation Public Health Engineering
Secretary, Law and Parliamentary Affairs	Advocate-General
Secretary, Home and Tribal Affairs	Police Prisons Civil Defense Afghan Refugees
Secretary, Industries, Commerce, Labor, Minerals, Transport	Industries, Mineral Development Sarhad Development Authority Small Industries Development Board Labor Social Security Institution Stationery and Printing Provincial Transport Authority Government Transport Service

TABLE II-B:

STAFF

DEPARTMENT ORGANIZATION

	AG ENG.	[illegible]	ANIMAL HUSBANDRY	ROADS	EDUCATION	HEALTH	LOCAL	IRRIGATION	WAPDA	PWD	ADMIN.
DIVISION	DIV. DIRECTOR	-	-	-	DIV. DIRECTOR MALE/ FEMALE	DIV. HEALTH OFFICER	DIV. DIRECTOR	-	EX. ENG. (CONSULT) NON-DEPA	-	COMMISSIONER
DISTRICT	DEPUTY DIRECTOR	DIV. PLANT OFFICER	ADMIN. DIRECT.	EX. ENG. ROADS (DIST)	DIST. ED. OFF. MALE/ FEMALE	DIST. HEALTH OFFICER	ASST. DIRECTOR ENGINEER	EX. ENG. (DIST)	EX. ENG. (DIS)	EX. ENG. (DIST)	DEPUTY COMMISSIONER
TEHSIL	DEPUTY ASST. DIRECTOR	RANGE OFFICER	SUB (ANIMAL HEALTH)	EX. ENG. (TEHSIL) SUB (ROADS)	SUB (MALE) SUB (FEMALE)	SHO	ASST. ENGINEER SUPERV.	EX. ENG. SUB (SWAB)	EX. ENG. (TEH) TEH	EX. ENG. (TEH) SO	ASSISTANT COMMISSIONER TEHSILDAR
SUB-TEHSIL(s)	AGRIC. OFFICER	DEPUTY RANGE OFFICER	VETER-INARY OFFICER	-		DOCTOR MEDICAL TECHNI-CIAN ETC.					NAIB TEHSILDAR
UNION COUNCIL	FIELD ASST. ASSISTANT	FIELDSTAFF ASSISTANT	DISPEN-SER/STOCK			MED. TECH. DISPEN-SER ETC.	UNION COUNCIL SECRETARY	-			PATWARI
VILLAGE (WARDANT)		FIELD STAFF			TEACHER						NAMBIEDAR

NOTE:

X Not a formal Administrative Division.

entity, its officers are only indirectly aware of the activities of counterpart offices in other districts or related agencies in their own district. It is expected that the district council will play an increasing role as a coordinating agency in the future.

Working conditions for government officials in the NWFP are comparable to those elswhere in the country, given the unified pay scales and allowances throughout government service. Salaries have not kept pace with inflation and nearly 50 percent of all government officials of the NWFP government are paid less than Rs. 280 per month (US $22). Fewer than six percent of officials have university degrees, (pay scales 16-22), paying a basic salary of between Rs. 625 and Rs. 3250 per month (US $49 - 254). To basic salaries are added a range of allowances (dearness allowance, conveyance allowance, unattractive areas allowance, etc.), which may almost double the salary of any one official. Transport and housing is almost always provided to district officers but only occasionally to their subordinates. Management styles and supervision of staff vary from department to department, but are generally executed in a traditional manner, with little use of teamwork or team decisionmaking. Report writing is a central feature of provincial operations and serves to slow communication and decisionmaking more frequently than to facilitate it.

A study of the agricultural sector of the NWFP government (GAADP Working Paper No. 4: Manpower in the NWFP Government with Special Reference to the Agricultural Sector) shows that an average 44 percent of department staff are untrained and often illiterate Grade 1 employees. A further 38 percent on average are Grade 5 or below. These personnel are educated (usually with ten years of school or more), but most frequently do not have formal training in their field of operations. The remaining 18 percent constitute the technically trained workforce.

Efforts to upgrade technician capability are hindered by the continuing shortage of graduates in technical fields. This situation contrasts sharply with the availability of liberal arts graduates, who are finding jobs hard to come by and in consequence are filling an increasing percentage of low-level administrative posts, at correspondingly low salary scales.

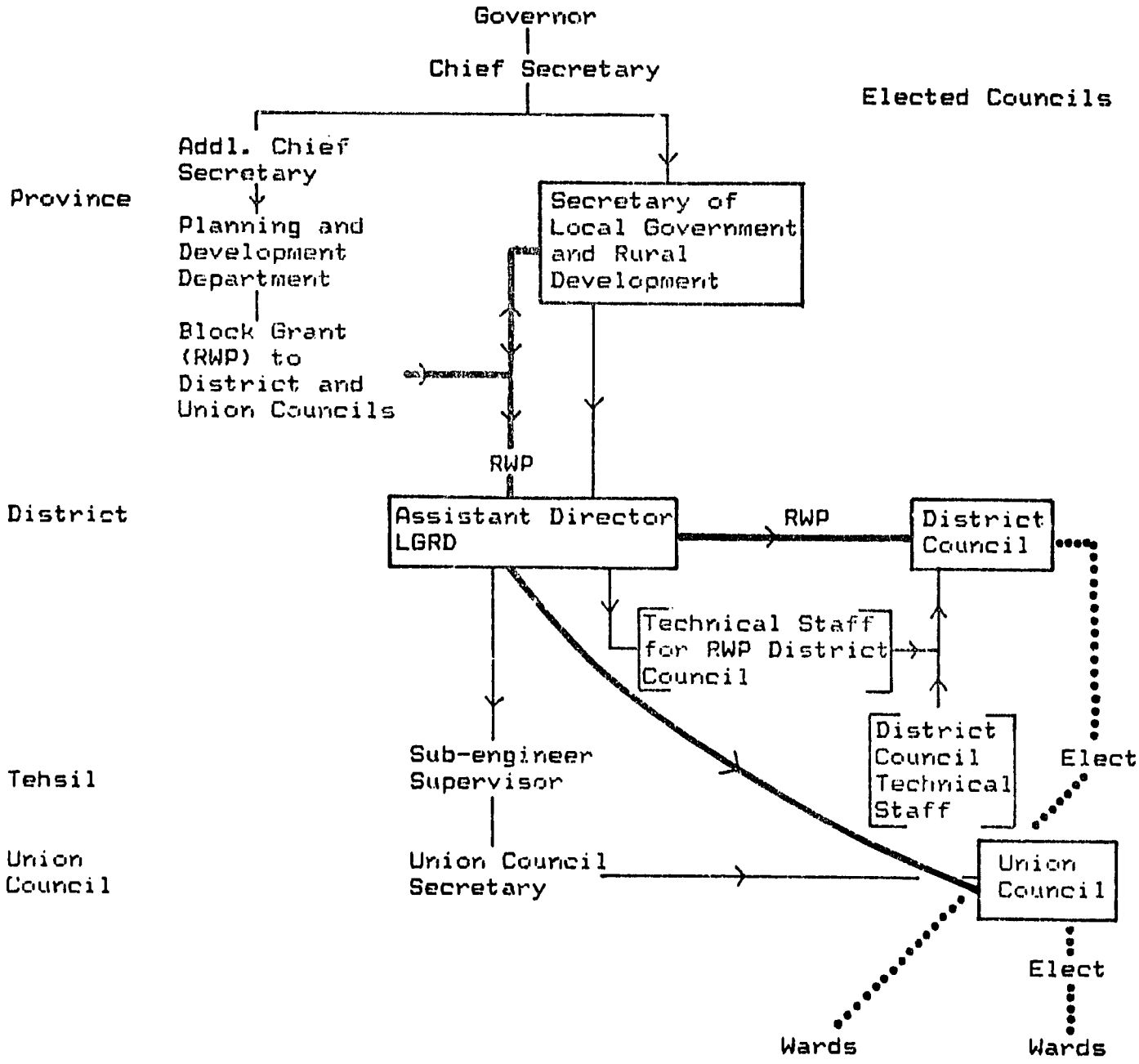
B. Structure of Local Government and Elected Councils in the NWFP

1. Overview

The structure of local government in the NWFP encompasses the line departments, principally the Department of Local Government and Rural Development (LGRD), and the elected bodies or councils, namely the district and union councils. These two, the line departments and the local bodies, link and interact at various points in their structures (see Figure 11-A).

FIGURE 11-A

STRUCTURE OF LOCAL GOVERNMENT AND ELECTED COUNCILS



1. The division, a level between between the district and the province is not shown

2. The upward movement of proposed schemes from union councils and district councils through district and division coordinating committees to the planning and development department for budgetary allocation is not shown.

As with other line departments, LGRD has staff and offices at the various levels of the government's administrative structure including the province, the division, the district, the tehsil, and the union council level (between the tehsil and the village). This structure annually passes up lists of development schemes generated by both the union councils and the district councils. Once the decision is made at the provincial level, which allocates funding for the year, money moves down the structure to be spent at the local level on development schemes.

For the GAADP, the district is the most important level in LGRD's structure. An Assistant Director heads LGRD in Mardan District. Through his office pass block grants (RWP) from the province to district and union councils. Attached to the Assistant Director's (AD) office are two technical staff units: district council staff consisting of an assistant engineer, two sub-engineers, and three work munshis to implement district council RWP schemes, and a second similar staff to support union council schemes. For the union councils, the sub-engineers and supervisor (an administrative post) are posted at the tehsil level. The supervisor works closely with and oversees the union council secretaries in his tehsil.

The present district and union councils were created in 1979 following a ordinance sanctioning their constitution. Local elections were held to determine membership for a four-year term. The present structure of local councils is the latest expression in a long tradition that stretches back into the pre-Independence period (particularly the Integrated Rural Development Program (1973-1983) and the Basic Democracies Scheme (1959-1969). As they are presently constituted, their principal purpose is to identify schemes, set priorities, plan, and finally implement development schemes funded by block grants from the provincial budget.

Most district councils have 30 elected members. This is the case in both Mardan and Abbottabad. Below the district council are the union councils and they normally have seven to eight members, one member representing a ward of 2000 to 2500 voters. In Mardan district there are 73 union councils and 721 union councillors.

As in the case of the district council, the union council membership elects its own chairman and vice chairman. The only government staff attached to the union council is the union council secretary posted from LGRD. It is his responsibility to provide administrative assistance to the chairman in the carrying out of development schemes through project committees. His superior is the LG supervisor posted at the tehsil. All schemes undertaken by union councils have been limited to Rural Work Program (RWP) financing; the union councils are empowered to raise their own revenues but none have done so to date. For technical assistance to union council schemes, the services of the sub-engineer at the tehsil are used. The assistant engineer

posted at the district may be called upon to advise more technically difficult schemes.

There is no formal or direct link between the two councils. For example, union council members do not also sit on the district council. Thus on election day a voter will vote twice, once for union councillors and a second time for a district councillor. Such linkage should in theory exist. According to the ordinance, the district council is charged with the role of supervising the identification, implementation, financing, and evaluation of schemes undertaken by union councils. In fact, no mechanism has been developed to carry out this role. There is, however, an indirect link between the councils in that two union council chairman from each tehsil sit on a district coordination committee.

Prior to 1979, the deputy commissioner was the officer responsible for all development activity in a district, but with the promulgation of the local government ordinance, this role has devolved onto the chairman of the district council, who is elected by the council membership. Because the chairman (and through him the district council) has been given a central place in planning development activity in the district, the nation-building departments (education, health, etc.) must now coordinate their development activities with the district council. Provision for this is made through sector committees (bringing together council membership and the district head of a particular department) and the district coordination committee upon which sit district heads of departments and council representation.

At present education and health are the only nation-building departments whose operations are partially under the control of the district council (council involvement has thus far been limited to site selection and construction of new school buildings.

The chairman of the district council is the Project Director for the RWP block grant. While he oversees how this grant is spent, the actual implementation of projects is carried out through the AD's technical staff and the AD serves as Assistant Project Director.

In addition to nation-building department funds and the RWP grant, there is a third body of funds accessible to the district council, that of revenues it generates through its own taxing powers. For the implementation of projects financed from these funds the district council has its own technical staff headed by a chief engineer who is assisted by a district engineer, five sub-engineers, and five work munshis. This staff as well as the council's chief officer--the top administrative staff position attached to the council--are provided through LGRD, but are not part of the responsibility of the AD/LGRD.

2. <u>Experience to Date with District and Union Council</u>

Schemes Undertaken in Gadoon-Amazai

In the project area, there are three district councils (Mardan, Abbottabad and Swat) and seven union councils (four in Gadoon: Gandaf, Kabgani, Ganichatra and Gabasni; two in Hazara Amazai [Abbottabad]: Baitgali and Nara-Amazai; and one in Swat Amazai: Nagrai-Amazai).

The three district councils have undertaken a total of 60 schemes in the project area at a total cost of Rs. 2,066,460 (Rs. 34,441 on average) in the sectors of communication (rural roads, bridges and culverts), potable water supply, and irrigation. Over the past four years, the Abbottabad district council has spent a total of Rs. 771,506 on 26 schemes in the Hazara Amazai area. The Mardan district council spent a total of Rs. 748,276 on eleven schemes in Gadoon, and the Swat district council has spent a total of Rs. 546,678 on 21 schemes in the Nagrai-Amazai area. In the seven union councils of the project area, a total of 130 projects have been undertaken at a total cost of Rs. 1,825,743 at an average cost of Rs. 14,044 per scheme. These schemes have been in the sectors of communication (mainly donkey paths), irrigation (small bunds or channels), and water supply systems (spring or well source).

Thus, in the Gadoon-Amazai area over the four-year period, a total of 190 development schemes have been undertaken by both district and union councils at a total cost of Rs. 3,937,650. This record amply demonstrates that district and union councils are able to plan and execute development schemes. (See Appendix for a list of completed district and union council schemes in Gadoon since 1979. Also included are schemes completed by such line agencies as education, health, etc.)

3. Planning and Implementation Procedures of District Councils

In order to give the district council a central role in the planning and implementation of development schemes of their district, the chairman of the district council has been designated the official chiefly responsible for a district's development activities under the local councils' ordinance.

Every year, the district council reviews the proposals of the nation-building departments and along with the staff of these departments, decides upon the schemes to be undertaken in the upcoming year.

In the case of most departments, the district council involvement up until now has been mainly in information exchange, decisionmaking, and coordination. In education, however, the district council has had direct responsibility for implementing schemes, specifically construction of new school buildings. The council built twenty percent of the new schools in 1981-82, 50 percent in 1982-83, and plans to build 100 percent of the new schools in 1983-84. This steady rise of district council

activity in school construction is consistent with plans to have the district council play an increasingly greater role in the planning and execution of programs of other nation-building departments in years to come.

Separate from nation-building department activity, district councils have access to two funds for development schemes--the RWP grant which comes to the district council through the LGRD and its own funds which it raises through its revenue-generating powers (taxation).

RWP funds are spent on schemes submitted by members, and decided upon by the council's works sub-committee. They are then reviewed by the whole council and finally approved by the district council. The schemes are executed either by contractors or by project committees and are supervised and monitored by the technical staff of the AD's office who also certify the scheme completions. Costs are verified by both the technical and audit staff of LGRD.

Revenue raised by the district council itself (local funds) is also spent on schemes submitted by each member, with one important difference. Unlike nation-building department schemes and RWP schemes, which are decided upon with a view to the best interests of the whole district, local funds are simply divided evenly among the members who are free to decide which schemes will go where. These schemes are undertaken by either a contractor or a project committee assisted by the technical staff of the district council. As mentioned previously, this is comprised of a chief engineer, a district engineer, five sub-engineers and five work munshis. Procedures differ slightly depending on whether a contractor or a project committee is the executing party. In both cases the progress of work is checked by technical staff and such officers as the Chief Officer and the chairman of the district council and an audit (pre-audit in the case of contractors) is undertaken by staff of the provincial finance department before final payments are made for a scheme.

4. Planning and Implementation of Union Council Schemes

Though union councils have the powers to raise their own funds to spend on schemes, none in the project area have done so to date. Thus, the only funds they have to expend are from the provincial government, channeled through LGRD under the categories of RWP (cash) and World Food Program (WFP) (cash and commodity rations).

The schemes undertaken by union councils are decided upon by the councils themselves each year after they are informed how much money they will have to spend. The proposed list must, however, be approved by the LGRD at both the district and provincial levels as these projecst are made a part of the district's Annual Development Program (ADP).

Each scheme is surveyed by the technical staff of the AD's office before it is approved and an estimate of costs and materials is also completed. This work is overseen by an assistant engineer, two sub-engineers, two supervisors, and four work munshis currently assigned to work with the union councils in the district.

Once a scheme is ready to be executed a project committee is formed, which has as its leader the union councillor from the ward where the project is located. A record is kept and vouchers assigned for monies disbursed to the project committee, which is responsible for supplying receipts and muster rolls for materials purchased and labor employed. The union council chairman and secretary check and attest to the activities of the project committee and upon completion of a scheme the sub-engineer or assistant engineer undertakes a final inspection. Finally the audit officer of LGRD inspects disbursement records and receipts and reconciles these with the construction schedule.

APPENDIX, ANNEX 11

LIST OF COMPLETED DISTRICT AND UNION COUNCIL SCHEMES IN GADOON BY UNION COUNCIL AND VILLAGE

I. GABASNI UNION COUNCIL

SCHEMES FOR GABASNI VILLAGE

Village	Name of Scheme	Funding Source	Date A(Proposed) B(Completed)	Cost (Rs.) A(Estimated) B(Actual)
1. Gabasni	Repair of one room Govt Primary School (GPS)	Union Council	A. 1979-80 B. 1979-80	A. 6,000/- B. 6,000/-
2. Gabasni	Repair of GPS	Union Council	A. 1980-81 B. 1980-81	A. 8,000/- B. 8,000/-
3. Gabasni	Construction of Water Tank	Union Council	A. 1981-82 B. 1981-82	A.12,000/- B.12,000/-
4. Gabasni	Digging of Well	Union Council	A. 1981-82 B. 1981-82	A.985 mandays B.985 mandays
5. Gabasni	Middle School for girls	Education Dept.	A. 1981-82 B. 1981-82	A. 150,000/- B. 150,000/-

SCHEMES FOR CHANAI VILLAGE

Village	Name of Scheme	Funding Source	Date A(Proposed) B(Completed)	Cost (Rs.) A(Estimated) B(Actual)
1. Chanai	Provision of Spring	Union Council	A 1979-80 B 1979-80	A 6,000/ B 6,000/
2. Chanai	Provision of Spring	Union Council	A 1980-81 B 1980-81	A 4,000/ B 4,000/
3. Chanai	Digging of Well	Union Council	A 1980-81 B 1980-81	A 3,200/ B 3,200/

4. Chanai	Digging of Well	Union Council	A 1981-82 B 1981-82	A 7,000/ B 7,000/
5. Chanai	Construction of Path	Union Council	A 1981-82 B 1981-82	A 985 mandays B 985 mandays
6. Chanai	Construction of one room GPS	Union Council	A 1982-83 B 1982-83	A 23,000/ B 23,000/
7. Chanai	Drinking Water Supply	IRDP	A 1978-79 B June 79	A 15,500/ B 19,000/
8. Chanai	Construction of path at Dalori	IRDP	A 1976-77 B 30/6/77	A 3,600/ B 3,600/
9. Chanai	Establishment of Middle School for boys	Educ. Dept.	N/A	A 130,000/- B 130,000/-
10.Chanai	Establishment of Dispensary	Health Dept.	N/A	N/A

SCHEMES FOR GANIKOT VILLAGE

Village	Name of Scheme	Funding Source	Date A(Proposed) B(Completed)	Cost (Rs.) A(Estimated) B(Actual)
1. Ganikot	Irrigation Channel	IRDP	A N/A B 2/7/77	A N/A B 33,500/
2. Ganikot	Irrigation Scheme & Diversion Wall	IRDP	A N/A B June 78	A 41,000/ B 45,000/
3. Ganikot	Construction of Irrigation Channels	IRDP	A N/A B 1979-80	A 16,400/ B N/A

SCHEMES FOR MANGAL CHAI VILLAGE

Village	Name of Scheme	Funding Source	Date A(Proposed) B(Completed)	Cost (Rs.) A(Estimated) B(Actual)
1. Mangal Chai	Drinking Water Supply	Union Council	A 1979-80 B 1979-80	A 7,000/ B 7,000/

2. Mangal Chai	Construction of Water Tank	Union Council	A 1980-81 B 1980-81	A 10,000/ B 10,000/
3. Mangal Chai	Pavement of Street	Union Council	A 1981-82 B 1981-82	A 15,000/ B 16,000/
4. Mangal Chai	Construction of Path Dhok	Union Council	A 1981-82 B 1981-82	A 985 mandays B 985 mandays
5. Mangal Chai	Construction of Approach Path and Improvement of Spring	IRDP	A 1979-80 B N/A	A 22,400/ B N/A
6. Mangal Chai	Water Supply Scheme (Spring) source	Dist. Council	A 1981-82 B 1981-82	A 50,000/ B 50,000/
7. Mangal Chai	Water Supply Scheme	PHE	N/A	N/A

SCHEMES FOR GABAI VILLAGE

Village	Name of Scheme	Funding Source	Date A(Proposed) B(Completed)	Cost (Rs.) A(Estimated) B(Actual)
1. Gabai	Construction of Path	Union Council	A 1979-80 B 1979-80	A 6,000/ B 6,000/
2. Gabai	Construction of Path from Gabai to Gul Kot Kandao (toward Chanai)	Union Council	A 1981-82 B 1981-82	A 985 mandays B 985 mandays
3. Gabai	Improvement of Path	Union Council	A 1982-83 B not yet completed	A 17,500/, 2,500/ mandays B unknown
4. Gabai	Restoration of one room GPS	Union Council	A 1980-81 B 1980-81	A 9,800/ B 9,800/
5. Gabai	Restoration of one room GPS	Union Council	A 1981-82 B 1981-82	A 13,000/ B 13,000/
6. Gabai	Irrigation Channel	IRDP	A N/A B Apr.'79	A 16,579 B 22,105/
7. Gabai	Construction of Irrigation Channels Gabai Bala	IRDP	A 1979-80 B N/A	A 10,800/ B N/A

8. Gabai	Construction of Irrigation Channels	IRDP	A 1979-80 B N/A	A 15,200/ B N/A

SCHEMES FOR DEWAL GARHI BALA AND DEWAL GARHI PAYAN VILLAGES

Village	Name of Scheme	Funding Source	Date A(Proposed) B(Completed)	Cost (Rs.) A(Estimated) B(Actual)
1. Dewal Garhi Bala	Construction of Route	IRDP	A N/A B 30/7/77	A N/A B 12,340/
2. Dewal Garhi Bala	Construction of Dakai Bar Lar (foot path) from D.G. Bala to D.G. Payan	IRDP	A 1979-80 B N/A	A 40,000/ B N/A
3. Dewal Garhi Bala	Construction of irrigation channel	IRDP?	A 1979-80 B N/A	A 17,600/ B N/A
4. Dewal Garhi Payan	Construction of Route	IRDP	A N/A B 15/7/77	A N/A B 17,775/

SCHEMES FOR SATKETAR VILLAGE

Village	Name of Scheme	Funding Source	Date A(Proposed) B(Completed)	Cost (Rs.) A(Estimated) B(Actual)
1. Satketar	Irrigation Scheme	IRDP	A N/A B June '78	A 4,200/ B 4,200/

SCHEMES FOR KATGRAM, SERI UTMANZAI AND ACHELAI VILLAGES

Village	Name of Scheme	Funding Source	Date A(Proposed) B(Completed)	Cost (Rs.) A(Estimated) B(Actual)
1. Seri Utmanzai	Construction of Path	Union Council	A 1982-83 B not started yet	A 24,500/ + 3,500 mandays B unknown
2. Katgram	Path to nearby hamlet of Lup	IRDP	A N/A B 15/7/77	A N/A B 19,900/

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3. Achelai Water supply scheme	PHE	N/A	N/A
4. Achelai Construction of Path	IRDP	A N/A B 14/5/76	A N/A B 22,361

II. LIST OF COMPLETED SCHEMES IN GANI CHATRA UNION COUNCIL

SCHEMES FOR GANI CHATRA VILLAGE

Village	Name of Scheme	Funding Source	Date A(Proposed) B(Completed)	Cost (Rs.) A(Estimated) B(Actual)
1 Gani Chatra	Construction of Path	Union Council	A 1980-81 B 1980-81	A 10,000/ B 10,000/
2 Gani Chatra	Repair of Union Council office	Union Council	A 1981-82 B 1981-82	A 18,000/ B 18,000/
3 Gani Chatra	Leveling and Dressing of Path	Union Council	A 1982-83 B 1982-83	A 14,000/ 2,000 mandays B 14,000/ 2,000 mandays
4 Gani Chatra	Irrigation Scheme	IRDP	A N/A B 12/4/76	A N/A B 8,846/

SCHEMES FOR UTLA VILLAGE

Village	Name of Scheme	Funding Source	Date A(Proposed) B(Completed)	Cost (Rs.) A(Estimated) B(Actual)
1 Utla	Repair of Primary School	Union Council	A 1980-81 B 1980-81	A 14,000/ B 14,000/
2 Utla	Water supply scheme	Union Council	A 1981-82 B 1981-82	A 20,000/ B 20,000/
3 Utla	Irrigation scheme	IRDP	A N/A B 1975-76	A N/A B 73,757/

SCHEMES FOR AMRAI BALA VILLAGE

Village	Name of Scheme	Funding Source	Date A(Proposed) B(Completed)	Cost (Rs.) A(Estimated) B(Actual)
1 Amrai Bala	Repair of primary school	Union Council	A 1981-82 B scheme dropped because 10,000 insufficient for repair	A 10,000/

SCHEMES FOR QADRA VILLAGE

Village	Name of Scheme	Funding Source	Date A(Proposed) B(Completed)	Cost (Rs.) A(Estimated) B(Actual)
1 Qadra	Repair of Primary School, Qadra	Union Council	A 1980-81 B 1980-81	A 5,000/ A 5,000/
2 Qadra	Leveling and Dressing (with shingle) of hilly path	Union Council	A 1981-82 B 1981-82	A 10,000/ 2,000 mandays B 10,000/ 2,000 mandays
3 Qadra	Improvement of Qadra to Panjmand Rd.	Union Council	A 1982-83 B 1982-83	A 21,000/ 3,000 mandays B 21,000/ 3,000 mandays
4 Qadra	Shingling of Qadra Ponjman Road	District Council	A 1980-81 B 1980-81	A 35,000/- B 35,000/-

SCHEMES FOR PANAWAL VILLAGE

Village	Name of Scheme	Funding Source	Date A(Proposed) B(Completed)	Cost (Rs.) A(Estimated) B(Actual)
1 Panawal	Water supply scheme	Union Council	A 1979-80 B 1979-80	A 25,000/ B 25,000/

2 Panawal	Leveling and dressing (with shingle) of path in Panawal	Union Council	A 1982-83 B 1982-83	A 7,000/ 1,000 mandays B 7,000/ 1,000 mandays

SCHEMES FOR LERAN VILLAGE

Village	Name of Scheme	Funding Source	Date A(Proposed) B(Completed)	Cost (Rs.) A(Estimated) B(Actual)
1 Leran	Pardah wall for spring-fed well	Union Council	A 1980-81 B 1980-81	A 5,000/ B 5,000/
2 Leran	Leveling and dressing (with shingle) of path	Union Council	A 1981-82 B 1981-82	A 1,940 mandays B 1,940 mandays

REMAINING SCHEMES FOR VILLAGES IN GANICHATRA UNION COUNCIL (INCLUDING SANDHWA AND INZAR KANDAO

Village	Name of Scheme	Funding Source	Date A(Proposed) B(Completed)	Cost (Rs.) A(Estimated) B(Actual)
Sandhwa	Repair of well	Union Council	A 1980-81 B 1980-81	A 5,000/ B 5,000/
Sandhwa	Construction of Sandhwa-Kandao	Dist. Council	A 1980-81 B 1980-81	A 40,000/ B 40,000/
Sandhwa	Construction of main route	IRDP	A N/A B. 14/7/79	A N/A B 6,600/
Inzar Kandao	Irrigation channel	Union Council	A 1982-83 B 1982-83	A 23,000/ B 23,000/

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III. LIST OF COMPLETED SCHEMES IN KABGANI UNION COUNCIL

SCHEMES FOR DEWAL VILLAGE

Village	Name of Scheme	Funding Source	Date A) Proposed B) Completed	Cost (Rs.) A) Proposed B) Actual
1. Dewal	Construction of Path	Union Council	A) 1979-80 B) 1979-80	A) 3,500/- B) 3,500/-
2. Dewal	Leveling/Dressing of Path Tana Dand	Union Council	A) 1981-82 B) 1981-82	A) 9,100/- + 1300 man days B) 9,100/- + 1300 man days
3. Dewal	Leveling/Dressing of Path Daki Petao	Union Council	A) 1981-82 B) 1981-82	A) 5,500/- + 1300 man days B) 5,500/- + 1300 man days
4. Dewal	Construction of RCC Culverts	IRDP	A) 1978-79 B) 1978-79	A) 17,500/- B) 17,500/-

SCHEMES FOR TAKAIL VILLAGE

Village	Name of Scheme	Funding Source	Date A) Proposed B) Completed	Cost (Rs.) A) Proposed B) Actual
1. Takail	Construction of Path	Union Council	A) 1979-80 B) 1979-80	A) 3,500/- B) 3,500/-
2. Takail	Filling, Leveling Dressing of path	Union Council	A) 1981-82 B) 1981-82	A) 9,100/- + 1300 man days B) 9,100/- + 1300 man days
3. Takail	Mosque Drain	Union Council	A) 1981-82 B) 1981-82	A) 5,500/- B) 5,500/-

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SCHEMES FOR BADA VILLAGE

Village	Name of Scheme	Funding Source	Date A) Proposed B) Completed	Cost (Rs.) A) Proposed B) Actual
1. Bada	Construction of Path	Union Council	A) 1979-80 B) 1979-80	A) 3,500/- B) 3,500/-
2. Bada	Construction of Hujra Path	Union Council	A) 1980-81 B) 1980-81	A) 6,000/- B) 6,000/-
3. Bada	Pavement of Street	Union Council	A) 1982-83 B) 1982-83	A) 5,000/- B) 5,000/-
4. Bada	Construction of Janazgah Village (Dand Paths)	Union Council	A) 1982-83 B) 1982-83	A)10,500/- + 1500 man days B)10,500/- + 1500 man days
5. Bada	Improvement of Shingling of road from Bada to Bisak	IRDP	A) 1979-80 B) 1979-80	A) 16,600/- B) 16,600/-
6. Bada	Construction of Spur	District Council	A) 1979-80 B) 1979-80	A) 50,000/- B) 50,000

SCHEMES FOR KABGANI VILLAGE

Village	Name of Scheme	Funding Source	Date A) Proposed B) Completed	Cost (Rs.) A) Proposed B) Actual
1. Kabgani	Construction of Path	Union Council	A) 1979-80 B) 1979-80	A) 3,500/- B) 3,500/-
2. Kabgani	Leveling/Dressing of Path	Union Council	A) 1981-82 B) 1981-82	A) 9,380/- B) 9,380/-
3. Kabgani	Leveling/Dressing of Badrai Kanda Banda	Union Council	A) 1981-82 B) 1981-82	A) 5,500/- B) 5,500/-
4. Kabgani	Leveling/Dressing Path (Baisak path 2 1/2 miles)	Union Council	A) 1981-82 B) 1981-82	A) 1340 man-days B) 1340 man-days

SCHEMES FOR GAJAI VILLAGE

Village	Name of Scheme	Funding Source	Date A) Proposed B) Completed	Cost (Rs.) A) Proposed B) Actual
1. Gajai	Construction of Path	Union Council	A) 1979-80 B) 1979-80	A) 3,500/- B) 3,500/-
2. Gajai	Construction of Gudar Path	Union Council	A) 1980-81 B) 1980-81	A) 5,000/- B) 5,000/-
3. Gajai	Construction of Masjid Path	Union Council	A) 1982-83 B) 1982-83	A) 5,000/- B) 5,000/-
4. Gajai	Construction of Path Gajai Petao	Union Council	A) 1982-83 B) 1982-83	A)10,500/- + 1500 man days B)10,500/- + 1500 man days

SCHEMES FOR MALIKABAD VILLAGE

Village	Name of Scheme	Funding Source	Date A) Proposed B) Completed	Cost (Rs.) A) Proposed B) Actual
1. Malikabad	Construction of Path	Union Council	A) 1979-80 B) 1979-80	A) 7,500/- B) 7,500/-
2. Malikabad	Construction of Path	Union Council	A) 1980-81 B) 1980-81	A) 5,000/- B) 5,000/-
3. Malikabad	Construction of (flood protection bunds)	Union Council	A) 1980-81 B) 1980-81	A)15,000/- B)15,000/-
4. Malikabad	Janazgah Drains Jal Mosque	Union Council	A) 1981-82 B) 1981-82	A) 3,500/- B) 3,500/-
5. Malikabad	Construction of Drains	Union Council	A) 1982-83 B) 1982-83	A) 8,000/- B) 8,000/-
6. Malikabad	Construction Flood Protection Bund	Union Council	A) 1982-83 B) 1982-83	A) 5,000/- B) 5,000/-
7. Malikabad	Leveling/Dressing Path (construction of Malikabad Road, including drain)	Union Council	A) 1982-83 B) 1982-83	A)21,000/- + 3000 mandays B) 21,000/- + 3000 mandays

MISCELLANEOUS SCHEME

Village	Name of Scheme	Funding Source	Date A) Proposed B) Completed	Cost (Rs.) A) Proposed B) Actual
1. Kadai Kandao*	Construction of Kadai Kandao Path	Union Council	A) 1982-83 B) 1982-83	A)10,500/- + 1500 man days B)10,500/- + 1500 man days

* May not be in Kabgani Union Council

IV. LIST OF COMPLETED SCHEMES IN GANDAF UNION COUNCIL

SCHEMES FOR GANDAF VILLAGE

Village	Name of Scheme	Funding Source	Date A) Proposed B) Completed	Cost (Rs.) A) Proposed B) Actual
1. Gandaf	Construction of Path Janazgah	Union Council	A) 1979-80 B) 1979-80	A) 1,000/- B) 1,000/-
2. Gandaf	Construction of Janazgah Path (2nd Phase)	Union Council	A) 1980-81 B) 1980-81	A) 11,000/- B) 11,000/-
3. Gandaf	Protection Bund	Union Council	A) 1980-81 B) 1980-81	A) 2,850/- B) 2,850/-
4. Gandaf	Construction of Janazgah Path (3rd Phase)	Union Council	A) 1981-82 B) 1981-82	A) 6,400/- B) 6,400/-
5. Gandaf	Gandaf-Dero Path	Union Council	A) 1981-82 B) 1981-82	A) 14,000/- + 2,000 mandays B) 14,000/- + 2,000 mandays
6. Gandaf	Shing of Gandaf Village Path	Union Council	A) 1981-82 B) 1981-82	A) 7,000/- + 1,000 mandays B) 7,000/- + 1,000 mandays
7. Gandaf	Pavement of Street PCC Flooring	Union Council	A) 1981-82 B) 1981-82	A) 38,500/- B) 38,500/- (RWP Scheme)
8. Gandaf	Repair of Primary School	Union Council	A) 1982-83 B) 1982-83	A) 12,000/- B) 12,000/-
9. Gandaf	Leveling/Dressing of Kapalar	Union Council	A) 1982-83 B) 1982-83	A) 42,000/- + 6,000 mandays B) 42,000/- + 6,000 mandays
10. Gandaf	Pavement of Shahi Khel Path	Union Council	A) 1979-80 B) 1979-80	A) 4,000/- B) 4,000/-
11. Gandaf	Pavement of Haji Khel Path	Union Council	A) 1979-80 B) 1979-80	A) 6,000/- B) 6,000/-
12. Gandaf	Pavement of Isa Khel Path	Union Council	A) 1979-80 B) 1979-80	A) 3,000/- B) 3,000/-

13. Gandaf	Pavement of Mali Khel Path	Union Council	A) 1979-80 B) 1979-80	A) 3,000/- B) 3,000/-
14. Gandaf	Pavement of Street at Haji Kel	District Council	A) 1980-81 B) 1980-81	A) 102,776/- B) 102,776/-
15. Gandaf	Pavement of Street at Ioa Khel	District Council	A) 1980-81 B) 1980-81	A) 95,000/- B) 95,000/-
16. Gandaf	Construction of road at Primary School	District Council	A) 1982-83 B) 1982-83	A) 200,000/- B) 200,000/-
17. Gandaf	Pavement of Street at Janazgah	District Council	A) 1982-83 B) 1982-83	A) 50,000/- B) 50,000/-
18. Gandaf	Pavement of Street Pre-flooring	District Council	A) 1981-82 B) 1981-82	A) 38,500/- B) 38,500/-

SCHEMES FOR DALORI VILLAGE

Village	Name of Scheme	Funding Source	Date A) Proposed B) Completed	Cost (Rs.) A) Proposed B) Actual
1. Dalori	Pavement of Janazgah Path	Union Council	A) 1979-80 B) 1979-80	A) 4,000/- B) 4,000/-
2. Dalori	Digging of well	Union Council	A) 1982-83 B) 1982-83	A) 4,700/- B) 4,700/-
3. Dalori	Leveling/Dressing of Path	Union Council	A) 1982-83 B) 1982-83	A) 21,000/- B) 21,000/-
4. Dalori	Leveling/Dressing of Path	Union Council	A) 1982-83 B) 1982-83	A) 7,000/- + 1,000 mandays B) 7,000/- + 1,000 mandays
5. Dalori	Digging of well	Union Council	A) 1982-83 B) 1982-83	A) 5,000/- B) 5,000/-

SCHEMES FOR BESAK VILLAGE

Village	Name of Scheme	Funding Source	Date A) Proposed B) Completed	Cost (Rs.) A) Proposed B) Actual
1. Besak	Digging of well	Union Council	A) 1980-81 B) 1980-81	A) 11,680/- B) 11,680/-
2. Besak	Path	Union Council	A) 1981-82 B) 1981-82	A) 13,580/- + 1940 mandays B) 13,580/- + 1940 mandays
3. Besak	Pavement of Street	Union Council	A) 1982-83 B) 1982-83	A) 9,000/- B) 9,000/-
4. Besak	Pavement of Street	Union Council	A) 1982-83 B) 1982-83	A) 6,000/- B) 6,000/-
5. Besak	Leveling/Dressing of Chino (Place) Path	Union Council	A) 1982-83 B) 1982-83	A) 11,900/- + 1.700 mandays B) 11,900/- + 1,700 mandays
6. Besak	Construction of Floor	District Council	A) 1982-83 B) 1982-83	A) 37,000/- B) 37,000/-

SCHEMES FOR DALORI PETAO VILLAGE

Village	Name of Scheme	Funding Source	Date A) Proposed B) Completed	Cost (Rs.) A) Proposed B) Actual
1. Dalori Petao	Digging of well	Union Council	A) 1979-80 B) 1979-80	A) 4,000/- B) 4,000/-
2. Dalori Petao	Digging of well (2nd Phase)	Union Council	A) 1981-82 B) 1981-82	A) 7,000/- B) 7,000/-

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SCHEMES FOR DALORI SAR KOI VILLAGE

Village	Name of Scheme	Funding Source	Date A) Proposed B) Completed	Cost (Rs.) A) Proposed B) Actual
1. Dalori Sar Koi	Digging of well	Union Council	A) 1980-81 B) 1980-81	A) 9,043/- B) 9,043/-
2. Dalori Sar Koi	Digging of well (2nd Phase)	Union Council	A) 1981-82 B) 1981-82	A) 7,020/- B) 7,020/-

SCHEME FOR ALI BAHADUR HOUSE

1. Ali Bahadur House	Pavement of Street	Union Council	A) 1982-83 B) 1982-83	A) 9,300/- B) 9,300/-

SCHEME FOR KHARO SPRING VILLAGE

Village	Name of Scheme	Funding Source	Date A) Proposed B) Completed	Cost (Rs.) A) Proposed B) Actual
1 . Kharo Spring	Leveling/Dressing of Path	Union Council	A) 1982-83 B) 1982-83	A) 21,000/- + 3,000 mandays B) 21,000/- + 3,000 mandays

SCHEME FOR SARKOI PAYAN VILLAGE

Village	Name of Scheme	Funding Source	Date A) Proposed B) Completed	Cost (Rs.) A) Proposed B) Actual
1. Serkoi Payan	Leveling/Dressing of Path	Union Council	A) 1982-83 B) 1982-83	A) 9,100/- + 1,300 mardays B) 9,100/- + 1,300 mandays

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SCHEME FOR KOLAGAR VILLAGE

Village	Name of Scheme	Funding Source	Date A) Proposed B) Completed	Cost (Rs.) A) Proposed B) Actual
1. Kolagar	Water Supply Scheme	District Council	A) 1980-81 BØ 1980-81	A) 5Ø,ØØØ/- B) 5Ø,ØØØ/-

N/A Not Available

LINE DEPARTMENT INFRASTRUCTURE

A. Introduction

This annex provides a background description of the proposed program of relatively large-scale "engineered" infrastructural development that is to be undertaken by the government "nation-building" departments of Communications and Works and Public Health Engineering and the Water and Power Development Authority. The activities to be undertaken include roads, electricity supply, and potable water. These activities will be discussed as a group for the following reasons:

- They concern the construction of fully engineered infrastructure requiring a level of technical expertise only available within these departments.
- All three departments have the proven capacity to undertake the activities proposed without infusions of technical assistance from the project.
- Two of the areas of activity will be funded using modified Fixed Amount Reimbursement system.

In the cases of road and potable water construction, complementary programs will be undertaken by the district and union councils. The dividing line between the programs to be undertaken by the line departments and those implemented by the local bodies is determined by the scale and the level of technical expertise required. Projects to be carried out through the local bodies are smaller, simpler, more local schemes that are within the level of expertise currently available at that level.

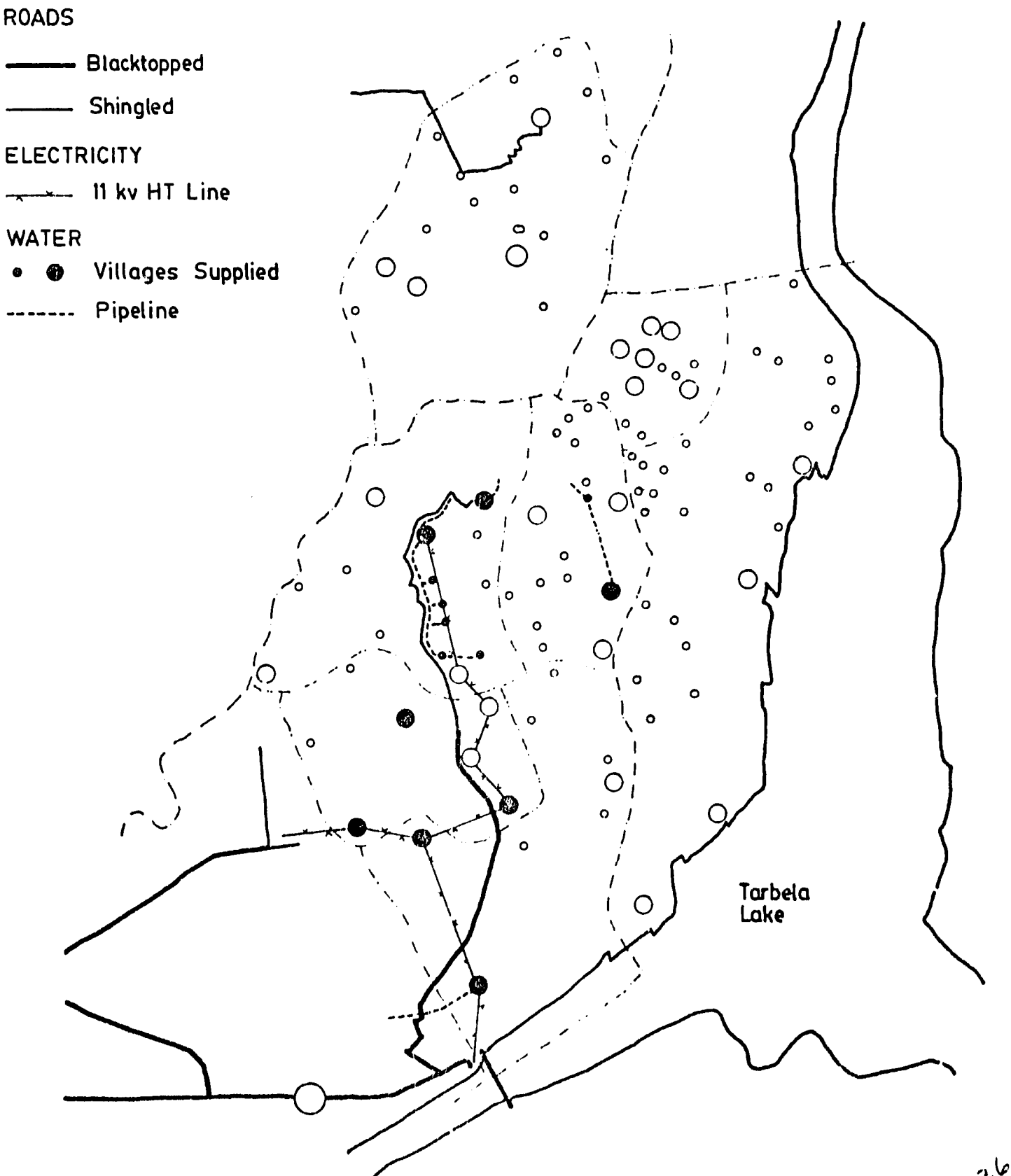
B. Roads

1. Background

Two engineered roads constructed by the department of Communications and Works enter the project area. The first provides access from the south, originating at Topi and terminating at Utla. It is some 25 miles in length and is currently being upgraded and, for part of its length, black-topped at a total cost of Rs. 10.4 million ($810,000). The road provides direct access to the villages of Gandaf, Bada, Kabgani, Sandhwa, part of Ganichatra, and Utla. Although five other villages lie close to the road, no vehicular access is possible because of the road's alignment high up on the valley side. The second road enters Nagrai Amazai from the north, originating off the main Mardan-Daggar road and passing through Nagawai. Within the project area, the road directly serves the villages of Shergarh, Nagrai and Chororai. Although passable most of the year, the road is not in good repair, notably the section between

MAP 1

GADOON AMAZAI AREA DEVELOPMENT PROJECT
LINE DEPARTMENT INFRASTRUCTURE
Existing Situation

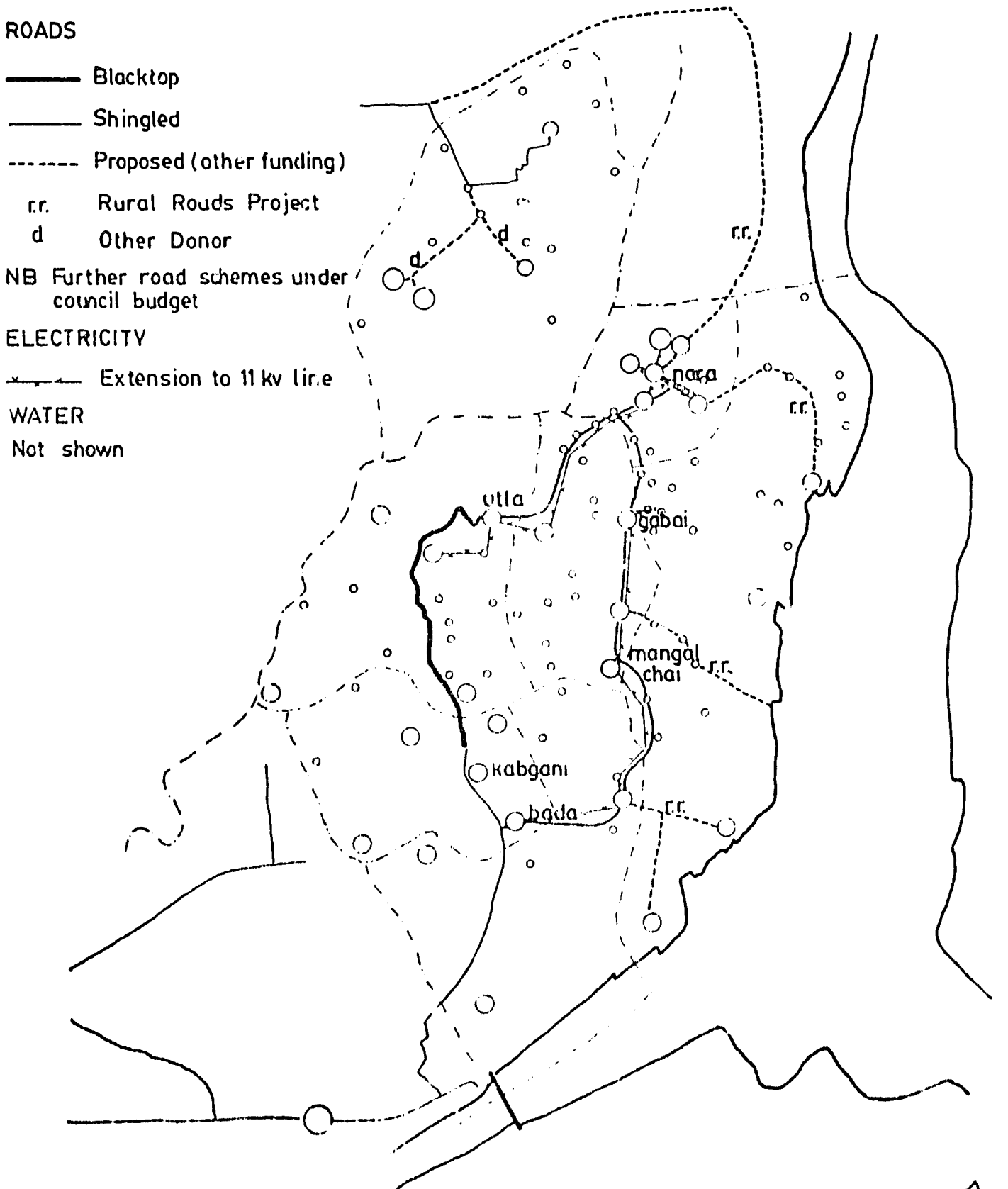


MAP 2

GADOON AMAZAI AREA DEVELOPMENT PROJECT

LINE DEPARTMENT INFRASTRUCTURE

Proposed Program



Nagrai and Chororai, where sections of retaining wall are collapsing.

The current situation provides very limited vehicular access. Only some 20,000 people (17 percent of the total) enjoy direct access to a road. For the vast majority, all movement is made on foot, journeys that in the extreme are counted in days rather than hours. Goods are transported by donkey and camel, which is not only slow and expensive but also restricts the volume and type of goods that can be moved. These roads are used by both buses and lorries to move goods and people at least some way into the project area, an improvement on the situation that existed as little as ten years ago. Poor access greatly handicaps the provision of all development services, both facilities and staff, and is one of the major reasons why the project area is comparatively underserved. One further constraint imposed by poor access is upon the Government's ability to enforce the poppy ban, for without road access any enforcement will be slow, partial, and unsustained.

The extension of the road from Utla into the heavily populated part of Hazara Amazai has very recently been started. Presently funded through the ADP, the road will be 13 miles long and have an estimated cost of Rs. 17.4 million ($1.36 million) and was designed to be completed in three years with a 18-foot shingled surface. The contract for the road has been awarded to a single contractor. However, it has been reported that funds to be made available in 1983/84 will not be sufficient to maintain the proposed schedule nor are sufficient funds likely to be available in the future. The completion of this road, "opening up" the main concentration of population in Hazara Amazai, is of vital concern to the project. It is therefore proposed that the project take over the funding to ensure the fastest possible completion date for this road.

All roads projects financed through Communications and Works are implemented by contract. The department itself carries out the survey and design and supervises the work of the contractor. The road program proposed under this project will be completed utilizing this procedure. In 1982/83 the department completed the design and construction of over 140 miles of road of varying standards. Since 1979-80, an average of over 120 miles has been completed annually. There are an adequate number of private contractors with the experience and equipment to carry out the proposed construction. The number of government-approved contractors in NWFP is 220 in category "A" (approved for contracts of any size) and 876 in category "B" (contracts up to Rs. 1.5 million).

2. Proposed Program

a. Phase I

The following activities will be undertaken during Phase I:

- The project will asume the funding for the construction of the Utla-Nara Amazai road. Specifications will be increased slightly to ensure an adequate standard of construction. It is expected that a minimum of two miles of road will have been completed by the time a FAR agreement is made. Thus 11 miles of new construction will remain, six miles to be completed under Phase I and five miles under Phase II of the project.

- Communications and Works will undertake the necessary survey and design work for the proposed Bada-Mangal Chai-Gabai road and prepare tender documents. Thus as soon as funds become available in Phase II the contract can be let.

b. Phase II

The project will fund the following roads during Phase II:

- Bada-Mangal Chai-Gabai: construction of a 22-foot width, shingled road of 22 miles linking three major and seven smaller villages and connecting with the Utla-Amazai road. This road will open a second route into Gadoon/Hazara Amazai and provide direct road access to a further 20,000 people.

- Utla-Nara Amazai: completion of the road started under Phase I.

- Kabgani-Utla: blacktopping of the existing engineered road for the remaining nine miles.

The evident demand for roads exceeds the capacity of the project to provide funds and the economic return that can be expected from such construction. Many villages will not be connected by an engineered road, although an extensive system of smaller roads and improved donkey paths will be built through local councils, connecting to the "spine" of engineered roads. This will ensure improved access for the great majority of residents (see Local Councils component). For the engineered roads the following criteria were used for selection:

- Population served: only potential routes that could serve more than one major village and were technically feasible were considered. Of the alternatives, the proposed roads serve by far the largest population concentrations within a reasonable length of road (as a rough standard only roads serving more than 500 people per mile were considered).

- Economic potential: the areas to be served by possible roads were assessed for their economic, mainly agricultural, potential. The alignments selected provides access to the largest concentrations of agricultural land (other than that served by existing roads).

- Poppy cultivation: a final criterion used was that the areas served should be within a high production "zone".

The Utla-Nara Amazai road, for which the project will assume responsibility, well satisfies these criteria. A total of 15,000 people will be directly served and for the first time Hazara Amazai will be connected to the road system. Without speedy completion of this road a major portion of the project area would be unable to participate in project activities.

Using these principles, the only road that scored highly on all criteria, beside those already planned by the GOP, was the Bada-Mangal Chai-Gabai road. It will directly serve 20-25,000 people and provide vehicular access to the other side of the Sherai watershed. This is the area in which the main irrigation program is to be centered. It will furthermore open up a major concentration of poppy production to enforcement. This road had also been identified previously by the SDO (Roads) who had submitted it as an outline proposal to his headquarters. However, budgetary constraints within GOP mean that it could be many years before it could be accepted for funding.

The method of construction and the standards achieved will be as follows:

- The roads will have an 18-foot shingled surface and a minimum carriageway width of 22 feet, designed to require a minimum of retaining walls thereby reducing maintenance expenditure. A full drainage system of culverts and ditches will be included in the detailed design.

- The construction methods used as a basis for costing are those now in use in the area and within the capacity of local contractors (such as that now constructing the Utla-Amazai road), adjusted to allow for the slightly higher standards.

- The techniques to be used on construction will balance the requirement for speedy construction with the other primary objective of creating the maximum labor demand. The engineering requirements preclude a totally "labor-intensive" approach, however, it is estimated that at a minimum there will be a requirement for 1800 mandays of labor per mile of construction. Using such a combination of equipment and labor the road will be completed within three years of commencement.

The other engineered road construction project proposed is the blacktopping of the existing road from Kabgani to Utla. The stretch from Topi to Kabgani has already been blacktopped under the ADP-funded upgrading project. The justification for this proposal is economic. As previously mentioned the Sherai watershed, with Utla at its summit, has been selected as the main area for irrigation development. As a result, the production of high value but perishable crops will rise. If such crops are to reach their markets in prime condition, a smooth-surfaced road is essential. The present blacktopped section does not reach high enough to provide for the major areas of potential in the upper half of the valley.

The impact and benefits of the proposed road construction program may be summarized as follows:

- Between 35-40,000 people will benefit from vehicular access who at present have none.
- All-weather roads will exist providing extensive access into the Sherai watershed, an area of undeveloped agricultural potential.
- A blacktoped road will allow perishable and delicate crops to be exported from this watershed, thus broadening the range of potential crops.
- Vehicular access will be provided in an area of poppy production permitting greater enforcement. With the completion of the Utla-Amazai road,the other major but inaccessible poppy area will also be opened up.

Two further road programs related to the program to be directly funded by this project are put forward in an appendix to this annex. It is recommended that the larger of the two proposals be funded through USAID's proposed Rural Roads Project The smaller program, centered on Swat Amazai, could possibly be funded through the UNFDAC.

3. Financial Aspects of the Program

a. Phase I

Construction of six miles of the Utla-Nara Amazai road at Rs. 1.45 million ($114,000) per mile.

$ 684,000

b. Phase II

Construction of remaining five miles of the Utla-Nara Amazai road at Rs. 1.45 million per mile.

$ 570,000

Construction of the Bada-Mangal Chai-Gabai road: 22 miles of road at Rs 1.5 million ($120,000) per mile. [1]

$2,640,000

Blacktopping of 9.5 miles of road from Kabgani to Utla at Rs. 0.37 million per mile

$ 274,000

Phaes II Total $3,484,000

[1] This road is to be built from both ends at once to speed completion (see implementation arrangements).

Cost criteria for both roads are based on recent Communications and Works PC1 submissions. For new road construction, the PC1 for the Utla-Amazai road was taken as the model. However, the cost in the PC1 of Rs. 1.1 per mile was increased to allow for the slightly higher specifications being put forward. For the blacktopping of the Kabgani-Utla road, the most recent PC1 available was consulted. In both cases the department of Communications and Works was consulted and concurred with the estimates put forward.

c. Income Impact of the Program

The most significant immediate impact will result from the employment opportunities presented by the construction. At a minimum, a workforce supplying 1800 mandays per mile will be required. Over 33 miles of road (11 for Utla-Amazai and 22 for Bada-Gabai), a total of 59,400 mandays will be utilized, providing a total local income of some Rs. 1.78 million. A clause will be inserted into each contract obligating the contractor to fill his unskilled labor requirements from villages through which the road passes. The blacktopping of the Kabgani-Utla road will also generate a labor requirement, although somewhat lower than the construction of a new road. It is expected that some 800 mandays per mile will be needed, providing some 7600 mandays and a gross income of Rs. 228,000.

The longer-term impact of improved access cannot readily be quantified. However, the ability to import and export goods (when tied to other development initiatives) will provide the area with significant opportunities to improve their incomes. Of particular significance will be the ability of the area to export agricultural produce.

4. Implementation Arrangements

The department of Communications and Works will be responsible for the design and implementation of all activities

described under this section. Actual construction will be carried out by private contractors as is usual for projects of this nature, under the supervision of the department. Funds will be channelled directly to the department (see Financial Plan). The department has both the capability and capacity to carry out the work required, as outlined above. The proposed projects are relatively small and are well within the capacity of both the department and a large number of the contractors on its roster.

Only financial support is thus required, both technical expertise and the equipment needed being locally available. Funds to cover the total cost of construction will be channelled to the department using a modified FAR system. The department will be responsible for payments to the contractor at agreed-upon intervals. Technical approval and periodic inspection will be the responsibility of USAID.

Particular attention will have to be given to the "take-over" of the Utla-Amazai road if unnecessary delays are to be avoided. The MFAR agreement must be designed to enable reimbursements to be made for the completion of the road from the point it has then reached, estimated to be about mile two. The standards called for under this project are slightly higher than those contained in the existing PC1. However, the total cost increase is only eight percent overall (well below the 15 percent increase allowed before a new PC1 must be prepared). In the opinion of Communications and Works it will not be necessary to retender for a new contract. It is believed that it will be feasible to amend the existing contract to include the additional work. Thus the MFAR agreement will be for the total cost of the road, including the increased specifications, less the cost of the road already completed.

In the event that it does not prove possible to amend the contract without risking a substantial delay or increase in cost, the existing standards will be accepted as the MFAR specifications. Although these standards are not as high as those included for other project roads, they are well within acceptable limits. The difference does not justify any delay in completing this road (which is critical to both enforcement and development activities.)

It is recommended that the Bada-Mangal Chai-Gabai road be constructed starting at both ends at once, thus allowing it to be completed in two years. To do this two separate contracts may be let, one starting at the north end and one at the south. by 1984/85, the starting year for this road, the Utla-Amazai road will be far enough advanced to allow the procedure.

The proposed program of road construction will provide a significant contribution to the project's goal of providing sources of off-farm employment. Its impact will be short-term, providing nearly 70,000 mandays of employment over a three-year period and as a result injecting some Rs. 2.0 million into the local economy. Such employment will be available during the

period of highest economic stress in the project area and thus provide an income "bridge" while longer-term economic alternatives to poppy are developed.

5. Technical Considerations Surrounding Proposed Program

The design criteria used to determine the appropriate techniques and standards for the roads program may be summarized as follows:

- Construction standards must be within the capability of local contractors without requiring additional equipment or training.
- The construction techniques must balance project objectives to create employment and the need to complete road construction as rapidly as possible to enable other project activities to go forward.
- The need for maintenance must be reduced by raising the standard of original construction, particularly to reduce to a minimum the amount of retaining wall required. This can be done by "cutting" deeper into the valley walls than is now the norm.
- The standards called for must reflect the level and type of traffic expected to use this new road; thus a blacktop surface cannot be justified on the new road.

Using the above criteria, the following outline specifications have been developed for the roads to be constructed. A small contingency has been allowed for the Bada-Mangal Chai-Gabai road to allow for unforeseen problems.

design speed: 25 mph
total formation: 22 feet
clear formation: 18 feet
width on curves: 28 feet
ruling gradient: 5 percent
maximum gradient: 6.5 percent
surface: 6" compacted (provided in clayey reaches only)
culverts: average of 6-8 per mile, 4-foot span
drainage ditch: entire length of road
retaining walls: in clay reaches only

As discussed earlier in this section, other possible road alignments were considered but only the proposed alignments could be justified within the criteria used. Lower-standard roads and paths will be built on many of the alternate routes under the local bodies component.

Maintenance of the roads constructed under the project will be the responsibility of the Department of Communications and Works utilizing funds provided under its annual recurrent budget. Although funds for maintenance are limited, the department is

able to carry out an adequate level of maintenance on roads under its jurisdiction.

C. Electrical Power Distribution

1. Background

An 11 kilovolt high tension (HT) line originating at the Tarbela substation enters the project area from the south, providing electrical power to the following villages: Gandaf (576 connections), Besak (134), Malakabad (148), Bada (87), Kabgani (103), Dewal (134), and Ganichatra (3, all at the Basic Health Unit). This line is the only power source in the project area. To the north power supply is being brought to Nawagai, some ten miles from the northern boundary of the project area. However, this line originates from Swat and is reported to be "over extended" already.

The existing line to Ganichatra passes very near five villages that have not been connected into the system as funds were not provided at the time of construction. Even Ganichatra village itself has not been connected into the HT line, power going only to the BHU.

The demand for electricity is very high. During the initial survey of the project area, this service (together with roads) was the most frequently requested. It is evident that the perceived improvement to the villagers' "quality of life" is high. There are as well long-term economic gains to be made. Electricity supply is cheaper than the available alternatives, such as kerosene. The provision of electricity also opens up opportunities for light industrial and service establishments. For example, in Gandaf there are 14 connections to light industrial establishments (flour mills, workshops, etc). Finally, electrical connections can upgrade the services available at social service facilities (for example, vaccine can be stored at health units, x-ray units can be operated etc.)

There are at present no proposals pending to extend the existing electrical service within the project area that have been approved for funding by the GOP. A proposal to extend electricity to eight villages has been put forward by the district council (with consultation with WAPDA), but the proposition has not been identified as a priority by the government and funding is unlikely. All eight villages have been included in the program proposed under the project.

Meetings with the Water and Power Development Authority (WAPDA) at the provincial level reveal that the Authority is able to undertake the program suggested, provided the required funds are forthcoming. WAPDA will undertake the survey and design and implement the project directly following established practice.

2. Proposed Program

a. Phase I

In the first year it is proposed to provide low tension (LT) connections off the existing HT line to those villages between Dewal and the Ganichatra BHU. These include Sandhwa, Surkali, Dagai, Norobanda, Shingrai and Ganichatra village itself. Five miles of LT line and five 100-kva substations will be needed to achieve this objective. An estimated total population of 5,500 stand to benefit from this extension.

b. Phase II

During Phase II, a four-stage expansion program is proposed, at the end of which some 42,000 people will be able to benefit from electricity supply. The following program is put forward:

- 1984/85: extend HT line with LT service lines to Utla, Amrai Bala and Gabasni. Total population served: 8,000.
- 1985/86: extend HT line with LT service lines to Nara Amazai, serving ten villages with a total population of 18,000.
- 1986/87: extend HT line from Bada to Dalori Payan, Dalori Bala, Sarkoi, Lekab, and Mangal Chai, serving a total population of 8,000 people.
- 1987/88: extend HT line from Mangal Chai to Chanai, Gabai and Gali serving six villages with a total population of 8,000 people.

The program will be implemented over a five-year period. The proposed HT lines will "follow the road"; the phasing of the implementation allows for this. Once the HT line has been installed, then low-tension feeder lines will be taken off to service the settlements. The LT line will originate at a substation on the HT line and form a loop into the village. From this LT loop, individual connections will be made. This last link is charged to the customer (at highly subsidized rates). WAPDA estimates that the maximum charge for a connection to a fuse box is Rs. 500. WAPDA provides 50 connections in each settlement free, giving priority to public buildings and then working on a first-come, first-served basis. Special rates are given to small industrial establishments, including the provision of a substation, free of charge, if needed.

Over the five-year program electrical connections will become available to some 47,000 people living in 30 villages and settlements, together with public institutions. The impact of this program will be considerable, even recognizing that many

will not immediately take up the opportunity to be connected. In villages now served, between 20-50 percent of households have been connected. Assuming the same rate of connection, then between 4,000 and 1,500 housheholds will have electricity at the end of the four years.

3. Financial Aspects of Program

Cost estimates are based on those provided by WAPDA for remote rural areas for 1982/83. Included in these overall costs are labor and transport.

a. Phase I

Low tension connections to five villages:
Rs. 975,000 (total) $ 76,000

b. Phase II

Extension to Utla, Amrai Bala, and Gabasni:

6 miles HT line @ Rs. 150,000 per mile
5 miles LT line @ Rs. 160,000 per mile
1 100 kva substation @ Rs. 35,000
2 200 kva substations @ Rs. 50,000

$143,500

Extension to Nara Amazai:

15 miles HT line @ Rs. 150,000 per mile
10 miles LT line @ Rs. 160,000 per mile
10 100 kva substations @ Rs. 35,000

$328,000

Extension to Dalori, Mangal Chai:

11 miles HT line @ Rs. 150,000 per mile
5 miles LT lines @ Rs. 160,000 per mile
5 100 kva substations @ Rs. 35,000

$205,000

Extension to Chanai, Gabai, Gali:

11 miles 11 kv HT line @ Rs. 150,000 per mile
7 miles 400 v LT line @ Rs. 160,000 per mile
6 substations 100 kvc @ Rs. 35,000

$233,500

TOTAL $986,000

All capital costs of this program will be borne by the project. No operating subsidies will be funded by the project, although those offered by WAPDA will not be affected. Individuals wishing to be connected will have to pay the standard fee and usage charges. For a private house, the connection charge is low; as previously stated the maximum usually paid (unless the consumer lives far from the distribution line) is Rs. 500. For domestic use, the usage charge is Rs. 0.35 per KWH. Line maintenance will be the responsibility of WAPDA, as elsewhere in Pakistan. It is recognized that the full capital and operating cost is not borne by the consumer under the current system.

The impact of this program upon incomes cannot be easily predicted. There will be no immediate impact through the creation of jobs to construct this infrastructure as WAPDA uses its own permanent construction crews. In the longer term a source of electrical power will provide for potential light industries and services that will be set up, including those assisted by the project.

4. Implementation Arrangements

The agency responsible for all implementation activities will be WAPDA, which has national responsibility for electrical power. WAPDA has its own design office, implementation crews, and local maintenance capacity. As a rule WAPDA is able to complete one mile of installation, whether high- or low-tension cable, in ten to fifteen days. As all high-tension lines will follow roads (a practice recommended by WAPDA to ease maintenance), there is every reason to expect this rate of implementation can be adhered to. The total length of line to be erected is 70 miles (including both high- and low-tension line), giving an expected implementation time of 1050 days. The program is spread over five years and therefore should not present a serious problem to WAPDA. Discussions with the Chief Engineer have confirmed that, if funds are provided, the organization will require no further assistance. All costs will be included in the contract to be concluded between the provincial government and WAPDA and monitored by USAID.

The electricity supply component will be funded using the Fixed Amount Reimbursement procedure. USAID will approve all designs before implementation begins and then inspect and approve construction work at regular intervals before reimbursing the government for work completed. The work contract will be between the government and WAPDA and will follow the well-established procedures used for such work.

5. Technical Considerations Surrounding Proposed Program

The technology to be used in the program is the standard one used throughout Pakistan's extensive rural electrification program. The existing line is an 11 kv high-tension line and can carry the load required for the proposed program. At the end of

the program, the total length of line will be approximately 50 miles from the substation at Tarbela, which WAPDA considers will not present any problems (e.g., power drop-off). From this high-tension line will be taken 400-volt low-tension lines to serve individual connections. The anticipated maximum length of any single LT line is 3.5 miles off the HT line, again presenting no problems of power drop-off.

Because of the existing HT line and the practicality of extending it at a comparatively low cost, little consideration was given to possible alternative power sources, such as "mini-hydro" power stations. The likely cost of these, according to WAPDA, far exceeds the budget for this component and presents particular operating problems.

Before final budgets can be prepared, WAPDA will have to carry out a detailed survey of the proposed alignment. The cost estimates used here are those used by WAPDA to produce initial overall cost estimates.

Provided funds are released on a timely basis, there appear to be no foreseeable problems likely to arise during implementation. WAPDA will be responsible for the provision of all materials, technical design, supervision, and continuing operation of the system. The organization has proved competent to carry out far larger schemes than that proposed under this project.

D. Potable Water

1. Background

Water supply schemes, constructed and operated by the department of Public Health engineering, have been provided to twelve villages within the proejct area. Many more villages have been provided for through the activities of the district and union councils. There are approximately 100 existing systems in total. These latter schemes tend to be smaller and simpler, taking water from a nearby source to a single outlet in the village. Those provided through the Public Health Department (PHE) can be briefly described as follows:

- a pipeline taking water from the Sherai river near Utla serves the villages of Ganichatra, Shingrai, Narrobanda, Sukali, Sandhwa, and Dewal. All villages are connected to a single reservoir tank (with the exception of Ganichatra, which has two tanks). The pipeline, 6" at the top narrowing to 2" at the bottom, is in poor condition, with many breaks and leaks. As a result, the quantity of water reaching the villages at the bottom of the system is often inadequate. A total population of some 7,000 is served by this system.

- Gandaf (population 8,500) is supplied from a tubewell originally drilled for the Tarbela Dam project. Pumped

water is supplied to a storage reservoir from which six tanks and 129 private connections are served. An expansion of this scheme, within Gandaf, is currently under way.

- Mangal Chai and Satketar (population 2,500) are supplied by a single pipeline originating at Trait. The pipeline is some seven miles long and is in poor repair.

- The Utla water supply scheme (Phase I) has been completed and the Phase II expansion is under way. A 2" pipe takes water from the source (an infiltration chanel) some two miles from the village (population 3,500) to distribution tanks.

- Four further villages, (Malakabad, Besak, Bada and Takail) have been supplied from a local source to a single communal tank.

The major problem concerns the inadequate maintenance of these existing schemes. Two of the systems surveyed are in a poor state of repair requiring substantial rehabilitation if they are to operate to their optimum. However, PHE has only a meager maintenance budget. Their usual estimate is for a mere one percent of original construction costs to be given over to "annual" upkeep. No permanent staff are posted to attend to regular upkeep.

Other than the ongoing schemes at Gandaf and Utla, there are at present no GOP-approved plans for work to be carried out under the auspices of PHE within the project area.

PHE implements schemes by contracting out the construction work to private contractors. The department itself carries out the survey and design and supervises the activities of the contractor. The department has a register of approved contractors in the NWFP, which includes 35 able to carry out contracts of any cost, 75 for schemes undder Rs. 1.5 million (including eight in Mardan District), and over 200 competent to execute small schemes of under Rs. 0.5 million. Over the past three years, the PHE department has carried out 293 water supply schemes in the province. Thus the capacity to successfully design and implement considerable water schemes clearly exists.

During investigations leading to the design of this project requests for water supply schemes were common. However, between those schemes instigated by PHE and local councils, there is extensive coverage already and little justification for large schemes. Settlements remaining without water, with few exceptions, are the smaller "satellite" villages which can be quite adequately supplied through the local body schemes. The greatest need is for repair to the major PHE schemes built in 1969 and 1975. Thus the focus of this program will be to provide

new schemes to only two major village now unserved and to repair the two largest existing schemes.

2. Proposed Program

a. Phase I

PHE will carry out survey work necessary to design the rehabilitation of the Ganichatra-Dewal pipeline. More detailed survey of existing and potential supplies to identify the second large village to receive a new water supply scheme will also be done. Survey work will be carried out by PHE at no cost to the project.

b. Phase II

The proposed program calls for the construction of two new schemes for major villages currently without supplies and the rehabilitation of two existing schemes. The following program is put forward:

- 1984/85: rehabilitation and minor extensions to the Ganichatra-Dewal pipeline. This pipeline, some eight miles long and providing water to a population of some 7,000 in six villages, requires considerable rehabilitation. The upgrading of the Topi-Utla road, along which the pipe in aligned, has damaged considerable lengths of pipe. Pipe will need replacement and over some distance realignment will be required. Within the villages served minor expansion to provide tanks to parts of the villages not presently served will be undertaken.

- 1985/86: in two major villages (Kabgani and one other to be determined) piped water will be provided to community tanks. In the case of Kabgani two existing wells will be tapped as the water source. Electric pumps will be installed to pump water to reservoirs from which the communal tanks will be supplied. The village has a population of some 1,500. The village of Chanai is another large village with no water supply and is suggested as a possible second village. During Phase I further detailed survey work should be undertaken to determine the most beneficial and feasible scheme.

- 1986/87: rehabilitation and minor extension to the Trait-Mangal Chai scheme. This seven mile line requires rehabilitation and, once repaired, will be capable of extension to serve small settlements along the present alignment. By 1986/87 the Utla-Amazai and Bada-Mangal Chai-Gabai road will be sufficiently far advanced to facilitate this work.

This modest program will bring additional benefit to 13-14,000 people; some 9,500 will receive more adequate and reliable supplies while some 4,500 will receive piped water for the first time. A further short-term benefit will result from the requirement for labor to assist the construction of these schemes. It is estimated that a minimum of 10,000 mandays will be required representing an infusion of some Rs. 300,000 into the local economy.

3. Financial Aspects of the Program

a. Phase I

There will be no financial costs for the project, as all survey and design work will be carried out by PHE.

b. Phase II

Cost estimates are based upon information received from PHE. For rehabilitation schemes, estimates are based upon an overall expenditure of 25 percent of original construction costs (with allowance made for inflation to date) plus the cost of new extension (pipe and tanks). For the new construction, estimates are based upon an initial examination at Kabgani and approved costs for a recent PHE PC1 for a comparable scheme using a well supply, "overhead" reservoirs etc. For the second proposed scheme, a minimum of two miles of two-inch pipeline and distribution tanks have been allowed for.

- 1984/85: rehabilitation of Ganichatra-Dewal pipeline, plus minor extensions. $ 23,000

- 1985/86: construction of two village water supply schemes:

  Kabgani: 2 pumps, 1 reservoir, and 2 storage tanks $ 25,000

  other villages: 2 miles pipe and storage tanks $ 22,000

  Subtotal $ 47,000

- 1986/87: rehabilitation of Trait-Mangal Chai pipeline plus minor extension $ 16,000

TOTAL $ 86,000

The immediate income impact of the program will be the wages payments to local unskilled labor working on the implementation of the program. An estimated minimum of 10,000 mandays will be required providing a total earning of Rs. 300,000 to the local population.

4. Implementation Arrangements

The agency responsible for implementation will be the Public Health Engineering Department. It will be responsible for survey and design, the preparation and letting of contracts, and the supervision of implementation. These arrangements follow the standard operating pattern of the department.

As with the other "major" infrastructure programs, the department concerned has the technical and logistical capacity to complete the program proposed. On the assumption that funds are released on a timely basis, there is every expectation that the program proposed will be completed over the three years as programmed.

The impact upon those directly benefitting from the program include more convenient access to cleaner water, decreased work for women, and a general improvement to the overall quality of life.

5. Technical Considerations Surrounding the Proposed Program

The schemes proposed will utilize well-established techniques for the provision of public water supplies. The two schemes to be rehabilitated are both gravity systems and there is electricity available at Kabgani to power simple submersible pumps. The final proposed scheme will either be a gravity system or use electrical power.

Detailed survey work will have to be carried out before final, detailed costings can be done. Further consideration will also have to be given to the location of the second new construction scheme proposed. However, there are no major problems foreseen that will hinder the implmentation of this program. All needed materials will be supplied either by the department or its contractor(s) and all are readily available within Pakistan.

D. Line Department Infrastructure Budget Summary

1. Roads

1983/84: Construction of six miles of Utla-Nara Amazai road at Rs. 1.45 million per mile $684,000

1984/85: Construction of five miles of Utla-Nara Amazai road at Rs. 1.45 million per mile $570,000

Construction of of Bada-Mangal Chai-Gabai road section

i. north section 6 miles at Rs. 1.5 million per mile $720,000

ii. south section 6 miles at Rs. 1.5 million per mile $720,000

1985/86: Construction of of Bada-Mangal Chai-Gabai road.

i. north section 5 miles at Rs. 1.5 million per mile $600,000

ii. south section 5 miles at Rs. 1.5 million per mile $600,000

Blacktop Kabgani-Utla road. 9.5 miles at Rs. 370,000 per mile $274,000

$720,000

TOTAL $4,168,000

2. Electricity

1983/84: Low tension connections to five villages off existing 11 kv HT line
Five miles 400 kv LT line @ Rs. 160,000 per mile $ 62,500
Five substations 100 kva @ Rs. 35,000 $ 13,500

Subtotal $ 76,000

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	Five miles 400 v LT line @ Rs. 160,000	$ 63,000
	Five substations 100 kva @ Rs. 35,000	$ 13,500
	Subtotal	$205,000
	TOTAL	$986,000

1987/88: Extension of electricity to Chanai, Gabai, Gali (6 villages)

11 miles 11 kv HT line @ Rs. 150,000 per mile	$129,000
7 miles 400 v LT line @ Rs. 160,000 per mile	$ 88,000
6 substations 100 kva @ Rs. 35,000	$ 16,500
	$233,500

3. Potable Water

1984/85:	Rehabilitation and minor extensions of Utla-Ganichatra-Dewal pipeline	$ 23,000
1985/86:	Construction of new system at Kabgani and one other village	$ 47,000
1986/87	Rehabilitation and minor extensions of Trait-Mangal Chai pipeline	$ 16,000
	TOTAL	$ 86,000

APPENDIX

LINE DEPARTMENT INFRASTRUCTURE

Additional Roads Program

It is evident that the Gadoon-Amazai Project is unable to provide sufficient funds to enable a comprehensive road construction program that would bring road communication to the majority of people. This appendix puts forward additions to the program presently being funded that would complete such a system. It is proposed that the majority of the program be funded through the future USAID Rural Roads Project. A smaller program has been divided out; the program centered on Swat Amazai would seem suitable for submission to UNFDAC or a similar donor. The program is illustrated at the beginning of the Annex (Map 2) and is briefly described below.

A. Proposed for USAID Rural Roads Project

The major proposal is to provide a link road taking off at the end of the Utla-Amazai road, providing for the first time road access into the Mansehera Tribal Area and then joining to the existing road running into Swat Amazai. Such a road would be about 25 miles in length and serve approximately 25,000 people (there is no available population count for the Mansehera area; this figure was provdied by the Assistant Commissioner, Haripur).

The significance of this road is two-fold. Firstly, it would provide access into the area for the first time, an objective given the support of the Assistant Chief Secretary, NWFP. Through such a road this isolated area could be linked to the "outside" and begin to benefit from development. Secondly, it would link two "dead ends", those roads presently terminating at Nara, Hazara Amazai (once the road is completed) and that entering Swat Amazai.

The other three roads are short spurs off the existing or proposed "spinal system" linking to three major villages on the lakeshore and one other important point of embarkation. A road running along the lakeshore was considered but is thought to be prohibitively expensive because of the number of major bridges that would have to be constructed. The following three links are put forward:

- Nara-Bait Gali-Ajab Garhi: with a total length of 9.5 miles, the road would serve some 6,000 people and provide access to the union council office (Bait Gali) and to the major landing station in north Hazara Amazai.

- Chanai-Bragh-lakeshore: the point on the lakeshore is the major land station for mid Hazara Amazai. A total

population of some 3,000 people would be served by a four-mile road.

- Dalori-New Khabul-New Kiage: two major settlements would be linked to the road system with a combined population of some 3,500 persons.

Cost Estimates

Based on recent Communications and Works PC 1 submissions, but to which certain higher standards of construction were added, an overall cost of Rs. 1.5 million per mile has been used for the Gadoon-Amazai proposals. This will fund a 22-foot wide carriageway with an 18-foot shingled width. These standards will be quite adequate for the roads proposed and are used in the following budgets (all costs 1983):

- Nara Amazai-Swat Amazai link road through Mansehera Tribal Area: 25 miles @ Rs. 1.5 million per mile

  $ 2.93 million

- Nara-Amazai-Bait Gali-Ajab Garhi: 9.5 miles @ Rs. 1.5 million per mile

  $ 1.1 million

- Chanai-Bragh: 4 miles @ Rs. 1.5 million per mile

  $ 0.47 million

- Dalori-New Khabul-New Kiage: 7 miles @ Rs. 1.5 million

  $ 0.82 million

TOTAL $ 5.32 million

B. Proposal For Other Donor Funding

The second sub-program is modest and is located wholly with Swat Amazai. Because of its size it is quite possible that a donor such as UNFDAC, which is already operating in the area, might fund the proposal. If this can come to pass, then the proposal could be implemented more quickly than awaiting the Rural Roads Project.

In outline, the proposal is two-fold:

- the rehabilitation of the Nawagai-Nagrai-Chororai road. It is a shingled road but it is in a fairly poor state of repair. The retaining wall needs rebuilding, culverts need to be replaced and a new drainage system needs to be put in parts. The road is some 15 miles in length.

- construction of two access roads further into the Swat Amazai area are to terminate at the village of Langao and one at the village of Malka. A total length of 13 miles of low-cost road would be sufficient.

Cost Estimates

- rehabilitation of Nawagai-Nagrai-Chororai road: 15 miles @ Rs. 0.2 million per mile
  $ 240,000

- construction of village link roads to Langao and Malka: 13 miles @ Rs. 0.3 million per mile
  $ 300,000

TOTAL $ 540,000

INFRASTRUCTURE CONSTRUCTION BY LOCAL COUNCILS

A. Background

In 1979 the North West Frontier Province issued a Local Government Ordinance which created district and union councils. Since then these councils have carried out a number of development projects (schemes) in various sectors including water supply, roads, irrigation and school buildings. These councils are assisted by technical and administrative staff from the Local Government and Rural Development Department (LGRD); in the case of the district councils they have in addition, their own technical staff recruited through LGRD. In the four years the local councils have been in existence, a total of 190 development projects have been carried out in the project area of Gadoon-Amazai by the three district and seven union councils, at a total cost of $306,910 (Rs. 3,937,650).

In Mardan, the district council in 1982/83 undertook three construction projects in Gadoon (two streets in Gandaf and one in Bisak) and the four union councils in Gadoon completed 21 schemes, most of them path constructions but also including wells, flood-protection levees, a one-room primary school, and construction of drains. The other district and union councils in the project area have undertook similar schemes during 1982/83.

During the year 1982-83, the district council of Mardan had a budget of $428,683 (Rs. 5,500,000) to spend out of revenues it generated itself and $229,384 (Rs. 2,943,000) to spend out of the RWP block grant received from the provincial development budget. To plan and execute projects with its own funds the council has a technical staff (a chief engineer, a district engineer, five sub-engineers and five work munshis). For the RWP program the technical staff of the Assistant Director (AD) LGRD is used. Each union council undertakes from three to eight schemes a year; for 1982-83 they had $8,000 each to budget and implement, and for 1983-84 $14,030 per union council. The planning and administration system for the local councils is described at length in Annex 11.

B. Proposed Program

The project will finance an expansion of the existing block grant program under which the councils select schemes within a fixed budget and implement them using local labor and contractors. Since the councils will determine their own progams, it is not possible to state precisely what schemes will be included. The following discussion is based on discussions with local leaders, past programs, and lists of requests prepared by the councils during design. It is believed that the mix and number of schemes represents a reasonable approximation and it therefore is illustrative of the level of benefits and activities anticipated.

Under the current system, the LGRD has final approval over the council programs. The program described here will be used as a guide in considering the proposals of the councils. This will ensure that the final program follows at least in broad outline the program discussed here.

The resource allocation system for the local council construction component is based on a "block grant" concept. In other words, the budget for this element is fixed and the level of activity that will actually be financed may be more or less than that described in the following sections. In keeping with the block grant principle, neither inflation nor contingency allowances have been included in the budget for this component. The councils will program the amounts shown and, when this sum is used up, no additional allocations will be made (unless a later reprogramming of overall project funds expands the allocation for such schemes).

1. Phase I

Proposed activities to be undertaken during Phase I include communications, water supplies and school repair. Based on the lists of requests submitted, it has been assumed for planning purposes that the district councils are expected to build three miles of village feeder roads, construct a bridge at Nagrai (in Swat Amazai) and undertake one new water supply scheme. The union councils will build approximateley 50 miles of donkey paths, construct two new water supply schemes, and undertake repair and extension on two existing schemes and repair four schools.

The quick impact of Phase I activities will be demonstrated most visibly in the communications sector. The project construction of three miles of feeder road and fifty miles of donkey paths will serve to link communities with each other and with other larger, more traveled roads or routes such as the Topi-Utla road. This construction activity will help to meet a major felt need expressed in meetings and in the lists of proposed schemes submitted to the design team. Other priority needs residents have expressed include water supplies, and the repair of existing school buildings.

2. Phase II

Under Phase II, in addition to the types of projects undertaken during Phase I, the district council program will include new school construction and the union council program will include irrigation channels built in cooperation with the Department of Irrigation. An additional 15 miles of village feeder roads are expected to be completed by district councils, divided over four years. District councils are also projected to construct a total of nine new water supply schemes and repair and extend a total of six existing water systems as well as constructing 20 schools for girls and eight schools for boys during Phase II. This will include, in addition to new primary

or middle schools, the upgrading of schools from primary to middle and middle to high school status.

The projected union council activity will include a total of 30 miles of improved hill tracks and a total of 70 miles of donkey track. They will also construct channels to irrigate a total of approximately 375 acres over the four years of Phase II. The union councils are expected to build a total of 13 new water systems during Phase II and will repair and/or extend 18 existing schemes. Union councils to repair a total of roughly 35 male and female schools over the four-year period.

C. Financial Aspects of the Local Council Program

The budget for the local council program of infrastructure construction can be divided into two separate types of expenditure. First, and most important, the project will finance the construction activities themselves, which will cost $2.1 million over the life of the project. Second, the project will provide support to the Department of Local Government and Rural Development, which is responsible for providing technical and managerial backup to the councils.

The budget for council construction has been developed by taking into consideration the following factors:

- the level of activity in the past (and the implications for the councils' implementation capacity)
- the need for infrastructure construction in the various councils in the project area and the types of infrastructure needed
- the cost of such construction, based on past experience for similar schemes
- the need for highly visible project activities in all parts of the project area
- the need for a short-term source of income in areas that will be affected by the poppy ban enforcement

The specific assumptions with respect to each type of construction are shown in Table 13-1. Tables 13-2 and 13-3 provide a detailed breakdown of the projected council activities. The actual program, as previously noted, may differ substantially from that used for planning purposes during development of the project, since it will be dependent upon the decentralized decisions of the ten councils involved.

Table 13-1

BASIS FOR COST ESTIMATES FOR DISTRICT AND UNION COUNCIL SCHEMES

1.	Village Feede Roads (District Councils)	Estimated cost is $23,438 per mile based on Communications and Works' rough survey and cost estimates for Panjman to Qadra road repair and improvement. District council costs are expected to be comparable to those of Communications and Works as they would also probably employ a contractor for this job. This is a conservative estimate because district council construction has generally been less expensive than that by the line agencies.
2.	Donkey Paths	Estimated at $3,906 per mile based on 40 laborers working approximately 42 days and paid at $2.34 (Rs. 30) a day. Based on 52 past union council schemes.
3.	Water Supply by District Council	Estimated at $10,000 per new scheme, broken down as follows:

a)	cost of one mile length of one-inch GI pipe including labor costs, estimated at Rs. 21,120 per mile (laying pipe) at a rate of Rs. 4/mile.	Rs. 80,000
b)	cost of reservoir at source	Rs. 15,000
c)	cost of one water tank	Rs. 30,000
	TOTAL	Rs. 125,000

These rates are based on PHE estimates. District councils' costs are judged to be similar.

Estimated cost for repair of a water scheme is $4,000. Based on rough estimates of the cost of repair relative to the cost of new construction.

4.	Water Supply by Union Council	Estimates for new schemes and repair of existing schemes based on the average cost for such work determined by a survey of 13 schemes in the Gabasni union council by USAID.
5.	Irrigation Channels	Estimated cost is $800 per acre, 40 percent of the total cost for a completed scheme (estimated at $2000/acre). Costs of six previously completed IRDP schemes were used as a basis for the estimate.

Table 13-2

DISTRICT COUNCILS: BUDGETS FOR INFRASTRUCTURE AND SCHOOLS

ITEM		PHASE I (83/84)	PHASE II (84/85)	(85/86)	(86/87)	(87/88)	TOTAL
A. Roads							
1. Village Feeder Roads	QTY mi.	3	4	5	4	2	18
	BUDG $	70,000	94,000	117,000	94,000	47,000	422,000
2. Bridge at Nagrai	QTY mi.	1	-	-	-	-	1
	BUDG $	100,000	-	-	-	-	100,000
Subtotal $		170,000	94,000	117,000	94,000	47,000	522,000
B. Water							
1. New Schemes	QTY	1	3	3	3	-	10
	BUDG $	10,000	30,000	30,000	30,000	-	100,000
2. Repair Schemes	QTY	-	2	2	2	-	6
	BUDG $	-	8,000	8,000	8,000	-	24,000
Subtotal $		10,000	38,000	38,000	38,000	-	124,000
C. Schools							
1. Construction of Female Schools (@12,100)	QTY	-	5	5	5	5	20
	BUDG $	-	60,500	60,500	60,500	60,500	242,000
2. Construction of Male Schools (@ 10,000)	QTY	-	3	3	3	1	10
	BUDG $	-	30,000	30,000	30,000	10,000	100,000
Subtotal $			90,500	90,500	90,500	70,500	342,000
TOTAL		180,000	222,500	245,000	222,000	117,500	988,000

Total Over Project: $988,000 (Rs. 12,646,400)
Total Per District Council
Average Over Five Years: $329,333 (Rs. 4,215,467)
Average Over One Year: $ 65,867 (Rs. 843,093)

Table 13-3

UNION COUNCILS: BUDGETS FOR INFRASTRUCTURE AND SCHOOLS

ITEM		($) PHASE I	PHASE II				TOTAL
		83/84	84/85	85/86	86/87	87/88	
A. Roads							
1. Improved Hill Tracks	QTY mi.	-	7.5	7.5	7.5	7.5	30
	BUDG $	-	44,000	44,000	44,000	44,000	176,000
2. Donkey Paths	QTY mi.	50	20	20	20	10	120
	BUDG $	200,000	78,000	78,000	78,000	39,000	473,000
Subtotal $		200,000	122,000	122,000	122,000	83,000	649,000
B. Irrigation							
Irrigation Channels	QTY acres	-	94	125	125	31	375
	BUDG $	-	75,000	100,000	100,000	25,000	300,000
Subtotal $			75,000	100,000	100,000	25,000	300,000
C. Potable Water							
1. New Schemes	QTY	2	4	4	4	1	15
	BUDG $	11,000	22,000	22,000	22,000	6,000	83,000
2. Repair Schemes	QTY	2	5	5	5	3	
	BUDG $	5,000	11,000	11,000	11,000	6,000	44,000
Subtotal $		16,000	33,000	33,000	33,000	12,000	127,000
D. Schools							
1. Repairs to Schools (male and female)	QTY	4	8	10	9	4	35
	BUDG $	8,000	16,000	20,000	18,000	8,000	70,000
Subtotal $		8,000	16,000	20,000	18,000	8,000	70,000
TOTAL		224,000	246,000	275,000	273,000	128,000	1,146,000

Union Councils:
Total over Project: $1,146,000 (Rs. 14,668,800)
Total Per Union Council Over Five Years: $ 163,714 (Rs. 2,095,543
Total Per Union Council Over One Year: $ 32,743 (Rs. 419,109

In developing this program, no contribution has been assumed on the part of the local residents. Local residents have in the past occasionally participated in local council schemes (especially union council activities) by contributing their labor and other inputs. Generally, this contribution has not been planned, but instead resulted when the budget allocated fell short and villagers were forced to complete the schemes on their own. Their willingness to do so indicates tht they value the services provided by the schemes, but it is nonetheless not clear that they would agree in advance to such a contribution. Moreover, requiring such a contribution is neither current practice nor consistent with the program's goal of providing paid work opportunities for the villagers.

Villagers are generally responsible for maintenance of schemes once completed. An agreement is made at the time the project is carried out that the local residents who will benefit from the scheme will maintain it for a period of one year after completion. Thereafter, a small allocation for maintenance is financed from the LGRD budget, but in practice this is not sufficient and the villagers have generally provided additional maintenance themselves. Maintenance has been recognized as a weak point in the system, as it is throughout the Pakistani infrastructure sector, but it has been decided that the GAADP is not an appropriate forum in which to attempt to address this complex and pervasive problem.

The project will augment LGRD's backstopping capability by providing additional technical staff and other support needed. At present the local government cadre is close to reaching its technical, administrative, and supervisory capacity under its present workload. The budget managed by the LGRD/council mechanism has been doubling annually since it was initiated in 1979. As the project will significantly increase both the level of activity and the size of each scheme, it will be necessary to supplement the existing staff.

Arrangements for additional staff will differ between Phase I and Phase II and between the three districts involved in the project. In general, only staff from Mardan District (which includes Gadoon) will receive direct project support. This decision was made on the basis of their larger involvement in the project, the relative ease of coordinating activities with the PCU in Topi, and the expected incorporation of the Hazara Amazai area into Mardan by the time project activities reach a significant scale in Hazara.

As with other project activities, staff receiving project support will be divided into four categories: a) existing staff who will work part or full time on the project, b) additional GOP staff seconded or assigned from other parts of the NWFP (primarily supervisory-level staff), c) operational-level staff who will be hired under a central contract and paid by the project, and d) local field-level workers who will be hired on a daily or casual basis and funded by the project. The GOP will

continue to pay the salaries of project staff in categories (a) and (b). The project will finance additional allowances for these staff (travel and per diem allowances, etc.) and will fully fund both salary and allowances for the staff in categories (c) and (d). Further details on the operation of this system are provided in the PCU component description, Annex 17.

In the start-up phase of project implementation (Phase I), the LGRD staff will be augmented by an additional construction supervisory team consisting of a sub-engineer, a supervisor (government-paid), two work munshis, an assistant accountant, two drivers, and a three-person clerical staff, in addition to the existing government staff. In Phase II, the project will introduce a second such team, including a sub-engineer and a work munshi. An additional assistant engineer will also be provided to supervise the two teams. Finally, two community organizers will be hired to strengthen liaison among the union councils, the LGRD, and the villagers. The full budget for LGRD staff is shown in Tables 21-17 and 21-18, Annex 21.

D. Implementation Arrangements

1. Management of the Council Program

The implementation arrangements for this component will follow the existing system for such activities, which has been shown to work effectively over the last four years. It is the one with which LGRD staff and local councillors are familiar.

The expanded level of council activities will be supported by additional staff for the LGRD, as discussed above. Existing staff and councillors will also receive regular in-service training in the design and supervision of small schemes, in the form of one- or two-day seminars organized by the trainer-communications specialist in the PCU. An allowance has also been made for sending some of these personnel to the longer training courses for local government personnel offered by the Pakistan Academy for Rural Development and other local institutions.

The financial management system to be used for this component will also follow the existing system. Funds allocated for local schemes will be placed in a PLA account held by the Assistant Director of LGRD (or, alternatively, by the Chairman of the District Council, who will also chair the Council Coordinating Committee). As programs are approved for funding, disbursements will be made from this PLA by checks to the District or Union Council Chairman as appropriate. These officials will then be responsible for direct disbursement from their own PLA accounts to the contractor or project committee executing the schemes.

Individual schemes will be implemented in accordance with current practice, using a project committee or contractor. Generally, the councils prefer the project committee mechanism, which they have found to be less expensive. Contractors are

usually employed for larger schemes (those over one lakh or $7800) where their technical expertise and superior organization are necessary.

The current system has adequate safeguards to ensure the proper use of these funds and complete records of all expenditures, including pre-implementation surveys and cost estimates, review by the technical staff of the LGRD, accounting for funds as they are disbursed, inspection and verification of work completed, and post-audit of the project records by the LGRD.

2. Administrative Feasibility of Council Program

a. Lessons Learned in Local Government Programs in Pakistan and Elsewhere

There is sound justification for a program of small rural construction undertaken by local villages or communities. Many such programs have been supported by AID, in Egypt, Indonesia, Thailand, Afghanistan, Yemen, Tanzania and elsewhere, in recent years. The theoretical basis for the projects is decentralized decisionmaking to select projects in accordance with local priorities, utilization of local leadership and management, and, generally, cheaper construction costs. Insofar as local residents can be mobilized to support government programs, rural infrastructure programs are good candidates for such support.

The weaknesses in this approach are also well known. There are technical limitations on the capacity of local communities to undertake large or more sophisticated construction. There are equity considerations which must be addressed when more powerful leaders may usurp government funding for their own benefit, or when programs are not true public goods and benefit only the larger land owners in an area. And most recently, there is a concern for reverse transfer of technology, as some rural works programs have become effective learning laboratories for the techniques of corruption that have been well honed in metropolitan settings.

In Pakistan, the elected councils differ significantly in their technical and administrative capacities. The district councils are large, relatively well-funded and sophisticated bodies spending millions of dollars each year, supported by professional staff in full-time attendance. Their ability to complete infrastructure more quickly and cheaply than the contract provisions of the Communications and Works can be documented. The union councils, on the other hand, provide local leadership, local priorities, and an approved and regularized method of receiving and disbursing money for small projects. The councils have established their capacity to do this, and on-site inspection of past schemes provides demonstrated evidence that the money is used as committed.

The flaws in the union council system revolve around technical weaknesses--a lack of engineering capacity and occasionally of skilled craftsmen--and equity considerations. The project will add to the engineering capacity of the LGRD staff, forestalling potential problems in that area and more complete funding will allow the hire of daily-rate skilled workers from Topi for more complex construction jobs.

The equity problems, which are real, are discussed in detail in the Social Soundness Analysis. The definition of a political body is its ability to mediate among competing interests and resolve potential conflicts by horse-trading projects and funds among representatives to reflect their constitutents' demands. In the society that exists in Gadoon, the constituents are often kinship groups in which the largest share often goes to the leader, usually the largest landowner. Insofar as these public goods are built by the union councils--donkey paths, schools, water systems--there is little to indicate a maldistribution of government-provided resources. However, where private goods are supported--irrigation systems, firewood stands, improved animal breeds--the impact of beneficiary selection must be carefully considered. Since there are few examples of union council investments to date that are capturable by private individuals, these types of projects will generally be delayed until Phase II, when a good deal more has been learned about the interactions and decisions that can be expected from the new group of union councillors elected in the Fall of 1983.

b. Issues in Implementation of the Local Council Program and Project Approach to Resolving Them

The plans for project implementation have been developed taking into consideration the following potential problems:

- Differing agendas within the councils
- Factionalism and favoritism in the allocation of benefits
- Other administrative changes anticipated in the project area.

The first problem arises particularly in the case of the district councils, which are responsible for an area much larger than that included in the project. While it would be possible to attempt to mobilize their support, the effort could easily raise more difficulties than it solved. Even though the seven union councils are wholly within the project area, an attempt to mobilize the entire council in support of the project would be highly problematic, since several of the members are known to oppose the project.

The alternative of launching a campaign to generate support throughout the council structure has therefore been rejected in favor of establishing an advisory committee at the provincial level through the secretaries of Planning and Development and LGRD. The membership will include among others the chairman of the district council, the member of the district council from the project area, and the four union council chairmen from the Gadoon councils. This committee will play an advisory role to the district and union councils. Its decisions will not be binding on the project, but it will provide a mechanism for representing the interest of the district and union councils and mobilizing their support without the threat of disruption or blockage that would be present in a direct interface.

The potential problems created by political factionalism and unequal distribution of development benefits will be addressed in two ways. First, the project will provide training to union council chairmen, union councillors and union council secretaries in the selection, planning, implementation, and maintenance of schemes. This training will provide scope for a discussion of such problems and methods to deal with them.

The second and more important method will be the placement of two community organizers in the project area to monitor and support project activities. Since such a cadre does not now exist, efforts will be made to have them assigned under the aegis of the councils in order to minimize their exposure as potential targets for community opposition (such as that expected from the traders). Sanction for such close identification with the council can be found in the clause of the Local Government Ordinance which states one of the functions of union councils is "cooperation with other organization (sic) engaged in activities similar to those of the union council." The ordinance outlines the development functions of the union councils as:

> Agricultural, industrial and community development promotion and development of cooperative movement, village industries, forests, livestock and fisheries and adoption of measures for increased food production.

Since these areas are the principal areas of project involvement and therefore the areas that the organizers will be recruited and trained to support, this part of the ordinance can be cited to sanction the creation of this cadre.

In addition to working closely with the councils, the organizers will also maintain contact with the village communities in order to inform the local populations with respect to the project's components and to motivate them to participate in those components. During Phase I, the organizers will be particularly involved in improving project understanding of complex issues (water, land, grazing rights and practices, etc.) where improved understanding is needed for Phase II implementation.

Project implementation will be affected by the planned project activity sponsored by the German government to begin in Swabi tehsil by December 1983. As this will be an integrated rural development project, exchange of information and cooperation should be promoted to assist in furthering the aims of both projects.

Finally, there are two issues under consideration by the GOP that have implications for GAADP. First, there is a proposal to join Hazara Amazai with Gadoon and make the combined area a separate tehsil of Mardan district. This change is well along and will likely come about during the project's life. Its chief impact will be to simplify the project's administraiton through consolidation of most of the project area into a single administrative unit.

The second future event is the elections scheduled for the end of 1983, which will likely result in at least a partial change of councillors at both the district and union council levels. It will be important to move quickly to secure the support of as many of the new councillors as possible.

E. Technical Considerations Related to Proposed Program

The technologies to be used in project-funded construction pose few technical problems for the councils that will implement them, since they involve simple, labor-intensive techniques that they have been employing for several years in the ongoing council construction program. Where more sophisticated techniques are used, as in some of the larger district council schemes, construction is usually carried out be contractors to ensure that the necessary equipment and technical skills are available. Where the district councils choose to implement the construction themselves, they may hire heavy equipment (road graders, etc.) from the Agricultural Engineering Department. The construction technologies used have proved adequate in the past and there is not justification for the training and expense associated with more sophisticated techniques. Moreover, the project seeks to maximize the demand for labor created by the construction, so the currently-used labor-intensive techniques are the most appropriate.

Despite the experience gained over the past four years (and during previous experience with formal and informal activities at the local level), it is anticipated that additional technical problems will arise as the councils increase the level and scope of activity. During implementation, an effort will be made to identify and correct inefficiencies and inadequacies present in the current system. For example, it is recognized that maintenance is a continuing problem at the local level, particularly with the union council schemes.

Technical problems that have arisen in the past with council schemes have been largely due to financial constraints and inadequate supervision by LGRD technical staff. Financial

limitations have meant that deficient supplies of materials have been used, either in quality or quantity, leading the councils to stretch the available materials too thinly and reducing the life of the completed scheme.

The project includes measures to overcome both of these problems. As previously discussed, the technical staff of the LGRD will be expanded and supported by the project to increase their ability to, in turn, provide support to the local councils. The levels of funding included in the project budget have been conservatively estimated to allow an adequate margin of error and ensure that sufficient funds are available to complete the schemes to the proper standards. The project will also undertake to ensure that the planning for schemes includes consideration of how the scheme will be maintained over its entire life and that better provision is made for such maintenance.

AGRICULTURE, IRRIGATION AND WATERSHED MANAGEMENT

A. Background

1. General

The Gadoon-Amazai project area is located west of Tarbela Lake between the elevations of 1400 and 7300 feet. The overall topography of the area is characterized by extreme ruggedness with slopes exceeding 50 to 60 percent. In the lower elevations, the valleys are broader and the slopes less severe. Evidence of excessive deforestation, overgrazing and indiscriminate terracing is common throughout the project area.

Meteorological data have not been collected within the project boundaries. There are two rainy periods; the winter rains generally start in November, last through approximately mid-April and represent slightly less than half the annual precipitation. The monsoon rains are less dependable and generally begin in late July or early August. The monsoon rains, as their name suggests, are more intense and infrequent and characterized by erratic rainfall distribution. Total annual precipitation for the area will vary from approximately 15 inches in the lower foothills of Gadoon, to slightly above 30 inches at higher elevations. The west and north slopes of the mountain have more rainfall, up to 40 inches on the highest ridge. Local inhabitants have reported snow accumulation above 6000 feet with occasional frost occuring in December through February and early March.

2. Soil Structure

The Gadoon-Amazai mountain was surveyed most intensively from the south. The west and north portions have have more gently sloping land, and better agricultural potential for any crop other than opium poppy. The south and southeast slopes near the ridge are the heartland of poppy cultivation, representing long generations of building a soil base and collecting good quality seed stock.

In the upper elevations the soils are chiefly made up of decomposed granite and are classified as sandy gravel. The soils are extremely shallow on the hillside with the exception of soils found at the base of small valleys. Throughout the upper area large granite boulders are exposed and occupy most of the land area. Gradually the soils change in compositions from granitic to a mixture of granite shale compositions at mid-elevation. In the lower elevations, soils are composed mostly of material derived from shale, and have a finer texture containing more silt. At the base of the lower hills, soils are deeper and well developed sandy loam. The lower hillsides are also characterized by shallow soils with large exposed shale areas. With the exception of isolated small areas in the lower foothills, the

soil moisture holding capacity is very low for all soils in the Gadoon region.

3. Vegetation

The vegetation at the extreme upper elevation is composed of chir pine and native grasses gradually decreasing in intensity between 6000 andd 6500 feet. Only a scattering of pine can be found below elevations of 6000 feet which is mostly confined to the north exposure hillsides. Throughout the pine belt, evidence of heavy pruning of tree limbs nearly to the top of the trees is clearly seen. Species composition varies with respect to exposure. Below the timber zone, the vegetation is composed principally of shrubs and grasses. An occasional Butea frondosa can be found throughout the mid and lower elevations. The principal trees and shrubs are Mallothus philippinensis, Acacia modeste, Berberis and Indigofera species. The scrub forest consists of Dodonaea viscosa, Adhatoda vasica and Gymnosporia royleana.

4. Agricultural Activities

Agricultural activities are concentrated in manmade terraces varying in size from less than one kanal (5400 square feet, making approximately one-eight of an acre) to two-to-three acres. Larger terraces are concentrated in the lower elevations. Terraces are developed over a period of years at great expense to the land owner. Initially the terraces are essentially non-productive due to the poor soil structure and lack of water holding capacity. Gradually the soils are improved with farm yard manure and crop residue. With years of continuous improvement older terraces have the potential of producing reasonable yields. Soil preparation is done by animals pulling a crudely made bullock plow. Shallow plowing is practiced because of the underlaying bedrock. Manual labor is also used in field preparation. Terraces are prepared prior to the coming of the rainy periods and are generally plowed twice prior to sowing. Farm yard manure and some inorganic fertilizer in the form of ammonium sulfate, diammonium phosphate or urea is used in the Gadoon area. It is estimated that less than one percent of the land can be irrigated, mostly concentrated in the upper elevations. Due to the rainfall pattern and the uncertainty of the monsoon rains, crops grown during the summer season are unlikely to yield their full potential. Farmers report that less than a 50 percent chance for a successful summer crop.

During the winter season the area is planted to wheat and poppy, with the latter nearly grown in pure monoculture at the upper elevations. Overall, it is estimated that 20 percent of the cultivated land is in poppy, a total of 6,000 acres in the project area. Near the bottom of the mountain, at elevations of 1,500 feet, little poppy remains, and wheat predominates. Both crops are sown during the month of November coinciding with the onset of the winter rains. Wheat fields are harvested in May or early June depending on the elevation. The fields are generally

thinly populated and yields are variable, but reported to be in the range of 450 to 550 kg per acre. The quantity of grain harvested is dependent upon the season's rainfall and the amount of fertilizer applied to the crop.

Poppy fields undergo more intensive care during the cropping season. Shortly after sowing and stand establishment, the fields are thinned to the desired density. Throughout the season the fields are kept weed free. Following petal fall the seed pods are lanced several times and the gum latex harvesting process is initiated and continues for 10 to 14 days. Once the poppy fields begin to dry down the individual plants are uprooted and stacked in a cone shape for further drying. The seed and pods are harvested later, keeping the plant stalks for cooking fuel. Gum latex yield will vary from 10 to 16 kg per acre depending on whether or not the plants were disease free, fertilized, and received adequate care and water during the growing season. Fields in Gadoon and Hazara Amazai examined during the harvest in May 1983 were in excellent condition, with full stalks and large pods and no evidence of disease at higher elevations. The 1983 year might have been an exceptional one, but farmers reported regularly producing 16 kg of gum latex per acre near the top of the mountain, above 4,500 feet.

During the months of June and July the field are prepared for the summer cropping season. In the Gadoon area, nearly all are sown to maize. Fields are overplanted and during the critical summer period thinned for fodder for the local animals. Summer cropping is chancy under the eratic monsoon rain pattern and, depending on water availability, maize yields are highly variable ranging from 300 kg to 1300 kg per acre. There are some minor crops grown in the area, mostly as small family vegetable plots. Occassional untended fruit trees of low quality are seen next to streams or irrigated channels. There is no commercial production of horticulture crops in the Gadoon area.

5. Livestock

The keeping of livestock is a subsistence activity, providing milk which is consumed or made into ghee, providing a small barter commodity for farm families. The typical pattern is for a family to keep a bullock, which joines with a second held by another family for plowing, a buffalo for milk and a few goats. Since the average land ownership for 90 percent of the population provides less than 1.5 acres of forage, few of the poorer families can feed their livestock on their own land. As a result there are many complex sharetending arrangements for the care of animals, and heavy use made of communal lands which form part of the highest elevations in the Gadoon area.

Unseasonal rains made the Gadoon area a green vegetation belt during May 1983, a time normally of dryness and forage shortage. During July and August, maize plants weeded from the summer planting sustain the larger livestock, along with grass stored from the previous fall. There is evidence of damage

caused by animals on the steep slopes, the result of food constraints during two or three months of the year. Forage shortages and local reports of forestry department action to discourage goat herds has tended to keep the goat population well below the inventory of large animals.

All animals observed were of local breeds, and calving of cows and buffalos after two or three years is common. No herd improvement practices are followed, and the advanced programs of the Animal Husbandry Department have yet to reach this area. There are very few sheep in Gadoon, caused some report by the presence of jackals which overpower sheep but cannot outrun the goats on steep mountain slopes. The few sheep which are kept, are "fat-tailed", a sub-continent variety which has proven its hardiness and ability to survive months of little or no food by metabolizing fat stored in its tail. The cost, as in many hardy species is an inefficient conversion of feed to weight gain. While many diseases are reported, with newcastles so prevalent that few chickens are evident during the spring of the year, most specialists argue that a lack of nutrients and sufficient food is the most plaguing constraint to increasing animal production in Gadoon.

There is no animal market in Gadoon. Excess goats are sold during the autumn months at the market in Topi. Villagers reported that no animals were slaughtered on the mountain. Investigations into the economics of animal production stalled on the complexities of the local systems for subsistence and barter exchange. Buffalo milk is used to produce ghee, which is a favored food oil in the area. Ghee is traded to merchants in each village in return for staples, even though the buffalo ghee sells for more than state-produced, commercial ghee. Large animals are kept in preference to goats since the management time and costs apparently are lower. Land owners may be willing to allow collection of fodder for buffalos, bullocks, and cows where they would not allow goats to graze. One of the early assignments for the agricultural economist in the Project Coordination Unit will be to trace the patterns, preferences, and possibilities of increased animal production in the project area.

6. Forestry

Legal forestry activities are limited to small plantations of pine planted and supervised by the Forestry Department. These reforestration efforts are overwhelmned by the gathering and often illegal cutting of firewood by local villagers. Earth satellite photography reveals a loss of more than 1,000 acres of forest above 5,000 feet in the last eight years, and residents report that within the last 15 years, forests extended five miles further down the mountain than today.

The Forestry Department has a special program by which large land owners assign 20 acres of land to the care of the deparment, which will reforest with chir pine and manage and protect the

plantings with a locally-hired forest guard. Firewood species are not currently being planted within the project area. Range rehabilitation, watershed management and soil erosion control programs are non-existent in Gadoon-Amazai.

7. Irrigation

There are no large irrigation schemes, and no tubewells providing irrigation in the Gadoon Amazai project area. The 453 acres presently irrigated in Gadoon are all provided with locally-constructed gravity flow systems, nearly all at high elevations near the beginning of the two principal watersheds in the southern and eastern portion of the mountain. In the mid-1970's, the IRDP program assisted local villagers in Utla and in Trait with the construction of two check dams, and nearly six miles of channel. These systems are still in operation, maintained by the users, even though breaches in the channels occur each year, and the check dams have both been damaged by boulders dislodged by monsoon torrents.

While irrigation can guarantee a poppy crop, in good years yields are not higher than rainfed. Cropping patterns are nearly identical for rainfed and irrigated land, but the summer yields under irrigation are much more certain. Villagers at the top of the mountain have had no economic incentive to use irrigated land for alternative cash crops, and do not yet perceive the value which irrigation may bring. In the far more level land near the base of the mountain, irrigation is highly prized, and requests for assistance with the construction of tubewells are common. On the north and west faces of the Mahaban ridge, in Swat Amazai, rainfall and more gradual slopes make irrigation more feasible, and there are many more acres which have two-crop-a-year potential, some of which has been devoted to experimental cash cropping in recent years.

Small terraces scattered among acres of forage land at higher elevations makes irrigation costly per acre. While there are abundant non-cultivated slopes for the irrigation channel (reducing farmer anxiety and antagonism about cultivated land loss), the channels must be proportionately much longer. The channel constructed in 1975 at the headwaters of the Sherai watershed, is three miles in length, providing 60 owners/sharecroppers with irrigation to 30-40 acres.

Villagers request support for additional irrigation, although bulldozers to expand their existing terraces rank first in their concept of how to improve agricultural production. A significant amount of community involvement will be necessary to obtain the agreements to add to the acreage now under irrigation, determining who will and will not have access to and provide the land for the water channels.

8. Institutional Support to Agriculture

a. Credit

Credit is available to poppy growers from middlemen who make cash advances after the crop has been planted, some report up to 50-75 percent of the expected value of the crop. Understandably, there is little empirical evidence on which to judge the total amount of credit distributed through this channel. Middlemen similarily operate in fruits and vegetables, for example, and extend credit while the crop is still in the field. Farmers traditionally prefer this credit system. It is prompt, in cash, there are no signatures, delays or informal payments. In the absence of an opium crop, middlemen are not likely to extend credit for subsistence wheat and maize production, and the problems of acquiring fertilizer and high-yielding seeds for ex-poppy farmers remains critical. Middlemen will purchase new cash crops once established and proven. During the early years of transition, little credit can be expected to flow through informal channels in Gadoon.

Credit should be available through the four commercial bank branches in Gandaf, Kabgani and Bada, or the cooperatives required by law to be established within each union council. Five banks within NWFP have agricultural loan targets and programs. If they do not meet their distribution/allocation goals, they must deposit the shortfall interest-free in the State Bank of Pakistan (SBP). When they do make interest-free loans under the agricultural credit program, the SBP pays them interest at 11 percent per annum. The requirements a farmer must satisfy before receiving sucah a loan, up to Rs 6,000, call for a certificate from a responsible person, such as the union council chairman, stating that the proposed borrower is a grower of good reputation, with a second letter of guarantee from someone pledging known assets. The grower can repay the loan between six and nine months after it is drawn. When approved, vouchers are issued by the lending agency for fertilizer and other agricultural inputs, at established government prices, which may be higher than commercial rates. In May, 1983, urea in Topi was selling commercially for 12 percent less than the government price. Some farmers sell the vouchers at a discount to obtain cash. As in other credit programs directed at farmers, the smallest and least educated have the most difficulty completing the procedures through the formal approval process.

Discussions with the branches of the Habib bank at Kabgani and Bada revealed that the sub-offices were established to capture the excess money of Gadoon residents who were working overseas, or in Karachi and Lahore. There are 755 savings account holders in Kabgani, a branch which was established in 1974, with $2,000,000 on deposit. The branch made one loan in 1975, and recovered principal but not interest. No agricultural loans have been extended. The Bada branch, opened in 1980, has 400 account holders with $132,000 on deposit, and extended one loan in 1980 for the purchase of a truck. The loan with interest

was returned in 1983. There are no agricultural loans extended by the Bada branch. Asked why there is no agricultural credit program, both managers said they could not lend for poppy, and there was no other cash crop in the area.

Development loans bearing 11 percent interest are available for entrepreneurs who wish to construct flour mills or buy processing machinery. Longer-term agricultural loans at 11 percent are also available, that is shown in the brochures describing the programs sponsored by commercial banks, for the purchase of sheep, goats, cattle and forestry inputs.

Cooperative societies may also receive credit, similar to that provided by the agricultural credit program. Although only five percent of all institutional credit is extended through the cooperative system, some societies have been very successful in unexpected locations. Only ten individuals are required for the formation of a credit cooperative, but small societies are now being officially discouraged in favor of multipurpose cooperatives attached to union councils. There are four multipurpose cooperatives organized in Gadoon with paid-up capital. Three are paper organizations which have conducted no business to date. The fourth, in Gandaf (unfortunately, and thus not available for interview by the design team), is reported to have 300 members with a share capital of $ 1,200 and working capital of $5,000. During the past agricultural year, the first in which the Gandaf society received loans, the cooperative was provided approximately $ 4,000 in credit for 2,000 bags of fertilizer and 600 bags of cement. In addition, the cooperative society was provided with a subsidy for a centrifugal pump.

While the cooperative societies present an attractive prospect for farmer collective benefits, the program can easily be captured by the few who need it least, and used to increase their own economic leverage. At present, in Gadoon, cooperatives do not represent institutions which can provide significant assistance to poppy farmers seeking to make a forced march into alternative subsistence and cash crops.

b. Marketing

The only organized market, bringing together middlemen and buyers in the Gadoon area, is for gum opium, said to flourish after each harvest season in Gandaf. There are locally-traded and produced items in each village, and a smattering of small stores which have followed the opening of the Topi to Utla road. In Utla, new godowns reflect the beginning of construction of the Utla to Nara road, and the recent infusion of cash into the local economy. But most inputs are purchased individually, fertilizer in bags as farmers make the trip to Topi. Products, mainly wood or animals are marketed in this same manner, the smaller animals taken by each farmer on one of the four buses a day which make the round trip up the mountain, the larger ones driven to the weekly animal markets. While there must be internal marketing and product exchange, and some

commodities must come from the mountain to be sold in the valley, opium dominates the economic system to the exclusion of any other organized buyer or user system, and trade is conducted individually, based upon income earned from the area's one cash crop.

B. The Strategy for Agricultural Development

One solution proposed for the project area is to move population off the mountain in employment which provides more than unskilled labor income, and to increase off-farm job opportunities. A second is to exploit the agricultural resource base to obtain maximum income and employment for those residents who remain in the area. The particular strategy invoked is based upon an appreciation of the few available options for the introduction of new cash crops on either cultivated or forage/forestry land, and the absence of any single substitute crop which can move into the rotation cycle and equal the returns from opium. After exploring the possibilities and examining the delivery capacity of project executing agencies, the following two programs have been devised.

Cultivated Land

- quickly upgrade the winter and summer grain crop technology, with improved seed stock and input useage to achieve double or tripple yields on rainfed land. In practice this means winter wheat yields of 1000 kg per acre, and a 50 percent improvement in summer maize, other foodgrains or oilseeds. The technology, extension knowledge, inputs and experience to do this job are available within Pakistan.

- carefully and thoroughly explore the possibilities for improved cash crops combining a search for proven high-value output under irrigation with identification of new varieties and possibilities on rainfed land. This will call for the establishment of five operational field stations within the project, and the introduction of some technology not presently in commercial usage in Pakistan.

- rapidly bring under irrigation an additional 375 acres. Use this land to multiply the benefits of high-value innovations established at the field stations. This is a doable task within existing gravity-flow irrigation techniques in use in the NWFP.

Forage/Forest Land

- bring the non-cultivable land into cash crop production by increasing forage for and controlling grazing of high-growth, improved breed animals, and by cropping rapid-growth firewood species. This will call for the attention of line departments to animal production systems and quick-harvest forests which are not part of the mainstream of present activities, but official support and strong interest in the program have been given by both the Planning and Development Department, and the concerned line agencies.

Both the cultivated and the forest/forage programs will be supported by activating the many existing agricultural institutions with ongoing programs in long and short term credit, input provisions, marketing arrangements and technology transfer. Utilizing the agricultural marketing fund, operational in the third year of the project when cash cropping alternatives have been proven, financial incentives will be used to encourage producers and sellers to draw upon services which should be available to area residents. The project will encourage government, or parastatal organizations to bring their service windows to Gadoon. It will also link production possibilities to the commercial marketing systems presently in operation in the irrigated valley below.

The components of the integrated agricultural program are:

- agriculture development on cultivated land
- irrigation, both through the Irrigation department and union councils
- watershed management, comprising forestry, range management and animal production
- agricultural marketing

These are discussed individually below.

C. The Development of Agriculture on Cultivated Land

1. The Field Crop Track

Almost all of the land in the Gadoon-Amazai area will be planted to wheat during the winter season if poppy cultivation ceases. It is the basic subsistence staple of the population, the knowledge of how to grow wheat exists in every community. The project will assist the agricultural extension arm of the Department of Agriculture to double wheat yields through improved seed, fertilizer and cultural techniques.

The extension agents will have to grow Pak 81 or other improved-variety seed, on farmer's land in demonstration plots,

and through contract farmers arrangements. The seed stock is available in sufficient quantities to plant 200 acres in the first year. From this base, the project will expand seed multiplication to be able to provide seed to 15,000 acres over five years, with a goal of bringing 50 percent of the total cultivated land within the project to an average wheat yield of 1000 kg per acre. Supplies and equipment for the extension agents and their field workers, and funds to purchase seed, fertilizer and transportation have been included in the budget of $88,200 for this activity.

Because some farmers depend upon poppy for cash income, a cession of poppy cultivation before any alternative arrangements have been made, may cause serious repercussions, either threatening the subsistence of rural families, or halting vigorous enforcement of the poppy ban, or both. A special fund has been established within the project which would provide for a one-time subsidy on the costs of improved seed, and fertilizer for the 6,000 acres presently planted in poppy. This fund can provide farmers with the ability to plant a subsistence crop when no provisions had been made in advance--should his poppy cultivation be stopped. However, the administrative difficulties such a program poses can create a nightmare in insuring the correct farmers receive the fertilizer and seeds for the correct crops. In addition, a subsidy in one year can easily become an expected/demanded contribution for each year in the future. In a normal circumstance, a subsidy for agricultural production would not be considered, as subsidies delay the readjustment period necessary when the land resources will not carry the population. But in the special circumstances of the Gadoon project, such a fund provides a safety net against the loss of one cropping season. For the 6,000 acres, a package of urea, DAP and seed valued at $36.30 per acre, including transportation, has been reserved in a contingency fund totaling $236,200, to be reprogrammed for other agricultural activities should it not be necessary to support unplanned wheat cultivation by ex-poppy farmers.

While the majority of the agricultural program will be in the Gadoon Hazara Amazai zones, the well-developed Training and Visitation Program (T and V) which has been introduced into Swat Amazai will be supported by the project, with a modest budget to purchase demonstration inputs and supplies for 300 acres over the life of the project. The Swat special project, in operation for four years, funded exclusively by the Department of Agriculture, has established that an effective T and V program can be conducted by the staff of the agricultural extension service, and that wheat yields, as well as those of other field crops, can be significantly increased. Yields from the crop demonstration on cooperating farmer fields at the end of the 1983 season showed an average of 1,300 kg per acre for the demonstration plots against 800 kg per acre for farmer plots, up from an average of approximately 500 kg per acre before the project began. These yield increases suggest that the target figures for the overall project area of 1000 kg per acre, given the higher level of

resources to committed to the task, are realistic and potentially obtainable.

a. Implementing the Field Crop Track

i. Winter Crops

There are five agricultural field assistants (FAs) assigned to five union councils in Gadoon and Hazara Amazai under the direction of an agricultural officer stationed at Topi. Four of the positions are filled. The agricultural officer post is presently vacant, but should be staffed in the next few weeks. There is an active T and V program designed for Mardan district within the SCARP (Salinity Control and Rehabilitation Program), funded by the World Bank. However, salinity problems are confined to the major irrigation systems, and no funding under this program is available for Gadoon. The training materials, subject matter specialities--insofar as as they apply—and instructors are available and ready to work with the project.

To date, there has been little activity in agricultural extension in Gadoon. No demonstration plots were planted during the 1983 season. Such less-than-enthusiastic performance by the extension system is understandable in an area which already grows a well-cultivated cash crop. Changes are in the wind, and the agricultural staff is ready to begin the 1983-84 agricultural year with a fresh start, and a major emphasis on improved wheat varieties and fertilizer.

The T and V program operational in the NWFP assigns 300-350 farm families to each field assistant, a grade 5 officer with 24 months of technical training after high school graduation. Ten percent of the families will be classified as contact farmers, and divided into eight groups according to geographic area and the proximity to the residence of the field assistant. Four groups will be visited each week, such that all contact farmers will be seen by the FA at least once every two weeks. The FA has two days in at his office every two weeks, for further training and report writing.

Each FA has a crop calendar that outlines what is to be done every two weeks during the cropping season. This coincides with his planned bi-weekly visit with the contact farmers. The FA also has a manual of field operations, and his task is to relate that information to the needs and understanding of the farmer. The agricultural officer stationed at Topi is in charge of the field assistants, and will visit them at least once a week to check on progress.

A general meeting with all FA's is conducted twice per month for training and for exchange of cropping information. Farmers meetings are scheduled periodically with FA subject matter specialist, the AO and supervising Extra Assistant Director Agriculture (EADA) based in Swabi. The EADA administers the

program and makes the yearly agricultural plans for demonstration plots with the aid of the AO and FAs.

The T and V system in place in Swat Amazai includes demonstration plots with new varieties, new crops, different cropping patterns and rotations, seed multiplication and fruit tree planting. During the current agricultural year more than 100 demonstration plots were established with 40 in the upper elevations of Amazai. The extension services maintains an office open seven days per week, and farmers are encouraged to visit and discuss their agricultural problems. Each FA has a small office and storage center in his village, where supplies are kept and literature distributed.

There are modifications which could improve the efficiency of the present T and V systems. These include the use of communications techniques supported by the project which will multiply and reinforce the message provided by the extension agents, as well as the mobilization of community/producer groups to make agricultural changes through project-supplied incentives. But the basic structure of the program is judged to be an effective mechanism for reaching large numbers of farmers quickly. T and V has the support and approval of the leadership of the department of Agriculture. The project will breathe life into the program in Gadoon, providing support in transportation and inputs that give the FAs and their field workers a way to reach the farmers, and something to provide to contact farmers. The project will fund the operational costs of training, travel for the seminars, allowances for the government staff, all within established government regulations, which provide incentives for travel to the mountain, and travel outside the home village. The project will also provide an additional five field workers who will assist the FAs, making in all 15 extension staff (once indoctrinated and integrated into the system) living in the area, who will work initially on introducing high-yielding wheat into Gadoon.

In the first year, beginning in September 1983, a technical assistance advisor and a local Pakistani agricultural specialist will work directly with the program, to insure that it is activated, and that constraints within the system do not prevent the successful initiation of 100 acres of demonstration plots in the first year. Since Pak 81 certified seed is available only in small quantities, and not at all on the commercial market, the project must multiply its own seed for further distribution in following years. Thus the contact farmers will have a ready market for the improved output--the project itself--unless neighbors elect to buy seed for their own fields.

ii. Summer Crops

The wheat campaign will start the field crop program, and in its implementation the rust will be removed from the operations of the agricultural extension system. By June, the field staff will be ready for the summer planting season,

with the target of increasing by 50 percent the value of the crop. Crop selection is not as obvious as in the winter. Water quantity and timing are the constraints, and a multi-purpose maize crop may never mature, but still provide animal fodder. Attractive prices are quoted for oilseeds, such as sunflower, but the sole buyer, the Ghee Corporation, may or may not actually pay for its purchase at the established price. Millet will do better under limited rainfall, but is not eaten in the NWFP, and thus has no established market. If they do not mature, soybeans can be grown and fed to animals, but the water requirements are critical during certain periods of growth. In short, there is much to be learned before a summer campaign can be launched that is more than the introduction of short-maturity, improved maize varieties with recommended agronomic practices and water conservation measures. The result should be a 50 percent improvement in yields.

The project will likely elect to support a selection of demonstration plots through contact farmers during the summer, and pray for rain. By this time, the T and V system should be in full swing, and the farmers will have seen the results of the wheat trials. Those who think ahead will seek out the FA's office, attempting to become a contact farmer or a seed-multiplying contract growing during the coming winter season.

After the first year of field crop trials, and the regeneration of the extension system, the expatriate technical assistance specialist will be shifted, or changed, to focus on the range management component of the project, with the agricultural portion assisted by a local hire consultant. The knowledge base to manage a T and V program is contained within Pakistan. Only the fast-start suggests additional assistance in the first year.

2. The Alternative Cash-Crop Track

a. Selecting Field Stations

The transition from poppy to alternatives must include the introduction of new high-value agricultural production. Some of the possibilities are risky, requiring more continual attention than can be expected of a farmer, experimental, and requiring inputs which are not widely available. In addition, there is a need to work under both rainfed and irrigated conditions to determine the best possibilities for high-value, labor-intensive production.

For these reasons, the field testing of cash-crop alternatives is not appropriate for the farmer's own land. The establishment of five two-acre field stations will be a central feature of the second phase of the agricultural program. These two-acre stations are likely to be in scattered plots reflecting the actual conditions in Gadoon. At least some portion of each station should be irrigated. Land leasing, in contrast to purchase, is relatively inexpensive, and field workers will be

hired who actually live in the immediate area of the stations, to provide the caretaking necessary for the crops and equipment. Farmer owners of the land (or sharecroppers) will be first candidates to serve on the stations, learning the new techniques that will be applicable when the stations return to their owners at the end of the project.

b. Testing the Alternatives

Every agriculturalist has a favorite high-yielding cash-crop solution which will serve to replace the opium poppy. These have, in the past, included mushroom, spices (saffron), essential oils, and other exotic crops. This chimera has often resulted in overlocking the less glamorous but more likely crops which the area could produce, within a reasonable timeframe, given the level of agricultural knowledge prevailing. The operating philosophy is that the closer the techniques and crops to those presently in use, the more likely farmers will be able to implement the recommendations of the field stations.

The stations would experiment with other varieties of wheat and maize, not in a breeding program but as a test of the adaptability of varieties to the conditions of Gadoon. There are no immediate candidates for a rainfed winter crop that could replace wheat in the annual rotation. But within a farming system, animal production may prove to be more valuable than field crops, and animal fodder may be established as a viable alternative to wheat, in conjunction with a feeding program which carries animals through the months of food scarcity. The field stations will work closely with the range management program of the project, providing tests of animal feed to complement the forage tests on grazing land.

A good portion of the field stations' efforts will be devoted to the potential benefits of irrigation. While this will affect only those with access to water, some 875 acres by the end of the project in Gadoon, the increase in income and labor demands could be very high. Irrigation allows fruit and nut tree plantation, particularly along the channels. Although a favorite practice is to intercrop among young trees, there are problems as the trees reach maturity, and the farmer attempts to follow the appropriate agronomic practices for each crop, since irrigation requirements of permanent and annual crops often conflict. Crown-rot is a common result of overwatering fruit trees because of the requirements of the field crop.

Under irrigation, and with the present knowledge base, the field stations would examine the prospects of producing horticulture crops for local markets: onions, garlic, okra, melons, squash, egg plant are but a few, all timed to come to maturity after the peak season is concluded in the valley. The transportation, handling, and marketing problems for fresh produce are even more difficult than the agricultural demands, and the first attempts to solve these problems should appropriately be at project expense. Tree crops will be started

early divided between two locations, with the following varieties suggested for higher elevations:

apple:	Granny Smith, Summer Red, Red Delicious and Yellow Delicious
pear:	Bartlett, Kaiser, Conference
persimmon:	Japanese Seedless Kaki
walnut:	Hartley, Payne, Tehema, Chico, Franquette
lychee:	Brewster, Peerless, Bengal, Groff

and in the lower elevations:

almonds:	Jordanolo, Neplus Ultra, Nonpareil, Mission
plum:	Queen Rosa, Frontier, Laroda
apricot:	Nugget, Cafona, Carino

Most stock is available from the Mingora Research Station, and some varieties are produced at nurseries of the Agricultural Department in Mardan and Swabi.

A second thrust of the irrigated field trials will be for the production of certified vegetable seed, to serve the potentially very large market in the Indus River valley. The higher elevations, with their isolated fields, are ideal for seed production, if the appropriate techniques can be extended and if a market is insured. The project will investigate cooperation with major private seed companies in Pakistan, to provide special extension advice and seed stock for the initial trials. Should a larger program be indicated by the success of work at the field stations, the project will insure, through the marketing component, that in the transition period before permanent ties are made to commercial production and sales, Gadoon farmers are provided with an appropriate return for their investment in certified seed production.

The field stations would be equipped with meterological equipment, to reduce over time the ignorance of the actual rainfall patterns, quantities, and temperatures. This information would be collected and assembled by the FAs with daily recordings and monthly summaries. The stations would also serve as training facilities for cooperating farmers, in conjunction with the demonstration plots of the field crop track. The same agricultural officer would be in charge of both programs in any one area, so that coordination of activities and mutual cooperation should be insured.

c. Implementing the Alternative Cash-Crop Track

Staffing for this program is to be provided under contract to the project, and assigned to the Department of Agriculture. One agricultural officer equivalent, five field assistant equivalents and ten field workers are budgeted for a four-year program. Insofar as the department of Agriculture can staff any of these positions, the project would be able to support field allowances. A vehicle with driver and operating expenses is provided for this program as part of a pool of technical support vehicles based at the project office in Topi.

Since this program will not be launched until the fall of 1984, there will be sufficient time for the existing agricultural staff to refine the work plan, pick the locations for the field stations, and prepare for the advent of new staff, with training and orientation. The EADA will control the overall agricultural initiatives for the Department of Agriculture, including the work of the AO, who is contract hired.

2. Costs of the Agriculture Program on Cultivated Land

Table 21-37, Annex 21 presents the breakout of the costs of the agricultural program, divided into the field crop track and the alternative cash crop track, including personnel, transportation, equipment, supplies and construction. The program totals approximately 900,000 dollars from the project.

Reasonable expectations call for 15,000 acres to be converted to high-yielding wheat and improved maize or other summer crops by the end of the project, satisfying a portion of the income lost from poppy cultivation. High-value crops will be tested and extended through the field stations, with a particular emphasis on the 875 acres of land in Gadoon and Hazara Amazai which will be under irrigation at project completion.

The economic impact of agricultural activities is highly dependent upon assumptions related both to the present and the to-be-achieved status of the area's farmers. The Economic Analysis combines these judgments into a prediction that the agricultural program, as defined above, will make up 95 percent of the shortfall in total area income from a loss of poppy, based upon 1983 price and yield assumptions for poppy and the expected outcomes which have been described.

3. Technical Considerations Relating to the Cultivated Agricultural Program

The proposed program moves from the known to the unknown with a time-phased approach. During the first year the emphasis is on demonstrations of improved wheat technology well known in Pakistan. The project will provide the impetus to break the constraints which have paralyzed the Gadoon area extension program to date, and use the first season to: a) multiply high-yielding wheat for future distribution to area farmers, and b)

oil the workings of the T and V extension system, so it can handle a ten-fold increase in impact during the second year. The summer crop will present more of a challenge, since the choice of three alternatives may depend upon an individual farmer's land holding, animal feed requirements, and tolerance for risk. However, one of three cropping alternatives--maize, soybean or sunflower--will satisfy most requirements until a better understanding is gained of the agronomic potential of the area during the summer season.

In following years, the extension service will continue its push to reach 15,000 acres of high-yielding wheat and improved summer crops. Insofar as the field stations prove new rotations, crops, or cultural practices, the extension agents will provide this information to the farmers. Since both sets of field workers (field crop and cash alternatives) report to the same professional agricultural officer, coordination problems should be minimized.

Field stations are being established because the technology needed for alternative cash crops has not been proven to work under the ecological systems found on the mountain. The stations are the answer to a lack of knowledge, both what will grow and what can be sold at profit. The agronomist-horticulturist will work closely with the agricultural economist assigned to the technical assistance team, to insure that all tested options at the field stations are economically viable. Once the economist and the agriculturalist agree on a crop, rotation or farming system, the agricultural marketing specialist on the TA team will take steps to insure a market during the transition period, before quantities are sufficient to attract commercial traders. This will be done before the new ideas are extended to farmer's fields, to insure non-repetition of the "red bean" promotion among the poppy-growing hill tribes in Thailand in the early 1970s. Except for the lack of a market, the introduction of kidney beans was an overwhelming agronomic success. To the extent possible, this project will prevent such a failure by molding the analysis of production, costs and prices, and marketing arrangements in the technical assistance team assigned to the Project Director's office.

The program proposed has rejected other alternatives, particularly those which search for a single high-value crop to substitute for opium. In spite of years of effort, no such solution has emerged from the research laboratories and been transferred to farmers' fields. The design team rejected committing funds for the search, as a misdirection of the project's limited technical capacity in agriculture. Instead the agricultural program will focus on the known, and move carefully into those new crops and systems which are appropriate for the area and within the capacity of the farmers to learn quickly.

This project can expect to encounter major difficulties, most of them related to the requirement for enforcement and thus the need for very rapid transfer of new agricultural technology

to farmers who would not be particularly interested--at least the poppy growers--in other circumstances. The movement to 15,000 acres of 1000 kg wheat is a forced march that will not tolerate delays. If the program does not start at the beginning of the September 1983, land preparation season, a full year will be lost, since the improved wheat varieties are not available in large quantities and must be multiplied in the first year to make a significant contribution during the second. Beginning with a non-functioning extension system ("invisible demonstration plots" said one member of the USAID staff), the project must reach cruising speed within six months. It is a doable task with a flexible budget, willing Department of Agriculture leadership and continual identification and breaking of constraints by the project director and the technical assistance staff assigned to the agriculture program. But it predictably will not be smooth. Some of the field assistants will not appreciate the movement from little to much work and problems of allowances, payments, lodging, training, supplies will simply have to be overcome in an other than business-as-usual manner.

The second major difficulty which the project will encounter relates to the fund for input subsidy to ex-poppy farmers. In the best of all possible worlds, this fund would not be used but rather converted to agricultural assistance in both summer and winter grain and cash crops. However, if the enforcement actions, not under the control of the project, move into an area at the beginning of a planting season and prevent poppy cultivation, there will be a requirement to help with cash inputs through the first growing season. The distribution and administration of fertilizer for thousands of acres to insure that the farmers who were growing poppy now grow wheat with free fertilizer is a non-enviable task. Union councils and local leadership will have to be involved as the line agencies, even the field assistants, will not know the intended recipients. On the top of the mountain it can be assumed that all farmers grow poppy and simply provide fertilizer for all wheat fields the first year of enforcement, should that be required. But in the lower elevations, a gift of fertilizer to an ex-poppy grower who is a holdout among the 85 percent who already grow wheat will not be easily explained or controlled.

The desired solution is an enforcement schedule which allows the introduction of high-yielding varieties over two years, perhaps three years, so that rather than a mass changeover, the technology and requirment for special inputs will have time to lodge in the area. But GAADP is a special project, and if the enforcement requirements call for a one-time subsidy of agricultural inputs for the wheat crop, it will be available.

D. Irrigation

1. The Proposed Intervention

Although irrigation could be listed as infrastructure construction, it will significantly add to the cash-crop potential of the project area for increased agricultural production on cultivated land. Irrigation was requested by union councillors and villagers during the design visits, and is seen by the government leadership as a reasonable substitute for the demand that terraced land be increased by the project.

In the major watershed in Gadoon called Sherai, several streams join at a location called Hisar Wand at approximately 4,500 feet elevation near the village of Utla, and a large stream is formed. As the Sherai river descends into the valley, many other small tributaries merge. During May 1983, in the upper reaches of the Sherai river, approximately 15 cusecs of water were flowing on the surface. This is sufficient, if available all year, to irrigate those lands on both sides of the stream, perhaps 20 percent of the cultivated land within the upper watershed. In these areas construction of diversion structures and distributon channels will provide what is necessary to irrigate the available land.

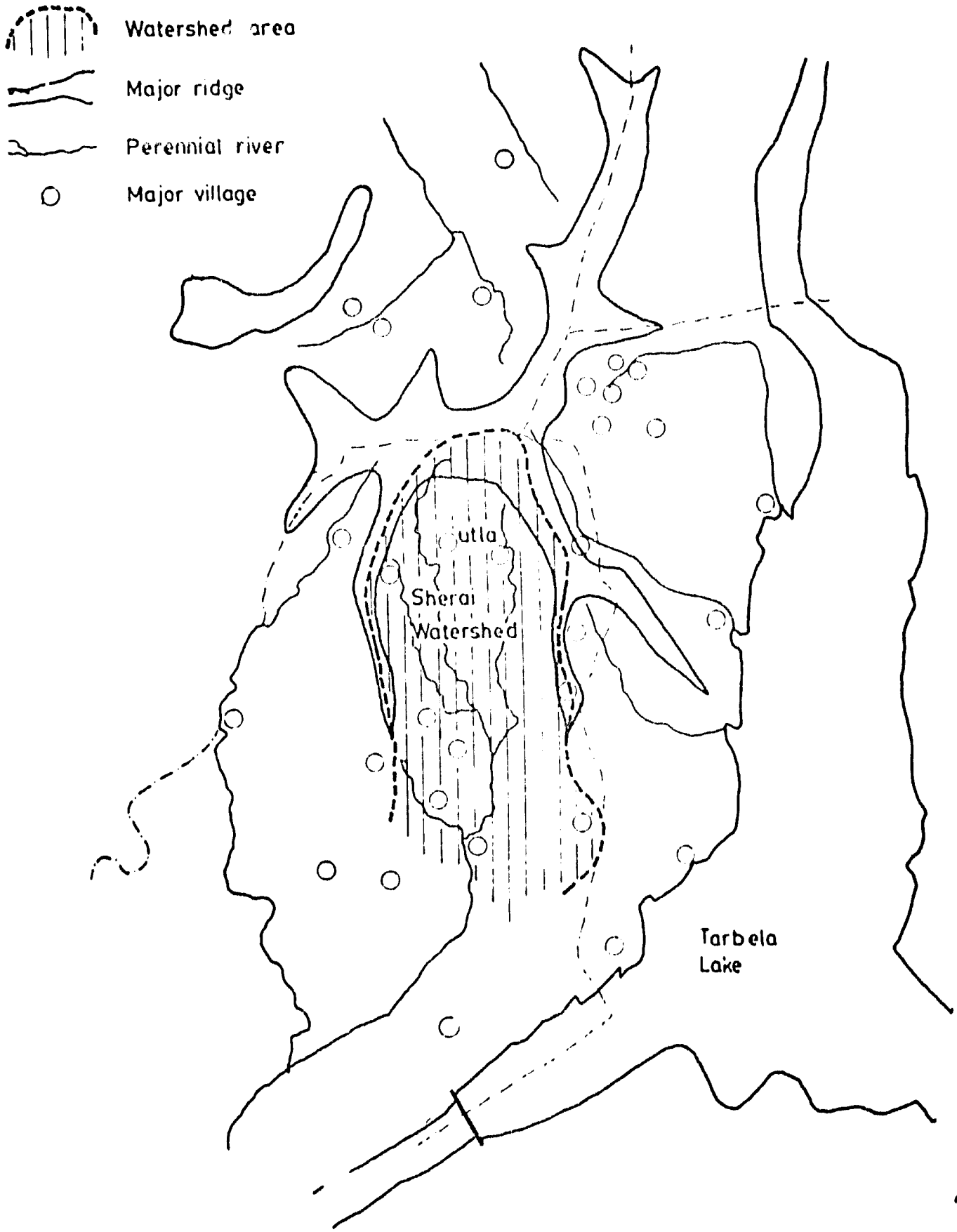
The silt-carrying capacity of a river is directly proportional to its velocity. In the upper reaches of the Sherai river, the valley is narrow and the slopes very steep, with resulting high velocities and high water levels. In the lower reaches, below 3,000 feet, the slope decreases and the valley broadens resulting in reduced velocities and low water levels. As the water profile drops, silt deposit significantly increases--so much so that eventually the water begins to flow underground.

Tapping the ground water and bringing it to the surface for distribution is the required solution for an irrigation system at lower elevations on the Sherai river. The answers are cut-up walls or curtains which are constructed on impervious foundations, 10-25 feet below the river bed. These walls tap all the water flowing underground and raise it to the surface from where it can be distributed into properly designed watercourses. The surplus water is allowed to flow downstream and tapped again through a curtain at some appropiate place.

For the irrigation systems to be supported by the project, the upper third of the mountain will require only diversion structures with channels lined in some places with concrete. In the lower two-thirds of the mountain, cut-up curtains will be required. The exact number of diversions and curtains and their location must await a detailed ground-water survey scheduled for Phase I of the project.

GADOON AMAZAI AREA DEVELOPMENT PROJECT

Sherai Watershed



2. Phase I Activities

a. Hydrology Survey

The project will support a stream flow hydrological survey, to be conducted by the Surface Water Hydrology section of WAPDA. This section reports that with transportation assistance, they could complete a survey for approximately $15,000 for the Sherai and Trait watershed areas. The results of the survey should tell the stream flow changes in season water level and the depth of the water base. This survey will be funded by the project coordination unit, from the budget reserved for project support.

b. Ground Water Curtain and Diversion Structure Placement

During Phase I, the services of a ground water geologist will be acquired for a one-month assignment working with the Irrigation Department office in Swabi. This specialist, having the data from the hydrology survey in hand, will help determine the optimal placement of the curtains and diversion structures. Funding will be provided under the short-term category set aside for technical assistance, or the services of an expert assigned to the Tribal Areas Development Project might be borrowed for a short period of time.

c. Designing and Charting the Distribution Channels

The Irrigation Department, in conjunction with the engineers assigned to the Department of Local Government, will lay out the channels based upon the position and expected flow from each diversion or curtain to be installed. These channels will be clearly marked so that landowners will know the proposed distribution path.

d. Obtaining Local Council Agreement to the Plans

Although irrigation is a desired good in general, decisions to proceed with construction will depend upon the agreement of those particular owners who will and will not benefit. Because of the complicated set of intra-community relationships, the union council must have the time to approach each owner of land which the channel will cross, each field that it will or will not irrigate. Before irrigation water can cross one owner's land and pass to a second, the upper water user's permission must be obtained. The Assistant Commissioner has reported that his office will directly intercede in any irrigation distribution squabble which the union council cannot resolve. But time must be allowed for this process to reach conclusion. The project itself will not become directly involved in determining water allocations along the distribution channels.

3. Phase II Activities

When all four Phase I activities have been completed, construction of the engineered structures on the major streams and their distribution channels can be started. Based upon previous checkdams and concrete-lined channels constructed under the IRDP program in 1975-76, costs have been estimated at $2,000 per irrigated acre, with a total budget of $750,000 for construction, divided between the department of Irrigation (for diversions and curtains), of $450,000 and $300,000 slated for channel construction by union councils. These funds should irrigate an additional 375 acres.

Of the new land to be irrigated, 250 acres will be in the Sherai watershed, in which the majority of the Gadoon population lives. The remaining 125 acres will be in the Trait watershed, flowing into Tarbela lake to the east. The estimated budget, by year, for the Phase II construction is shown in Table 21-45, Annex 21.

4. Implementation Arrangements

The diversions and curtains will be designed by the Irrigation Department, and either constructed by the Department or contracted to private firms. The capacity to do this work is well developed within the NWFP. Designs will be reviewed and construction monitored by the Engineering and Energy Office of USAID who have had overall engineering responsibility for this component in support of the project director.

The distribution channels will be designed by the three additional engineers hired under contract and assigned to work with union councils under the Local Government Department. The construction will be undertaken by the union councils in a manner similar to all other union council projects.

The Irrigation Department engineer stationed at Swabi is enthusiastic about the project and visited the area in the company of the USAID water resources specialist. By the end of Phase I, the details should be available and plans laid for construction activity to begin early in Phase II. Financing for the irrigation component will pass to the project director, who will in turn pass it to the Irrigation Department for its portion of the work and to the Local Government Department for further transmission to the appropriate union councils.

5. Technical Considerations Within the Irrigation System

There is little difficulty with the level of complexity for this component. All techniques to be used are well known to the engineers who will be responsible for design and implementation. The technical difficulties arise when non-engineers elect to implement diversion structures and distribution channels. The IRDP project initiated in 1975 was constructed with the crest of the check dam above the surface of

the river bed. In the monsoon torrents, large boulders washed down the mountain and damaged the structure. A second curtain is presently under construction perhaps from private funds, and suffers from the same design limitation. The channels of the IRDP water distribution system have been breached in many places not the result of poor union council workmanship, but insufficient cement and improper placement.

With the technical support of the Engineering and Energy Office of USAID, and the field supervision of the special cadre of engineers to be placed within the Local Government Department for this purpose, those past technical limitations will be resolved.

Several sources suggested the construction of a rather large dam on the Sherai river at some point in the lower elevation. Field inspection by a water resources engineer dismissed this request as technically infeasible and monetarily inappropriate for the resources available to the project.

Phase II depends upon the information to be delivered in Phase I concerning water flows, levels, and placement of diversions and curtains. It also depends upon agreement by the local union councils that all local problems have been successfully resolved. Until Phase I activities are completed--whatever the date--Phase II construction will not commence. Should a particular local council be unable to come to agreement on the placement of channels and the sharing of water resources the project will select other sites, for many more exist within the project area than have been surveyed to date.

E. Watershed Management

1. An Overview of the Program

The agricultural program will strive to obtain the maximum from the cultivated land in the project area. The watershed management intervention will attempt to do the same for the 80 percent of the land which is not suitable for cultivation. Extracting forests, rocks and non-useable acreage, within Gadoon there are approximately 16,000 cultivated acres, and 47,000 acres of forage, fodder and firewood. The project will attempt to double the income received from these steep and rocky hillsides.

The watershed can produce forage/fodder for animals, and shrubs and trees for firewood. This allows two project interventions, upgrading of the range and firewood species, and improvement in animal breeds, care and health. Since there is no line department in Pakistan which has responsibility for a watershed, the programs are the responsibility of the Forestry Department, the Animal Husbandry Department and an effort by the two in concert. The proposed activities are described below.

2. Firewood Plantation Program

a. Proposed Program

Under the auspices of the Forestry Department, the project will fund firewood plantations in the vicinity of the range management stations described below. These firewood production units would be planted, either from seed or seedling, with fast growing species, and be protected from grazing, wood cutting and the illicit firewood trade. The project is funded to establish and manage five 25-acre production units of mixed firewood species by the end of the second year, adding an additional 125 acres each year through the fifth year.

Direct seeding would be used for the first plantations, with a species adapted to this method of reseeding. During the later part of the second year, nursery seedlings will be planted, at the recommended rate of 700 seedlings per acre. A plant ecologist, who will also work within the range management program, will measure the growth of the various species planted, and with the personnel of the range management section of the Pakistan Forest Institute, recommend species, planting densities, methods of reseeding and care for the various ecological areas of the project.

By the third year, sufficient progress should have been made that the program appears to be financially attractive to communities. The project has an incentive fund which will be used to encourage the planting of firewood plantations, under management and control of the private individuals, but with technical assistance, seedlings and a stipend for a forest guard provided by the project.

The plantations are expected to begin harvesting after four years, with staggered cuttings and reseedings. Firewood is in increasingly scarce supply through the country, and is used in commercial drying of tobacco in Mardan district. While the woodlot price is attractive at the bottom of the mountain in Topi, the project's marketing component will attempt to link the producing units directly with major consumers, such as the tobacco companies which flourish in Swabi tehsil.

Incorporated within the Forestry program is a very limited introduction of sericulture into the upper reaches of the Gadoon area, along the Sherai stream which forms the beginning of the watershed. The Pakistan Forest Institute has committed resources to learn the intracacies of sericulture, with assistance from China, and is committed to begin commercializing the process. The first step is to survey for a suitable location, one near an agricultural field station supported by the project, with either ground water, or on north slope, and introduce mulberry trees. The 2.5 acre plot should be established in the first year of the project, with mulberry cutting to be furnished by the Sericulture Department of the Forest Institute. If all goes well, in year three, a small sericulture experimental production facility can

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be introduced, expected to produce four to six kg of silk. The technical assistance for this effort will be provided by the Sericulture Department, working with the agricultural specialists assigned to the field stations. In year four, eight to twelve kg of silk might be expected from the program, while in year five, 20 kg is possible. Local farmers, those employed to look after the trees and work in the production unit will be trained to assume, and expand the project.

Silk is produced in Pakistan in limited quantities, and purchased from farmers at Rs. 120 per kg. Under controlled conditions, one packet of silk seeds (20,000 eggs) will produce 10-12 kg of silk. Two and a half acres of closely planted mulberry in good condition can sustain 20 packets of seeds, for one season, as a packet of silk seed produces young larvae that consume 750 kg of mulberry leaves during their life cycle.

The best case numbers, divided by two, suggest that farmers could realize a high return on land planted to mulberry trees, if they could learn to feed and care for the silk worms in sanitary condition. The prospect for income and employment generated by this new process, the willingness of the Sericulture Department to actively participate in the experiment, and the closeness of agriculturists supporting the project from field stations, all suggest that a modest trial of sericulture would be a sensible investment. For this reason it has been included as a budgetted item for $30,000 over the life of the project.

b. The Budget for the Forestry Program

The Forestry program, in its essence, proposes to plant and protect fast-maturing trees for commercial harvest. The budget items reflect the requirements to guard plantations in this overgrazed and overcut environment. The largest single item in the budget is the incentive program, an attempt to extend the technology introduced far beyond the boundaries of the project's firewood production units. Table 21-59, Annex 21 provides the summary details of the Forestry program.

c. Implementation Arrangements

This program will be managed by the Forestry Department, with technical assistance provided by the project. The knowledge to plant and manage firewood plantations exists within Pakistan. Such short-term harvest tree crops have not been the staple of the Forestry department, but there is an ongoing program in Hazara Amazai division which includes firewood production, and enthusiasm for testing a second model. It is clear that unless some answer is found to illegal cutting of what should be protected forests, the mountainous area will lose the scant forests remaining in the next 20 years. This program has been discussed with Forest department officers, beginning with the range officer assigned to Swabi tehsil, the District Forest Officer who led the design team through the upper Sherai watershed, and the chief conservator of forests in Peshawar. It

will receive their full attention, as positive incentives are included for the staff, augmented by contract hires, who will support the program.

d. Technical Considerations

Selecting and planting firewood species is no challenge to the forestry department; they do so now with chir pine developed from seed in polyethelene bags, with good survival rates. The difficulty has always been to protect the stands until maturity, when they can be harvested. There are two necessary requirements. First, there must be a community, a union council or a grouping of private individuals who agree to support the program, consigning their land for the duration of the test. If the firewood plantations are limited to the few large land owners in Gadoon, it will not serve as an extendable model for replication after the project has established its economic and technical viability. Thus, this portion of the project, as do many others, relates to the interaction with local leadership and local farmers, a major subject of the Local Government intiatives. Second, there must be guards paid to watch the trees, protecting against maurading goats, and the camel drivers who raid the preserved forests, backhauling to Topi after delivering supplies to isolated villages in Gadoon. With local cooperation, specific area protection, and an established market, the firewood plantation component of the project appears sound.

The sericulture experiment is just that, an attempt to see if a high-yielding, high-risk opportunity can be seized to provide income for Gadoon residents. With the support of the Forest Institute, and the active cooperation of agriculturalists stationed in the area, it has a reasonable chance of succeeding.

3. Range Management Program

The range land is overcut and overgrazed to feed the animals maintained by the area's residents, a subsistence collection of milk cows, bullocks, buffalo, and goats. Utilizing the inventory of animals provided by the Animal Husbandry Department, and making some reasonable judgments concerning the output of the range, and agricultural crop residue, the animals are consuming less than one-third of the recommended dry weight food matter. The challenge in attempting to increase the income from the non-cultivated land is to devise an integrated program which introduces cash-cropping of animals on improved forage.

The first requirement is to understand what the native range will provide if left protected for a growing season. This is necessary before deciding on interventions which might destroy what already exists, but has not been allowed to grow. The project will lease five 75-acre plot forages, and begin an experiment to protect 50 acres for the first year, while allowing 25 to be grazed under regular, village conditions.

Beginning in the second year the project will introduce teddy goats, able to reproduce three animals per year on the average, to learn the dynamics of carrying capacity of the range to animals, with 25 acres alternatively grazed and protected until a system is established which extracts the most from the land without stopping regeneration. Over the course of the project, the project will:

- determine the best grass and forage shrub additions to the native range to increase fodder/forage availability by 50 percent;

- determine the best solution for silage or other systems of storing fodder for the two to three months of shortfall in the summer, in lower elevations, and in the winter near the top of the mountain;

- determine the optimum small-area grazing patterns, with and without protection for small herds of goats;

- calculate the economics of goat production for sale, in relation to the subsistence holding of large animals for milk production, with major concentration on the real and perceived benefits the local population derives from its present system of animal care and production.

This component is proposed for the project with full knowledge of the difficulties involved. To be successful, it is likely that villagers will need to shift from holding individual large animals to raising small ruminants for sale. Under the best of conditions, the forage available, even when significantly improved, will not sustain both a cash-cropping of animals and a holding by each household of a subsistence herd. There is not sufficient knowledge concerning the existing arrangements between owners and herders to predict how changes will take place and the resulting system which will emerge. But over time, it may be possible to convince small clusters of land owners to pool their resources--as they obviously now do--in more productive ways than in the past. Goat prices are high, and can be expected to remain so. The project should attempt to intercede into the diminishing range resources, and introduce a new technology which will deliver income to the area's farmers.

When that new technology has been found, and demonstrated on land leased by the project, an incentive system will encourage the farmers to form their own small range management operations, and stock them with fast-growing and reproducing animals. The incentive should deliberately attempt to reduce the forage demands of the traditional animals, perhaps through an exchange program. Whatever the technique, the project will do more than its own research; it will extend the knowledge gained within a program which encourages local associations to form and use the technology developed.

b. The Budget for the Range Management Program

Table 21-42, Annex 21 provides a summary of the budget proposed for the range management program. Because range must be improved, protected, and developed and animals must be introduced, cared for, and protected, some field construction on the range sites will be necessary. Personnel of both the Forestry Department and the Animal Husbandry Department will be provided allowances to support the program and local herders will be eligible for the incentive program in the third year of the project.

c. Implementation Arrangements

The range management program will be under the operational control of the range officer, within the Forestry Department, stationed at Swabi Tehsil. The animal improvement program, operating at the same station, will be under the direction of the veterinarian officer of the Animal Husbandry Department, stationed at Swabi Tehsil. Both officers will work from the offices of the project coordination unit at Topi, when supporting this project. The range officer will have a staff including an ecologist, (hired under contract by the project), who will measure plant growth and availability within the protected and non-protected range, to study and improve the forage and fodder. The veterinarian officer has stock assistants stationed at two locations within Gadoon, who will assist in the care and weighing of the animals monthly, and a staff hired by the project to tend to their regular feeding and protection requirements. The program will be assisted by an expatriate range management specialist and a local-hire animal production specialist with international experience, both on the technical assistance team.

This program will work closely with the firewood plantation program, described above, and the animal improvement program, described below. Officers from the two concerned departments will have responsibilities for both their individual programs, and shared assignments in support of the range management program.

d. Technical Considerations

There is little technically demanding in this component of the project. The problem potential comes in the lack of one line department to manage the project and the need to have two organizations agree to work together. This problem was addressed to the Planning and Development Department of the NWFP, who reported that the sixth five-year plan specifically called for active cooperation between Forestry and Animal Husbandry to attack the problems of animal production. In addition, the emphasis within the NWFP was to be on improving range conditions, and assisting the Forestry Department to expand their programs beyond long-maturity reforestation. Such efforts are underway in the NWFP, through a Swiss aid program. The head of the Forestry

Department, a graduate of the advanced program at Colorado State University, is enthusiastic. While the difficulties are obvious, the prospects for a successful program are high, given the financial support and incentives, and strong coordination by the Project Director.

The second potential problem with this component is the relationship between animal production and the existing subsistence holding of animal herds by Gadoon residents. There are too many mouths to feed for the limited forage. The project will study the relationships between animal owners and land owners early in Phase I and attempt to devise an incentive program for later years which will reduce the numbers but increase the value of the animals held. As the economic potential changes, the relationships can be expected to change. It is a challenge to the project to determine the optimum mix of animal and milk/ghee production, and to propose incentives which help move the area to that solution.

3. Animal Production

a. The Proposed Program

There is an animal husbandry program ongoing in Gadoon, focusing on animal health. This program would propose to support the Animal Husbandry department in the following activities:

- range management in conjuction with the Forestry Department to determine the optimum conditions and animals for an improved range program, as described above;
- artificial insemination for the Gadoon area, a program already underway by the department, concentrated on large animals, cows and buffalo;
- improved breeds of sheep and goats in a program which follows from the lessons of the range management program;
- improved poultry, with support to the hatchery, and purchase and distribution to area residents of 10,000 improved, disease resistent, three-month old fayoumi chickens over the life of the project.

b. The Proposed Budget

The project will support transportation for the staff of the Animal Husbandry Department, allowances when traveling in support of the agreed activities, and contract hire staff for special programs such as introducing mobile, artificial insemination activities to Gadoon. The project will also support purchases of improved breed animals, and support the department's

chicken hatchery in Mardan. Table 21-55, Annex 21 presents the summary budget.

c. Implementation Arrangements

This component of the project will be implemented by the Animal Husbandry Department. It is an extension into the Gadoon area and an intensification of activities already undertaken in Mardan District by the department. There is no reason to believe that the activities, with funding support, coordination by the Project Director, and support from technical assistance in the form of an animal production specialist, will not be successfully carried forth.

d. Technical Considerations

Of all the components of the project, this modest portion is most like what is already undertaken by the line department. Staff are in place at two locations, within Gadoon and stock assistants now in the project area will benefit from improved transportation, supplies, and involvement in an active program. Villagers have requested improvements in their animal breeds including increasing the milk production, based on a fabled story resulting from the introduction of Australian animals into the Punjab 30 years ago and the trippled milk production which resulted. If better animals produce more milk, it is at least the beginning of reducing the number of animals on the hill, a likely final solution to increasing the income from forage and fodder through improved animal production.

F. Agricultural Marketing

1. The Proposed Program

All agricultural marketing activities will take place in Phase II, most beginning in year three when the project has demonstrated that there are cash alternatives in cultivated agriculture, tree and firewood crops, or animal production. The need for the component is obvious on both the input and marketing sides, establishing a new economic activity in an area which will have only subsistence income (from wheat and maize) is a formidable task and one which requires outside assistance. However, the assistance required is not the establishment of new institutions, or formalized government programs of continuing subsidy. Instead, the project should:

- bring credit to the area once cash alternatives have been identified. This credit, under one of several special programs of the government of Pakistan, is extended interest free and is a service which can be available to small farmers. Similar arrangements may be made for the delivery, storage and transport of agricultural inputs from one of the parastatals such as the Agricultrual Development Authority (ADA) or the Agricultural Marketing and Storage Ltd, or a half-dozen

other organizations that are chartered to provide such services in Pakistan. Through the office of the director and with the guidance of the technical assistance specialist in marketing, the project will make arrangements to have the institutions respond to the needs of the local population. Other components of the project will help the residents organize and learn to draw upon the institutional services provided; and

- link cash-alternatives output to the commercial market through the provision of incentives to reduce the risk of direct contracting with buyers or buyer groups in Gadoon. The specific activities will be directly related to the crops or animals grown for market. It might include an arrangement with tobacco companies for firewood production, the underwriting for two years of a weekly animal market within Gadoon, an incentive for the Ghee Corporation to establish in Gadoon and buy sunflower seeds or an arrangement with a seed company to buy certified seed production from Gadoon for a two-year period.

Both sets of activities are designed to wither away and leave the area residents supported by institutions which can be expected to lose enthusiasm as the incentives of the project end, or commercial interests which can be expected to remain the principal providers of credit and buyers of output after the transition period from poppy to alternative cash crops.

2. The Proposed Budget

Funds to support the agricultural marketing component have been included in the budget--a total of $300,000 beginning in any large amount in year three. A further breakdown at this time would suggest that the design team knows the answers to cash crop alternatives and the kind and amount of credit and marketing support which the project will need in the future. Funds will be programmed as needed and project activities will be detailed and submitted in the annual plans which are presented to the Planning and Development Department Review Committee. Approvals from this committee will be given before funds are expended under the budgeted line item.

3. Implementation Arrangements

This component of the project has no natural institutional base. Guidance will be given to the Project Director by the long-term technical assistance specialist in marketing and credit arrangements. Should one organization or institution emerge as a major provider of input supplies including credit and marketing services, it will be incorporated into the project and provided incentives for support within defined and agreed activities.

4. Technical Considerations

Many new crop programs flounder because of a lack of marketing connections and expertise. While there are no easy answers, the project recognizes the importance of this component and has funded support to include specialist insight and organizational capacity, and incentives for public or private involvement in activities which support the project. No activities are defined at this time which can be technically evaluated. Credit is the most likely early candidate for inclusion in the project; agricultural credit programs do exist and can be drawn into the project area. Getting this job done will take at least one year, and continual encouragement by project staff. But the price is right: subsistence farmers can afford to pay no interest for agricultural credit and that is the going rate under government subsidized programs. Sometime in the future, farmers will be able to pay commerical rates, and the ubiquitious middleman will offer his services once again. At that time the farmers will no longer be dependent upon the implicit subsidies of the project or the GOP.

VOCATIONAL TRAINING, APPRENTICESHIP, AND EMPLOYMENT SCHEME FOR GADOON-AMAZAI RESIDENTS

A. Background

1. Description of Current Situation

Due to the relatively high population density and the limited economic opportunities in the Gadoon-Amazai area, there is a need to find off-farm employment for Gadoon-Amazai residents outside the area. At present, roughly 13 percent of the labor force is out of the area as migrant laborers working in Islamabad, Peshawar, Lahore, Karachi, and in other large cities or in the Middle East. Those who leave the area have largely sought employment as unskilled laborers.

Employment prospects for unskilled workers are not bright. Unemployment is very high and in the NWFP there is serious competition for unskilled work from the Afghan refugees who are willing to work for lower wages than most Pakistanis.

However, there is a heavy demand for skilled artisans in Pakistan, due to the exodus of skilled labor to the Middle East. A total of 215,381 skilled and semi-skilled workers left the country legally during the six-year period 1974-1979.

At present there is an annual exodus of about 50,000 skilled and semi-skilled workers. Adequate replacements have not been made available to overcome this gap with the result that many industrial sectors are facing serious manpower shortages.

In 1978 the Manpower Division estimated that there were over 48,000 vacancies in the electrical, mechanical, electronic, automotive, and construction trade areas. They estimated that 45,000 tradesmen were required per year in the above trades during the fifth plan period.

While the Government of Pakistan, through its National Training Bureau (Manpower Division) is doubling the output of the government vocational training program over the next five-year plan period, the gap between the supply of skilled labor and the demand for it will remain very large. The current government vocational training scheme is aiming to produce 20,000 tradesmen per year as against an annual demand for about 50,000 skilled tradesmen.

In a skilled manpower deficient environment, training programs to produce skilled labor have a dramatic effect. Training creates jobs for those who have the opportunity to be trained. Because of the chronic shortage of skilled manpower, those who acquire skills find it much easier to become employed. There are few idle masons or carpenters. Over 80 percent of the

graduates of the Overseas Pakistani Foundation training courses find employment.

Training not only increases the possibilities for employment but also increases the trainees' potential income. Before training, unskilled laborers receive on average Rs. 20 per day. Immediately upon completion of training, carpenters and masons receive Rs. 40-45 per day. After six months of on-the-job experience their daily wage increases to Rs. 60.

Vocational training, therefore, would significantly increase the employment prospects and income for Gadoon-Amazai residents forced by economic circumstances to leave the area. However, the existing institutional structure for vocational training is not conducive to their active participation.

2. Existing Provision of Vocational Training

There are five institutions of vocational training in a 200 kilometer radius of Gadoon:

- one Technical Training Center (Department of Industries at Khalabat (Abbotabad District)
- two Vocational Training Institutes (Department of Technical Education) which are opening in September 1983, one at Swabi and one at Ghazi
- one weaving training-cum-production center at Kotha

In addition there are plans to build a new Technical Training Center at Mardan in 1986.

The existing government-sponsored vocational training system is unsuited to the needs of the Gadoon-Amazai population. Its entry level (middle or matriculate) is too high to accommodate the majority of Gadoon-Amazai residents who are illiterate or barely literate. Only about 30 people graduate at matriculate level from the Gadoon area each year, and, according to our interviews only a few proceed on with further education or training. A major constraint is economic: there is family pressure to look for immediate employment and many families cannot bear the costs of sending their young people out of the area for further education.

The government vocational training schemes are primarily urban based and aimed at a more affluent urban population--people whose parents can afford to pay their school fees and cover their living expenses during the training period. Even if Gadoon area people had the necessary educational qualifications, the majority would not be able to participate in government-sponsored vocational training because of the costs involved (fees, transport, accommodation, food), the income forfeited during the training period, and the difficulties involved in securing a place in the institution, accommodation, etc. Very

few people from the rural and remote areas have the means or the knowledge to take advantage of the polytechnics, vocational training institutes, and technical training colleges.

Finally the capacity of these institutions is limited. For example the Vocational Institute at Swabi will train on average 70 people per year. The Technical Training Center at Khalabat will produce 392 tradesmen per year, the Technical Training Center at Mardan (when it opens in 1986), 368 tradesmen per year. Even if it was possible to guarantee a percentage of places to be offered to Gadoon-Amazai students (say five percent - 41 places) these institutions in total could only accommodate a small number of trainees from the Gadoon area.

3. Overseas Pakistani Foundation (OPF)

The Overseas Pakistani Foundation (OPF), a parastatal organization financed with the funds remitted by overseas workers, has established a vocational training scheme which is open to and more suited to the needs and characteristics of a poorer, illiterate or semi-literate population. Unlike the courses of the polytechnics, and vocational training institutes which:

- cater for a more educated population
- run for one or two years
- emphasize theory more than practice, and
- produce technical supervisors who are unwilling to work with their hands

OPF courses are:

- aimed at poorer, less educated people
- are shorter in length (three to five months)
- spend 80 percent of the course on the practical aspect, and
- produce tradesmen trained at job entry level.

OPF's more elementary training prepares "front-line" tradesmen who have no pretensions about soiling their hands and their courses are carefully geared to the requirements of the construction industry and employment opportunities. The OPF curricula are designed to impart training in marketable skills in the minimum possible time and at a minimum cost.

Graduates of the three to five month program are advised and encouraged to find jobs where they can gain practical experience and refine their skills--a cheaper and more organic form of skill building than practicing these skills in a training institution.

At a certain point additional time spent in further training in a formal institution becomes no longer cost effective; it becomes cheaper to practice these skills and develop further increments of skill through on-the-job experience. After a certain stage of training the level of skill does not continue to grow significantly to justify further institutional training. The same additional practice and refinement in the skill can be achieved through on-the-job experience.

The OPF program is also more cost effective. Short-term courses to prepare trainees up to job entry level can be done at much lower costs than the highly structured capital intensive polytechnics and vocational training institutes.

OPF courses are short enough in total length (three to five months) and in daily length (four hours) to attract the poor, the laboring class, the unemployed. The courses are brief enough to sustain the trainees' interest and trainees are only away from full-time wage labor for a short period. During the training period trainees are able to continue part-time employment. OPF's fees are nominal and OPF offers stipends (scholarships) as an incentive for trainees in carpentry and masonry.

OPF has produced detailed schemes of work for each of its courses outlining what is expected to be covered at each stage of the course. The schemes of work are adapted from course outlines prepared by the ILO Vocational Training Project. OPF has its own examination board which tests trainees at the end of the course. The OPF trade diploma given to all successful trainees is recognized by government and by employers. Out of the 150,000 artisans produced by OPF in two and one-half years roughly 80 percent have found immediate employment.

OPF has organized the only public-sector vocational training programs in rural areas of Pakistan. In 1980 it contracted a private training institution to launch a vocational training scheme in Gilgit and Skardu in the remote Northern Area, the first vocational training initiative in this area. This program has trained 600 artisans in two and one-half years, all of whom have found employment as carpenters, welders, plumbers, or electricians. OPF monitors this scheme and examines the trainees at the end of the course. The Gilgit and Skardu program developed an innovative, low-cost, flexible, relatively mobile approach of taking the training program to different centers of population, setting up a temporary training base in existing community facilities, hiring/training experienced local artisans as instructors, and relating the program to the needs and characteristics of the area.

OPF is currently starting another rural vocational training program in Azad Kashmir.

4. Dillingham Pakistan Ltd.

Dillingham Pakistan Inc. is an American civil engineering firm which has been working under contract to WAPDA on the Tarbela Hydropower Extension Project Contract. As part of their civil engineering work they have organized extensive training and upgrading of their employees as an inhouse activity. Many workers who have joined the company as unskilled laborers have, over the course of their employment with Dillingham, learned a new trade through attachment to and practice alongside a skilled tradesman. An employee who starts his work as an artisan's helper will be tested and if his performance is adequate he will be regraded as a skilled artisan. (Dillingham assigns three grade levels for skilled artisans). Through this process, Dillingham has trained large numbers of people as carpenters, welders, machinists, fitters, electricians, etc.

Upon leaving Dillingham, workers receive a certificate which states the time period worked, the trade class they have achieved and the rate of pay. The experience and training gained through apprenticeship with Dillingham is highly regarded in the construction field. Often advertisements for Middle East jobs stipulate that the applicant must have had previous experience on the Tarbela project. In this way Dillingham and other contractors at Tarbela have been an important training ground for those who want to go to the Middle East.

Tarbela has been a major employer of people from the neighboring area, including the villagers of Gandaf. When the dam construction was started, a special arrangement was made to employ people from the immediate area who were affected by the dam. The people of Gandaf were major beneficiaries. It is estimated that 40-50 percent of the labor force were drawn from the Gandaf-Topi area. People from other parts of Gadoon, however, had relatively little benefit in terms of employment from the Tarbela construction project.

However, as increasingly more power units of the dam are completed, WAPDA needs more skilled workers to support their electricians, linemen, etc. GadoonAmazai area residents could be trained to fill some of these positions, if WAPDA were agreeable and a training program could be designed.

Several large housing colonies were created during the construction period for workers on the dam. Now that the bulk of the construction is over, a number of these colonies remain unused. These facilities, if upgraded, could contribute to the GadoonAmazai Area Development Project, in particular the aim of promoting outmigration of GadoonAmazai people and their employment in other areas of Pakistan.

B. Prop . Program

It is proposed to set up two linked vocational training programs aimed at producing tradesmen trained at job-entry level in the construction trades:

- a program run by the Overseas Pakistan Foundation at three locations on the Gadoon mountain (Kabgani, Ganichatra, and Utla) for illiterates or semi-literates in those trades requiring a minimum of formal education--carpentry, masonry, plumbing and steel fixing

- a program administered by Dillingham Pakistan Ltd. at Tarbela for middle school graduates in those trades requiring a higher level of education--electrician, mechanic, fitter, and welder

The overall aim of both programs is to facilitate one of GAADP's major objectives: to promote outmigration by Gadoon-Amazai residents and employment in other areas of Pakistan. The means to achieve this objective will be training programs to produce job entry level artisans and an employment service to place graduate trainees as apprentices with major public- or private-sector projects in other parts of the country (e.g., the new dam at Kalabagh or in construction of the new power units at Tarbela) or to encourage migration to other construction sites in the country.

OPF and Dillingham will produce each year roughly 1080 and 240 tradesmen respectively; over the five-year period OPF will turn out 4440 tradesmen and Dillingham 1080 tradesman, a total of 5520 semi-skilled workers. tradesmen will be trained. Graduates will be given a trade diploma upon successful completion of the course and encouraged to seek employment in the construction industry in other parts of Pakistan.

It is expected that over 80 percent of the trainees will find employment on construction sites outside the area; ten percent of the trainees are expected to find jobs on construction projects within the Gadoon area or in the neighboring areas of Mardan District. The market value of the trainees is expected to rise from Rs. 20 per day (the daily wage of an unskilled laborer) to Rs. 60 per day (the daily wage of a semi-skilled worker).

The Overseas Pakistani Foundation and Dillingham Pakistan Ltd. will each be contracted by USAID to take responsibility for their respective program. Each will be required to produce an agreed upon number of trained tradesmen per year at an agreed upon level of skill. The GAADP project director will be expected to monitor this program in particular i) the number of trainees recruited per cycle, ii) the percentage of trainees who pass the trade test, and iii) the percentage of trainees who find employment or apprenticeship.

The detailed description of each program is set out below.

1. The OPF Program

The OPF program will be designed to suit the economic situation, educational background, and other circumstances of the Gadoon-Amazai population. Careful attention will be given to policies and procedures which will maximize participation in the program. Simply putting an institute on the mountain and staffing it is insufficient to attract potential trainees. The use of the training program will need to be maximized through actively promoting its services and benefits among the local population and developing structures, policies, and programs which will encourage people to enroll.

The strategy for the training program must take into account some of the following factors:

a. Location

If there is only one vocational training center on the mountain, it will tend to serve only people in that area. Potential trainees from other areas of the mountain will be discouraged from attending the center because of the travel involved or the costs involved and income forfeited in staying in the village where the center is based.

Training will need to be taken to the potential trainees. A decentralized approach of setting up a small minicenter in each union council will be adopted. Each center will accommodate three trades (an economic unit since one senior instructor can supervise up to three trades). The development of the centers will be phased so that experience learned in establishing and running one center can be applied in setting up and managing the other centers.

b. Entry Level

OPF's policy on entry level is flexible enough to accommodate the largely illiterate or semi-literate population on the mountain. While educational background will be a factor considered in the selection process, it will not be a restrictive factor. A functional literacy program (one hour a day) will be organized as part of the training program for those with inadequate literacy skills. The literacy curriculum will be specially designed so that it concentrates on literacy and numeracy skills (e.g., measurement) required by the construction trades. In this way literacy will be a carefully integrated part of the total course, rather than an isolated activity with no links to an economic program. The illiterate participants will be much more highly motivated since the combined vocational training-cum-literacy course will promise the real possibility of future employment. In this way both the national literacy and vocational training objectives will be successfully addressed.

c. Age of Trainees

Government polytechnics and vocational training institutes limit entry to trainees under 20 years of age. The GAADP vocational training program will adopt the OPF policy of allowing adults to participate. Older trainees (i.e., 20-35 years of age) are more motivated and responsible and will bring an important life-experience to the training. The minimum age of OPF trainees is 15 years. In some instances the age requirement will be lowered based on the needs and desires of the community.

d. Timing

Based on OPF's experience in Gilgit and Skardu, it is clear that timing (the course length and the number of hours per day) is a key factor in designing a course which suits the needs and characteristics of the target population. If the course is too long each day or too prolonged in total length, it will discourage potential trainees because of income forfeited during the training period. OPF has developed a pragmatic timing formula-i.e., four hours a day over three to four months--which allows trainees to pursue other income-earning opportunities each day and to hold the interest of trainees over the total period. Nevertheless, this timing formula will need to be tested and adapted to the requirements of the Gadoon area.

e. Fees, Stipends, and Tool Kits

A policy on fees, stipends and tool kits needs to be worked out. There is a strong argument for exempting fees in order to open access to trainees from all income groups. This policy was adopted in Gilgit and Skardu. The OPF policy of offering stipends to trainees in carpentry and masonry should be extended to cover the other trades. OPF currently gives out the stipend in a lump sum upon completion of the course. It is recommended in the Gadoon case that the stipend be distributed at the end of each month, with a condition of regular attendance.

OPF distributes tool kits to successful trainees in carpentry and masonry. It is proposed that a similar incentive be considered for the Gadoon vocational training scheme.

f. Program Implementation

Program implementation falls into four phases:

- Phase I (September to December 1983) Planning Phase: further investigation and finalizing project proposal and contract with OPF.

- Phase II (January to December 1984) Pilot Phase: setting up, running and evaluating a pilot training program at Kabgani

- Phase III (January 1985 to December 1987) Expansion and Operational Phase: opening and running two additional centers (Utla and Ganichatra).

- Phase IV (January to August 1988) Final Operations, Evaluation, and Handover.

Phase I: Planning Phase (September to December 1983)

In this phase a short-term Vocational Training Specialist (VTS) assistant will spend four weeks in Pakistan:

- coordinating with the Overseas Pakistani Foundation

- meeting with the union councils to discuss the proposal and solicit their inputs

- working out a detailed operational proposal together with OPF, including agreements on:

  a) costs, staffing, building and equipment specifications, etc.

  b) the trades to be taught in each center

  c) the monitoring process (by OPF headquarters, USAID and by GAADP)

  d) the role of the project director in establishing and supervising the centers

  e) the role of the project director and instructors in publicizing the courses and liaising with the local community

  f) the role of the project director in arranging employment opportunities for graduate trainees

  g) the relationship between GAADP, the Gadoon vocational training staff, and OPF

  h) procedures for involving trainees in practical work on union council or district council construction projects within the area

  i) assisting OPF in identifying a suitable project director

Working with the GAADP project director and the AID project officer, the VTS will draw up a contract to be signed with the Overseas Pakistani Foundation.

The VTS should have a background in vocational training and in community development.

Phase II: Pilot Phase (January to December 1984)

In this phase a pilot training center will be established at Kabgani. The union council in this area listed vocational training as their highest priority in a list of requests made to the design team. In addition the Kabgani high school has four spare classrooms which could be used on a temporary basis to get the vocational training program going.

The project director will be hired by OPF in January 1984. In the period January to June the project director will carry out the following tasks in setting up a vocational training program at Kabgani:

- meeting with government officials and local councillors
- working out arrangements for temporary use of the Kabgani high school
- hiring the staff (most of the staff will be locally hired)
- procuring equipment, tools, and consumable materials
- publicizing the program in the area and recruiting trainees
- making arrangements through OPF for the buildings to be constructed (design, tenders, etc.)

The first cycle of trainees will be admitted in July 1984. Approximately 120 trainees will be enrolled: 20 trainees per class in six classes (three trades each taught in two shifts a day). Each class will be held for four hours a day six days a week. Literacy, numeracy, and educational upgrading will be assigned one hour a day. The remaining three hours will be used for vocational training.

The vocational training specialist will return in the last two weeks of the first cycle of training to carry out a formative evaluation. This four-week evaluation will look at community impact, participation, operating procedures, and employment prospects and will include some organization development sessions with the staff.

In the final part of this phase (November 1984 to January 1985) a second cycle of training will be conducted at Kabgani, with certain adjustments based on the formative evaluation. During this period the other two centers at Utla and Ganichatra will begin operating.

Phase III: Expansion and Operational Phase (January 1985-December 1987)

By this time all three centers will be operating, each producing 120 trainees per three-month cycle. Collectively the three centers will have an annual output of 1080 trainees.

Phase IV: January-August 1988

During this phase the classes will continue and a summative evaluation will be carried out. Arrangements will be made for a full hand-over of this operation to OPF to become effective in August 1988.

CRASH VOCATIONAL TRAINING PROGRAM: PHASING

Year I (September 1983 to August 1984)	Year II (September 1984 to August 1985)	Years III-V
October - December technical consultant- further investigation and arrangements for contract with OPF	November-January a) 2nd experimental cycle (Kabgani): 120 trainees b) other two centers open	3 Centers x 120 trainees per center x 3 cycles per year = 1080 trainees per year x 3 years = 3240
January: contracts signed with OPF		
January-June Set-up period for first center at Kabgani	March-May 3 centers x 120 trainees = 360 trainees	
July-September first experimental cycle; one center (Kabgani); 3 trades x 2 shifts/day x 20 trainees = 120 trainees	July-September 3 centers x 120 trainees = 360 trainees	
ANNUAL OUTPUT: 120	ANNUAL OUTPUT: 1080	

TOTAL OUTPUT: 4440 Trainees

f. Staff

i. Project Director

The vocational training project will be headed by an engineer (mechanical, electrical or civil) with previous experience in vocational training. Since his job description will include a broad range of liaison work with government officials and the community he will need to be carefully selected so that he has not only the right skills and experience but also the right attitudes. His job will be very taxing (far more than a principal of an OPF polytrade school) and the salary and benefits will need to be sufficient to attract a suitable candidate.

Housing will need to be provided for him at Kabyani. From this base he will set up the three centers and supervise them once they are in operation. His job description will include:

- surveying the area and selecting (with the community) the most appropriate site for each center
- planning and establishing the three centers
- supervising the centers
- publicity and contact work with the community
- arranging practicals on union council projects
- developing close links with vocational and technical institutes in the neighboring area so that they provide higher-level training for the more outstanding trainees (one means of "localizing" the senior instructor posts).

ii. Instructional Staff

Each center will have one senior instructor, three junior instructors and a part-time literacy instructor. The senior instructor will be the head of the center, will teach the theory classes (20 percent of each course), and will supervise the practicals. Each junior instructor will lead the practicals in his particular trade. The literacy instructor will teach each group for one hour a day. The senior instructor will be an associate engineer or a polytechnic graduate with teaching experience. The junior instructors and the literacy instructor will be locally hired. An attempt will be made to "localize" these posts and the post of the senior instructor over the five-year period.

Each center will also have one accountant/typist, one workshop attendant, one storekeeper, and one chowkidar. All of these positions will be filled with local people.

h. Buildings

Each center will be designed to suit the limited land available in the Gadoon area. Each union council will be asked to select and provide an appropriate site for the vocational training center. At the completion of the project the buildings will revert to the ownership of the union council. Given the shortage of facilities in each village, the buildings will be made available outside hours of technical training for civic education and other adult education purposes.

i. Monitoring

The technical assistant will work out a set of procedures by which the GAADP project director can monitor the vocational training program. These procedures will include a regular check on number of trainees, pass rate, employment rate, operating problems, etc.

j. Employment

There is no systematic channelling of manpower in Pakistan. At present the majority of people search out employment on an individual basis, hearing about a job from a relative or friend or simply going to the construction site and looking for work.

The Employment Exchange (Department of Labor) registers people looking for employment, but only caters to an insignificant number of people. Graduate trainees will have to look for employment through the informal system. Where possible the OPF project director will notify trainees of new major construction projects and seek out apprenticeship opportunities.

(Month)	O '83	N	D	J '84	F	M	A	M	J	J	A	S	O	N	D	J '85	F	M
ACTIVITY																		
Siting of Land and Arrange ments for Purchase			TA + OPF	X	contract signed with OPF													
Tendering				———														
Surveying + Site Clearance								--------										
Construction								----------										
Procurement of Equip ment, Tools, Consumable Materials						Kabgani				Utla Ganichatra								
Hiring Staff						Kabgani			Utla ----- Ganichatra									
Publicity/ Trainee Recruitment							Kabgani					Utla Ganichatra						
CLASSES START								Kabgani (temporary ---------- accommodation)						Kabgani ------- Utla Ganichatra				

CAPITAL

Cost Per Center	Rs.
Land (5,000 sq. feet) [1]	to be donated by Union Council
Teaching/Administration Block (1600 sq. ft. @ Rs. 140 + adjustment for verandah) [2]	200,000
Staff Accommodation Block (813 sq. ft. @ Rs. 140 + adjustment for verandah) [3]	110,000
Equipment	120,000
Furniture & Office Equipment	50,000
	480,000
x 3 centers	1,440,000
+ Project Director's House	100,000
+ 2 Vehicles	Agricultural Commodities
	Rs. 1,540,000
	~ $120,300

[1] Land area to include space for a) teaching/admin. block, b) staff accommodation block, c) 2 covered sheds 15' x 60' (to be constructed by trainees for carpentry and plumbing practicals), and d) open-air space for masonry practicals

[2] Teaching/Administration block to include: 2 classrooms (15'x20'), 2 offices (10'x12', 13'x16), 1 store room (8'x10'), 2 toilets (6'x8'), verandah (9'x45')

[3] Staff accommodation block to include: 1 senior instructor's room (12'x15'), 3 junior instructors' rooms (10'x12'), 1 toilet (6'8'), verandah (9'x25')

RECURRENT COSTS: PROJECT DIRECTOR

		Rs.
Salary	60,000	60,000
Office Support/Expenses		30,000
Travel		50,000
		Rs.140,000

RECURRENT COSTS (PER CENTER PER YEAR)

Staff

Senior Instructor	1	25,000	25,000
Junior Instructor	3	21,000	63,000
Literacy Instructor (part-time)	1	13,000	13,000
Accountant/Typist	1	18,000	18,000
Workshop Attendant	1	8,000	8,000
Chowkidar	1	8,000	8,000
			135,000

Consumables

Masonry - Rs. 300 x 120 trainees	36,000
Carpentry - Rs. 400 x 120 trainees	48,000
Plumbing - Rs. 300 x 120 trainees	36,000
	120,000

Equipment Maintenance

(including new tools/equipment and repair of tools/equipment) 15,000

Building Maintenance

10,000

Stipends

1080 trainee/months @ Rs. 100/month = 108,000
(20 trainees x 3 trades x 2 shifts x 3 cycles x 3 months)

Miscellaneous

(Stationery, postage, electricity, telephone, etc.) 10,000

Tool Kits

(given to masonry and carpentry trainees)
120 Mason trainees @ 180
120 Carpentry trainees @ 250 52,000

Rs.450,000

TOTAL RECURRENT COSTS

1 Project Director 5 years x Rs. 140,000	700,000
1 Center (Kabgani) x 4.5 years at Rs. 450,000	2,025000
2 Centers (Utla, Ganichatra) x 4 years x Rs. 450,000	3,600,000
	Rs.6,325,000

TOTAL COSTS	
CAPITAL	1,540,000
RECURRENT	6,325,000
	Rs.7,865,000
	$ 614,453

TRAINING OUTPUT

Per Center Per Year

3 trades (masonry, carpentry, plumbing) x 20 trainees x 2 shifts x 3 cycles =	360
Kabgani; 360 trainees x 4 1/4 years	1560
Utla and Ganichatra: 2 centers x 360 trainees x 4 years	2880
	4440

Total Recurrent 6,325,000

- 4440 trainees = **Rs. 1425 per trainee***

* **OPF rate is roughly Rs. 1400 per trainee**

APPENDIX

Teaching/Administration Block:

1 classroom 15x20 [*] - technical theory

1 classroom 15x20 [*] - literacy

2 offices: senior instructor (13x16)
admin office (10x12)

1 storeroom (8x10)

2 toilets (6x8)

1 verandah (9x45)

Workshop Area

2 covered sheds 15' x 60' to be constructed by trainees for carpentry and plumbing practicals

1 open-air space for masonry practicals

Staff Accommodation Block:

1 senior instructor's room (12x15)

3 junior instructor's rooms (10x12)

1 toilet (6x8)

1 verandah (9 x 25)

Total Land Area: 5,000 sq. ft.

* Each classroom is used for one hour a day by each of the three groups

2. The Dillingham Program

The Dillingham program is contingent upon the active support and agreement of WAPDA who a) have contracted Dillingham to work in the Tarbela area, b) own the Pehur Labor Camp, and c) are a potential source of apprenticeships and employment for the graduates of the proposed training program.

It is proposed that a certain area of the Pehur Labor Camp, that is at present unused and in a state of disrepair, be fenced off and upgraded to give an area of barrack accommodation and an adjoining area of blocks that could be "purpose adapted" to make a number of training workshops.

The training scheme will be restricted to participants from the GadoonAmazai area. Since the output of the area's schools is small, trainees will be accepted from both matric and middle school levels. It is estimated that there are roughly 175 schoolleavers of Grade 8+ level from the Gadoon-Amazai area (100 from the Gadoon high schools, 50 from the Gadoon middle schools, and 25 from Hazara Amazai middle schools.) It is estimated that 50 percent of the trainees will be drawn from people who at the program starting date have already left school.

The minimum age of trainees will be 15 years, the maximum age 35 years.

The Dillingham program will complement the OPF scheme, and concentrate on four trades requiring higher levels of education-electrician, mechanic, fitter, turnermachinist, and welder.

The Dillingham training program will aim at producing an annual output of 240 trainees (15 trainees per class times four classes times four tenweek cycles per year) and an output of 1080 trainees over the fiveyear program period (September 1983 to August 1988). The program will also undertake to facilitate apprenticeship and employment opportunities for graduates of the training project.

A syllabus will be worked out in line with other vocational training in Pakistan. Syllabi produced by the National Training Bureau (Ministry of Labor, Manpower, and Overseas Pakistanis) and the Overseas Pakistanis Foundation will be adapted for the purpose. An arrangement will be made with an appropriate examining body for course-end examinations and certification. However, the more important goal of the program will be to produce marketable skills and employment/apprenticeship opportunities, rather than paper certificates.

Dillingham will facilitate apprenticeship and employment opportunities for graduates of the training project through its contacts with WAPDA and with other large construction projects. Where possible Dillingham will arrange sixmonth apprenticeships with WAPDA and/or employment at Tarbela or at other major dam sites.

Since the training course will be residential, the course will be very intensive--eight hours a day six days a week--so that the training program can be completed as quickly as possible and the trainees placed in apprenticeships and/or employment. No fees will be charged for the course and trainees will be given a stipend of Rs. 30 a week as an incentive during the training period.

a. Program Implementation

Program implementation falls into three phases:

- Phase I (September to December 1983) Planning Phase: further investigation and finalizing program proposal and contract with Dillingham. Renovation work by Dillingham.
- Phase II (January 1984 to December 1987) Operational Phase: running four training cycles a year.
- Phase III (January to August 1988): Final Operations and Evaluation

i. Phase I: Planning Phase (September to December 1983)

In this phase a technical specialist will spend six to eight weeks in Pakistan:

- coordinating with Dillingham Pakistan Inc. and WAPDA
- meeting with the union councils to discuss the proposal and solicit their inputs
- working out a detailed operational proposal together with Dillingham, including agreements on:

  a) costs, staffing, building and equipment specifications, etc.,

  b) the syllabus for each subject and examination and certification arrangements,

  a) the role of GAADP in publicizing the courses and screening potential trainees

  d) the role of Dillingham in arranging apprenticeship and employment opportunities for graduates

  e) the relationship between the Dillingham training project and the OPF training program

f) a system for monitoring the Dillingham training program

Working with the AID project officer, the technical assistant will draw up a contract to be signed by Dillingham in January 1984.

During this phase Dillingham, if given a written understanding by USAID, will make the necessary renovations to the designated section of the Pehur Labor Colony. It is estimated that the renovation work will take approximately three months.

ii. Phase II: Operational Phase (January 1984 to December 1987)

During this phase the project will become fully operational. The first cycle of 75 trainees will be admitted in early 1984, after training staff have been hired and trainee recruitment done. Four classes of 15 trainees each will be admitted. Each class will be held for eight hours a day six days a week. Four cycles of training will be held each year producing an annual output of 300 trainees.

The technical assistant will return for four weeks in September 1984 to carry out a formative evaluation. This four-week evaluation will look at trainee recruitment, the training program in operation, and the employment/apprenticeship service. Sessions will be held with the training staff on the findings of the formative evaluation.

iii. Phase III: January to August 1988

During this phase the classes will continue and a formative evaluation will be carried out.

b. Staff

The training staff will include one chief instructor and four instructors, all with extensive experience in their trade and in teaching and supervision. The center will be managed by an expatriate (one of Dillingham's managers) on a parttime basis.

c. Buildings

Two adjacent blocks in the Pehur Labor Colony will be converted into training workshops:

- the office and fitter/mechanical workshop occupying one of the blocks
- the engine shop and electrical shop occupying the other, and

- a covered open-air area for welding between the two buildings.

Another three adjacent blocks will be used for accommodation:

- two of the blocks for trainees housed three to a room with twelve rooms in each block
- the third block for staff accommodation

The latrine facilities will also be renovated. Little renovation is needed to upgrade the dining room which will serve as a mess for the trainees.

d. Monitoring

The technical specialist will work out a set of procedures by which the GAADP project director can monitor the vocational training program. These procedures will include a regular check on number of trainees, pass rate, employment rate, operating problems, etc.

DILLINGHAM TRAINING PROGRAM

Capital Costs

		US$
Classrooms: Cost of Renovation Two blocks (each block accommodating two trades and outside covered area in between the two blocks for welding)		80,000
Hostels*: Cost of Renovation Three blocks (two 12room blocks each room accommodating three trainees; third block for instructors and training office)		80,000
Equipment:		
Welding	30,000	
Pipe Fitting	10,000	
Electrical	35,000	
Mechanical	5,000	
		80,000
Capital Subtotal		$240,000

* These costs include power and water supplied to the classrooms, hostels and toilets and a basic level of furnishings in the classrooms and hostels.

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RECURRENT COSTS PER YEAR

		US$
Staffing		
One expatriate Manager (parttime responsibility) 40 percent of $36,000		14,400
One Chief Instructor	Rs. 60,000	
Four Instructors @ Rs. 40,000 =	160,000	
Three Sweepers @ Rs. 9,000 =	27,000	
Three guards @ Rs. 9,000 =	27,000	
One cook @ Rs. 11,000 =	11,000	
One cooks helper @ Rs.9,000 =	9,000	
	Rs.294,000	
+Allowances (65%)	191,000	
	485,000	37,900
Building Maintenance		5,000
Equipment Maintenance		7,000
Consumable Materials		7,000
Food: 240 trainees x 70 days @ Rs. 10 per day = Rs. 168,000		13,100
Trainees Scholarships 240 trainees @Rs.500 = Rs. 120,000		9,400
		$92,000

TOTAL Costs

Recurrent Costs: $92,000 per year x 4.5 years	414,000
Commission (10%)	41,400
Capital Costs	240,000
	$695,400

TRAINING OUTPUT

4 trades (electrician, auto mechanic, fitter, welder)

x 15 trainees per trade

x 4 cycles per year (5 hours/day x 6 days/week x 10 weeks)

x4.5 years

= 1080 trainees

THE PROMOTION OF EDUCATION IN THE PROJECT AREA

A. Background

The promotion of educational opportunities has always been an important part of Pakistan's national development policies and plans. There is currently concern, however, that progress has not been rapid enough in the field of primary eudcation and that overall literacy rates--especially for females--are below target. Attention to these areas has accelerated in the the fifth Five-Year Plan period and will continue to do so in the upcoming sixth plan period.

Education facilities in the project area are summarized in Tables 16-1 16-and 2. There are a total of 120 schools, 21 of which are female schools. The vast majority of these are in the Gadoon area. There are only three female schools in Swat Amazai and none at all in Hazara Amazai. Those female schools that exist are all primary. There are four high schools and eleven middle schools for boys. Less that 11 percent of all students in the area are girls.

In the NWFP over 40 percent of children between the ages of five and fifteen attend school. In Gadoon 20 percent of all children in the same age range attend school. The majority of these students are boys; 36 percent of all school-age boys, and 4.4 percent of all school-age girls attend school.

Given its remoteness, the Gadoon-Amazai area suffers more than usual from poor teacher performance manifested most obviously in teacher absenteeism. The Department of Education experiences difficulty in finding staff who will work in Gadoon-Amazai, considered an unattractive area. The Unatractive Areas Allowance is in fact provided but to date has been an inadequate incentive for well-trained teachers to work there. The department has thus had to give preference to teachers from Gadoon, and all but six of the 141 male teachers currently working in Gadoon schools come from Gadoon. However, less than half are trained teachers. The situation is the opposite on the female side where only five of the 42 female teachers come from Gadoon. The remainder come from Swabi plains villages and have been enticed to the area through relaxation of age or qualification rules; that is, they are above the age or hold inadequate qualifications to be teachers in more attractive areas. There is one outstanding advantage for Gadoon teachers: given the low student rolls, the teacher-student ratios are on the whole more favorable than elsewhere in Swabi tehsil. Male teachers have on average 27 students, and female teachers 11 students.

Around 20 percent of male schools, and 78 percent of female schools in Gadoon operate in rented quarters. There are several instances where these rented quarters are inadequate for males,

but in all instances the rented quarters for girls are considered unsatisfactory. This is primarily because they do not offer the enclosed situation and private toilet facilities most parents in Gadoon require for their daughters. These factors alone have constrained school attendance.

Other factors keeping female school rolls low in those areas where schools exist include:

- conservatism on the part of parents in regard to female education; they do not see the point of educating girls, who, other factors apart, will be lost to the family once married

- conservatism on the part of parents who do not believe public schools are the correct environment for girls to receive an education

- poverty; the majority of Gadoon families are poor, and their daughters contribute from a very young age to the economy of the family by carrying out home and farm related chores; these girls are not available for school; their parents cannot afford the avergage Rs. 200 per year required to maintain a daughter in books and uniforms

- teacher performance is low and teacher absenteeism high, especially where teachers have not been provided with accommodation and are forced to travel into the area daily

- religious instruction does not form the basis of the government curriculum; many parents believe girls should learn to read and write in order to read the Quran alone

- the majority of teachers in the Gadoon area are not from the area; parents would prefer their girls to be educated by known, local women.

B. Current Government Policies and Programs

The continuing low proportion of school-age children in school, particularly of girls, together with the low level of literacy in the country as a whole, have emerged as issues of national concern and steps towards their solution will represent some of the focal points of the upcoming Sixth Five-Year Plan. Already two important programs are under way: the first, involving the establishment of Mosque Schools and mohalla schools, seeks to dramatically increase the number of children receiving education by using Mosques--and for girls, private homes--as the locales for instruction, thus eliminating the costs of building schools.

The second program, the Literacy and Mass Education Program (LAMEC), over the next plan period, seeks to involve ten million women and five million men in literacy classes. The priority and publicity given these campaigns are testament to government's will to tackle the continuing low level of education in the country and particularly that of females.

C. Proposed Program

The objective of this component is to increase the proportion of educated persons in the project area and thus facilitate their opportunities for further education, training and employment. On the female side, this is increasingly important as men leave the area for work and women become de facto heads of households. Promoting opportunities for women is additionally important as a means of enabling women to benefit from developoment programs and information presently not available to them. It is generally accepted, for example, that there is a correlation between female literacy and improved child health care, nutrition, and reduced family size.

The component will focus upon the requirements of female education, as girls are currently at the greatest disadvantage in the area. It will support the Department of Education's initiatives in both the formal and non-formal areas, funding the construction of school buildings for existing and proposed primary schools, and supporting the establishment of community school system (mohalla) for girls in circumstances where the expansion of formal education is not considered workable.

Around one third of resources for this component will have a direct impact upon male education, in particular increasing opportunities for boys who are currently unable to continue their education beyond primary level due to lack of middle and high school facilities in their area. The Department of Education does not approve higher grades and provide teachers where no facilities exist.

1. Phase I

Funds will be channelled to the seven union councils in the project area to enable them to repair or undertake minor construction work on a total of 35 schools over the life of the project. The funds will be allocated in such a way that any one union council will be able to utilize its share for the construction of one entirely new school rather than repairing existing schools, if they so wish.

Based on union council requests it is likely that 80 percent of these funds will be utilized for the repair or construction of male schools.

Two suitable female teachers will be sent for overseas training in non-formal and community education techniques and program management. The University of Massachusetts is expected

to be the locus for this training. (These two women will return in time for Phase II to initiate and supervise, as Department of Education employees a network of community schools for girls). It is anticipated that the costs of this overseas training will be covered under the Development Support Training Project (USAID 391 0474).

2. Phase II

Funds will be channelled to the Mardan District Council to enable it to construct additional classrooms at three selected male primary schools in Gadoon so they may be upgraded to middle schools, and to two male middle schools for upgrading to high schools. Funds will also be channelled to Abbottabad District Council to enable it to upgrade three male primary schools to middle schools.

Funds will be channelled to the Mardan District Council for the construction of buildings for thirteen girls' schools in Gadoon. This will include the construction of:

- buildings for five existing girls' schools in Gadoon currently housed in unsatisfactory rented quarters
- buildings to enable three primary schools for girls to be upgraded to middle-level schools
- buildings to enable two middle schools to be upgraded to high schools for girls, the first in the area
- buildings for three new girls' primary schools

Funds will also be channelled to the Abbottabad District Council to enable it to construct the first five female primary schools in Hazara Amazai.

Finally, funds will be provided to the Swat District Council to enable it to construct two new female primary schools in Swat Amazai (Nagrai Union Council area). The costs of constructing these buildings are indicated in Table 6. (Estimated expenditure has been determined by an on-the-ground evaluation of requirements in the area, carried out by USAID engineers and scrutiny of standard Department of Education building plans for a two-room school complex. The engineers' estimates coincide with those presented by the Communications and Works Department and those of the Mardan District Council).

Up to 30 community or neighborhood (mohalla) schools will be established in the Gadoon part of the project area. This activity will be directly implemented by the Department of Education (schools, female) in the persons of the two non-formal educators who will have received training under the auspices of the project in Phase I. As employees of the Department of Education, these two officers will work with the Sub Education Officer (female) Swabi tehsil, and report to the district

Education Officer (Female) Mardan. The project will provide them with logistical support (vehicle) and an inducement to work in the area in the form of fully-paid Daily/Lodging Allowances.

The community schools will be tailored to local requirements and have the following characteristics:

- located preferably in the homes of local women
- able to make use of local educated women who do not have the qualifications required for teaching in primary schools, but who as locals are more acceptable to the people of Gadoon
- have hours of instruction that are flexible, allowing girls of poor families to complete their labor tasks before attending
- not require uniforms and keep to a minimum other costs (books)
- allow attendance by girls of varying ages will be able to attend including young women and mothers; several different classes may be established catering to different age groups with classes on different days
- allow more flexibility in curriculum, according to local will, including instruction in religion and home skills, and the introduction of health, sanitation (and possibly child care classes) with assistance from local female health officials.

It is anticiapted that the mohalla schools will be established through the following process:

- the two educators will undertake a survey of the area to determine where the first set of ten mohalla schools should be established; this will include determination of community support, the availability preferably of local, educated women, to initiate the schools, and the availability of premises
- the selected ten mohalla teachers will be provided a one-month training course in non-formal educaton techniques; this course will be run by the two educators in facilities provided by the department of Education, Mardan District
- the ten teachers will be assisted in establishing their schools, provided with basic equipment, books, and material aids, including radios and cassette players to enable them to take advantage of national radio and taped education programs

- the two educators will establish a teacher-support system based on monthly visits and seminar refreshers held three times a year

- the two educators will select a further ten areas for the establishment of mohalla schools, and carry out the same process described above. It is estimated that by the beginning of the third year of Phase II a total of 30 mohalla schools will be in place.

The mohalla schools will not only provide basic education in the traditional sense, as provided in formal primary schools, but will allow for the transfer of information in a range of community-related matters. The two educators will assist the teachers in making use of community expertise and in involving female officials in their programs. They will also advise them in making use of materials produced by non-government and government programs for use in non-formal situations (e.g., UNICEF, LAMEC).

The schools will also act as the major contact point for women for information imparted through the civic education program that the Department of Local Government and Rural Development will implement in the area with project support (see Annex 11).

3. Income Impact of Program

This activity will dramatically increase the number of school-age persons in Gadoon-Amazai receiving education; the number of girls in school (formal or non-formal) will immediately quadruple, as each mohalla school is expected to serve an average of 30 students, and the construction of 20 school buildings will cater to upwards of 50 students each.

The number of boys attending school will directly increase by around 25 percent, through the construction of buildings for ten schools and repairs/additions to up to 35 schools. The impact on numbers of persons receiving education is considerably higher over the longer term; obviously once facilities are provided and a school is established, a new intake of up to 30 students every year will take place. In the project lifetime alone as many as 5000 new students may have entered school in facilities provided by the project; this will double the current total roll of students in the project area.

There is a direct link between increased educational opportunities and increased employment opportunities, both within and outside of the area. Passage through school for boys, and especially through middle school, will facilitate their ability to enter vocational training and/or direct trade employment. Within the area there is an outstanding need for locally available educated persons; as noted above, most departments experience great difficulty in pursuading staff from outside the area to work in Gadoon. A wide range of government positions

exist in the area including positions for women (particularly the health and education sectors).

D. Implementation Arrangements

1. Agencies

Three agencies will implement education activities: union councils, district councils and the Department of Education. Union councils will carry out repairs and construction work on existing schools, beginning in Phase I. The Mardan, Abbottabad, and Swat District Councils will construct school buildings for a total of 30 schools (20 female, 10 male). The Department of Education (Schools) will advise district councils on the location of their construction activities and will establish and manage up to 30 mohalla schools in Gadoon.

2. Support to Agencies

The support provided to both union and district councils will be financial only. Funds will be directly channelled to them for repair and construction work.

Support required by the Department of Education includes:

- financial support to cover the costs of establishing mohalla schools, the recurrent costs of which the department will take over after the first year of each school
- expertise, which will be provided through the training of two teachers in non-formal education techniques
- logistical support in the form of one four-wheel vehicle, with maintenance costs for the duration of the project

3. Scheduling of Activities and Outputs

1. Component Rationale

The project will assist the Department of Education in both the formal and non-formal spheres. This two-pronged approach is considered necessary given the social, cultural and economic realities of the project area which constrain the acceptability of formal education for girls in many parts.

On the formal side, assistance will be confined to construction. Fears that this will amount to an "empty building situation" are unfounded; the situation in Gadoon-Amazai is such that even existing schools have inadequate facilities; 78 percent of female schools are in rented quarters. In some instances up to 50 students in five different grades are crowded together in a lobby of a private house. The construction of proper school buildings for girls will in addition provide toilets and boundary

walls, the lack of which to date has constrained a good proportion of parents from sending their daughters to school. Most important of all, the construction of teachers quarters within the school building complexes, will encourage better trained teachers to the area and allow them to remain in the community instead of commuting from outside the area. This in turn will improve their standing and relationships with the community and wil reduce teacher absenteeism among female teachers. The presence of teachers quarters will also enable female Learning Coordinators who supervise these teachers to visit the Gadoon area more willingly and frequently.

The reasons for supporting a mohalla school in the area have been indicated above. The Department of Education, NWFP, is very keen to see this project support an improved mohalla program, not only for the direct benefit of the Gadoon area, but as a pilot effort showing how improved support from the Department of Education may establish a more viable system of non-formal education for girls. They expect to utilize the experience and expertise of the two non-formal educators for wider provincial benefit after the end of the project.

2. Future of Mohalla Schools in Gadoon

Realistically it is not expected that both non-formal educators will remain in the Gadoon-Swabi area after the end of the project. This is especially so given the intention of the Department of Education to utilize their experience and skills more broadly in the province. In the course of their stay in the Swabi-Gadoon area, however, they will train one of the Learning Coordinators (female) in the establishment and support of mohalla schools, thus ensuring the continuation of expertise and support to the mohalla schools established. Already Swabi tehsil has five female Learning Coordinators who supervise formal school teachers. They have received training under the IBRD-funded Primary Education Project (PEP) which is using Swabi tehsil as one of its four pilot areas in the NWFP. It is also anticipated that the around half of the 30 mohalla schools to be established will, by the end of the project period, be adequately well-established to be treated as formal educational facilities, to be serviced by the Learning Coordinators. This will be appropriate in those instances where mohalla schools are established primarily as bridges towards community acceptance of female education in principle, rather than as a mechanism to enable poor children to attend in abnormal school hours.

3. Problems Anticipated in Implementation

No si icant problems are anticipated in the repair of construction activities to be undertaken in this component. It is recognized that land shortage is a problem in the whole of the project area, but it is believed that union councils, district councils and village communities will be able to secure arrangements which do not necessitate the purchase of land by the Department of Education or district councils for the construction

of schools. Experience to date has shown that most communities are willing to donate land for this purpose.

Only one problem is anticipated in the establishment of mohalla schools for girls in Gadoon, and this has been taken into account in the design and costing of the activity. Traditionally, mohalla schools are run by local, educated women who hold the classes in their own homes. It is known that there is a shortage of educated women in Gadoon. The Department of Education expects that only half of the proposed 30 mohalla schools will be opened by local women in the immediate future. This problem will steadily decline over the years as more girls enter higher grades in existing schools in the area. There are a number of girls in the area entering middle school.

Provision has been made in the design and costing of the project to enable up to half the mohalla schools to be opened by trained teachers who come from outside the project area. This involves higher support in terms of salary and the payment of rent for their quarters. The Department of Education will take over these costs one year after the initiation of each school.

TABLE 16-1

SUMMARY OF EDUCATIONAL FACILITIES IN PROJECT AREA

A R E A S	PRIMARY + MOSQUE		MIDDLE		HIGH		TOTAL		% of School (Female)
	Male	Female	Male	Female	Male	Female	Male	Female	
Gadoon Area (4 Union Councils)	48	17	4	1	3	-	55	18	
Hazara Amazai Area (2 Union Council)	19	-	5	-	-	-	24	-	0
Swat Amazai Area (1 Union Council)	17	3	2	-	1	-	20	3	3
	84	20	11	1	4	-	99	21	

TABLE 16-2

SUMMARY OF STATUS OF SCHOOLS IN GADOON

Type of Schools	NUMBER		ENROLLMENT		TEACHERS	
	Male	Female	Male	Female	Male	Female
Primary	43	17	2500	434	69	34
Middle	4	1*	556	27	29	8
High	3	-	612	-	38	-
Mosque	5	-	146	-	5	-
Mohallah	-	-	-	-	-	-
Total:	55	18	3814	461	141	42

*Kabgani school is called a Middle School but is not one in practice, having students in classes 1 & 2 only.

Table 16-3

Cost by Phase and Activity

			US$
	PHASE I (Year I)		
1.	Training of 2 teachers as Non-Formal Educators		*
2.	Repair by union councils of existing schools		8,000
	Subtotal	(Rs. 102,400)	8,000
	PHASE II (Years 2-5)		
1.	Repair by union councils of existing schools in project area		62,000
2.	Construction by district councils of school buildings (30)		342,000
3.	Community school program		117,080
4.	Other expenses		3,000
	Subtotal	(Rs. 6,708,226)	524,080
	TOTAL	(Rs. 6,810,624)	532,080

Table 16-4

Details of Personnel Support by Year

	NPS		1	2	3	4	5	
Non-Formal Educator I	17+		-	1373.5 (Rs.17580)	1373.5 (Rs.17580)	1373.5 (Rs.17580)	1373.5 (Rs.17580)	5494 (Rs.70,326)
Non-Formal Educator II	17		-	1373.5 (Rs.17580)	1373.5 (Rs.17580)	1373.5 (Rs.17580)	1373.5 (Rs.17580)	5494 (Rs.70,326)
Clerk 1 Typist	8		-	1174.7 (Rs.15036)	1174.7 (Rs.15036)	1174.7 (Rs.15036)	1174.7 (Rs.15036)	4699 (Rs.60147)
Driver	6		-	1765.25 (Rs.22596)	1765.25 (Rs.22596)	1765.25 (Rs.22596)	1765.25 (Rs.22596)	7061 (Rs. 90,384)
Peon *	-		-	468.75 (Rs. 6000)	468.75 (Rs. 6000)	478.65 (Rs. 6000)	478.65 (Rs. 6000)	1875 (Rs. 24,000)
Community Teachers *	-		-	4687.5 (Rs.60000)	7031.25 (Rs. 90000)	7031.25 (Rs.90000)	---	18750 (Rs. 240000)
SUBTOTAL			-	10843 (Rs.138790)	13187 (Rs.168794)	13187 (Rs.168794)	6156 (Rs.78797)	43373 (Rs. 555,274)

Daily Hire

Table 16-5

Details of Training-Related Expenditure

	1	2	3	4	5	
Training of 2 teachers as Non-Formal Educators						
Pre-training of Community Teachers @ $200 per teacher	-	2000 (Rs.25600)	2000 (Rs.25600)	2000 (Rs.25600)	- -	6000 (Rs.76800)
Related short courses @ $300 per teacher	-	1500 (Rs.19200)	3000 (Rs.38400)	3000 (Rs.38400)	1500 (Rs.19200)	9000 (Rs.115 200)
Seminars @ $75 per teacher p.a.	-	750 (Rs.9600)	1500 (Rs.19200)	2250 (Rs.28800)	2250 (Rs.28800)	6750 (Rs.86400)
SUBTOTAL	-	4250 (Rs.54400)	6500 (Rs.83200)	7250 (Rs.92800)	3750 (Rs.48000)	21750 (Rs.278400)

* Covered by Development Training Support Project USAID

Table 16-6

Details of Commodity-Related Expenditure by Year

US$ and Rupees (Rs.)

	1	2	3	4	5	
Vehicle (Toyota Diesel Hi-Luxe Double Cab)	-	*				
Equipment and material aids for community schools @ US$ 1000 per school	-	10000 (Rs.128000)	5000 (Rs.64000)	10000 (Rs.128000)	5000 (Rs.64000)	30000 (Rs.384000)
Office equipment and furniture	-	1500 (Rs.19200)	1500 (Rs.19200)			3000 (Rs.38400)
SUBTOTAL	-	11500 (Rs.147200)	6500 (Rs.83200)	10000 (Rs.128000)	5000 (Rs.64000)	33000 (Rs.422400)

To be covered under Agricultural Commodities Project USAID

Table 16-7

Details of Construction-Related Expenditure by Year

US$ and Rupees (Rs.)

	1	2	3	4	5	
Repair to 35 schools @ $2000 by union councils	8000 (Rs.102400)	16000 (Rs.204800)	20000 (Rs.256000)	18000 (Rs.230400)	8000 (Rs.102400)	70000 (Rs.896000)
Construction of 20 female school buildings @ $12000 *	-	60500 (Rs.774400)	60500 (Rs.774400)	60500 (Rs.774400)	60500 (Rs.774400)	242000 (Rs.3097600)
Construction of 10 male school buildings @ $10000 *	-	30000 (Rs.384000)	30000 (Rs.384000)	30000 (Rs.384000)	10000 (Rs.128000)	100000 (Rs.1280000)

* Note: Estimates for Primary School Construction as Determined by USAID Engineer, in Consultation with Communications and Works, Department of Education, District Council, Mardan, and On-site Inspection

a) two rooms: 16' x 25' = 800 sq. ft. @ Rs. 130 = Rs. 104,000
b) verandah: (9' x 25') = Rs. 22,500
c) teachers quarters & bathroom: = Rs. 15,600
d) boundary wall: 325 sq. ft. @ Rs. 40 = Rs. 13,000

Total cost standard complex male school = a) and b) = Rs. 126,500 ($9883)

Total cost standard complex female school = a), b), c) and d) = Rs. 154,600 ($12,078)

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Table 16-8

Details of Operational Expense by Year

US$ and Rupees (Rs.)

	1	2	3	4	5	
Vehicle Maintenance @ $3000 per year	-	3000 (Rs.38400)	3000 (Rs.38400)	3000 (Rs.38400)	3000 (Rs.38400)	12000 (Rs.153600)
Operational Expenses in support of community schools (including office supplies, rent of quarters for 5 schools, etc.)	-	2500 (Rs.32000)	2500 (Rs.32000)	2500 (Rs.32000)	2500 (Rs.32000)	10000 (Rs.128000)
SUBTOTAL	-	5500 (Rs.70400)	5500 (Rs.70400)	5500 (Rs.70400)	5500 (Rs.70400)	22000 (Rs.281600)

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Table 16-9

Details of Costs of Community School Program by Year

US$ and Rupees (Rs.)

	1	2	3	4	5	
Training Overseas of two Non-Formal Educators *						
Pre-training and Seminars @ $275 per teacher	-	2750 (Rs.1200)	3500 (Rs.4800)	4250 (Rs.54400)	2250 (Rs.28800)	12750 (Rs.163200)
Equipment and material aids @$1000 per school	-	10000 (Rs.128000)	5000 (Rs.64000)	10000 (Rs.128000)	5000 (Rs.64000)	30000 (Rs.384000)
Related short courses @ $300 per teacher	-	1500 (Rs.19200)	3000 (Rs.38400)	3000 (Rs.38400)	1500 (Rs.19200)	9000 (Rs.115200)
Personnel support	-	10843 (Rs.138790)	13187 (Rs.168794)	13187 (Rs.168794)	6156 (Rs.78797)	43373 (Rs.555174)
Vehicle and other operating expenses	-	5500 (Rs.70400)	5500 (Rs.70400)	5500 (Rs.70400)	5500 (Rs.70400)	22000 (Rs.281600)
SUBTOTAL	-	30593 (Rs.391590)	30187 (Rs.386394)	35937 (Rs.459994)	20406 (Rs.261197)	117123 (Rs.1199174)

* Covered under DST/USAID

Table 16-10

GOP Contribution to Education Activity

ITEM	US$	US$ Total
1. Salareis and basic allowances of 2 Non-Formal Educators		
a) Base Salaries Grade 17x2x5 yrs	34805	
b) Basic Allowances x 2 x 5 yrs	7851	42656
2. Equipment for each newly-constructed school building @ $2000 over 5 years	60000	60000
3. Teachers for newly-established schools or classes		
a) Grade 8 x 60 teachers x 5 years	210938	
b) Allowances	105469	
c) Administrative Support	48780	4365187
4. Support for community school program		
a) Accomodation for seminars and pre-training @ $100 per day x 186 days	18600	
b) Salaries of teachers after first year @ 657 per year per teacher (90 person years)	59130	77730
TOTAL		545573 (Rs. 6983334)

Table 16-11

Outputs by Year

	1	2	3	4	5	Total
Schools repaired by union councils	4	8	10	9	4	35
Female schools constructed	-	5	5	5	5	20
Male schools constructed	-	3	3	3	1	10
Community schools established	-	10	5	10	5	30

PROJECT MANAGEMENT

The project management structure for the GAADP includes the following basic elements:

- Lead agency at the federal level (PNCB)
- Lead agency at the provincial level (Planning and Development Department of the NWFP)
- Project Coordination Unit at the area level, under the direction of P and D
- Line agency responsibility for program implementation

This annex provides a detailed description of this structure and analyzes the management issues that underlie selection of the management structure proposed.

The special circumstances of the GAADP, as well as the difficult environment in which the project will be implemented, imply that special consideration should be given to developing a project organizational structure with the flexibility and authority necessary to overcome problems arising during implementation. Particular attention was therefore devoted to this issue during design, with emphasis on selecting a management approach that would meet the following three criteria:

- The division of responsibilities among agencies should parallel that in the GOP as closely as possible, in order to build on established roles within the government.
- The structure should fit in with the existing regulations and operating procedures of the GOP, particularly in the critical area of personnel management, so that project implementation requires minimal disruption of the GOP's operating systems.
- The project should rely to the greatest degree possible on existing programs and organizations, in order to avoid conflicts with the prevailing structure and to capitalize on existing capacity within the GOP.

A. Background

Experience elsewhere with multisectoral area development projects suggests that the management of project activities is an extremely critical variable in determining project success. Such projects generally involve a number of agencies carrying out varied tasks over a period of several years. Successful

completion of the planned program requires a coordinating structure with the capacity to:

- bring the various agencies together to plan activities
- coordinate the inputs of the participants during implementation
- monitor progress
- evaluate progress toward the project objectives

Three basic approaches to project management have been used in multisectoral area development projects to accomplish these tasks, each with its own strengths and weaknesses:

- The project management unit, either located in a central agency (such as the Planning Ministry or the office of the Governor), with responsibility for managing the various activities in the project. In this model, project staff are generally attached directly to the unit.
- The project coordinating committee, which brings together representatives of the various agencies involved. The agencies, and their programs, remain largely independent under this model.
- The lead agency approach, wherein the line agency that is expected to play the largest role in implementation (the agricultural ministry in many cases) assumes responsibility for the entire project, including coordination of the inputs of other agencies.

The principal problem in these three approaches, and the one on which such projects have most frequently foundered in the past, is the implicit tradeoffs among control, involvement, and competence. The PMU approach provides the highest degree of control over the activities, but it vests implementation responsibility in an agency without technical competence and isolates project implementation from the line agencies. The project committee approach, by contrast, brings together agencies with technical competence, but provides very little control over how project activities are carried out. As a result, coordination tends to be haphazard and there is little recourse when an agency fails to perform as expected. The third approach provides good control and technical coordination for lead agency programs, but other agencies generally fail to regard the program as their own, with predictably negative implications for their commitment and involvement in the program.

In developing the proposed approach to project management, therefore, careful consideration was given to the control-competence-involvement tradeoff. The proposed approach, which is centered around creation of a Project Coordination Unit,

represents a midway point between the project management unit approach and the coordination committee approach. As will be discussed further below, it leaves programmatic responsibility with the line agencies and uses the budget mechanism to achieve the desired degree of control and coordination.

1. NWFP Government Organization for Area Development

At present, there is no policy within the federal or NWFP governments on which agency should take responsibility for area development programs. Although the GAADP is not the first such project in the NWFP, it is considerably larger than other projects implemented to date. Moreover, these projects and programs have generally used the PMU approach, which has not proven to be wholly satisfactory in practice. The best example is the GOP's Integrated Rural Development Program, which created special units at the local level charged with overseeing the entire development program in their respective areas. These organizations did not function effectively, lacking both sufficient authority to manage the line agency programs and sufficient technical ability to implement their own programs. As a result of this and similar experiences with donor-funded projects, the Government of the NWFP is extremely leery of repeating this approach.

Under the GOP's decentralized structure, no federal agency would provide an appropriate organizational home for the project, since federal line agencies do not have implementation responsibility at the provincial level. Therefore, it was decided that a provincial agency should take the overall lead in the actual implementation of project activities, since this conforms to the pattern established for the GOP's own activities.

Nonetheless, there are certain advantages to having a federal agency involved in the project, not least that this arrangement ensures that AID project funds are additional to those normally provided to NWFP in the annual development budget. This has been a condition of NWFP Government support for the project. The vesting of responsibility in a federal agency also establishes a single counterpart with which AID can conduct project negotiations. The most logical organization to play this role, in view of the project's overall purpose of poppy eradication, is the Pakistan Narcotics Control Board (PNCB). Although this agency has only limited experience in area development, it brings to the project necessary skills and experience in implementing programs to eliminate poppy cultivation and provides a good balance for the provincial agencies involved in project implementation at the local level, including the lead NWFP agency as well as other line agencies that will participate in the GAADP.

At the provincial level, there are several alternative agencies that could potentially fill the role of lead project agency:

- The Planning and Development Department (P and D)
- The Regional Development Planning Section of P and D
- The Department of Local Government and Rural Development (LGRD)
- The local administrative system, including the offices of the Deputy and Assistant Commissioners

Each of these agencies has strengths and weaknesses as a potential administrative "home" for the GAADP.

The most logical candidate, and the one ultimately chosen, is the P and D Department. This department is charged with overseeing the planning and implementation of development programs at the provincial level. P and D is responsible for developing the investment budget of each of the line agencies, which invests it with considerable authority. It does not, however, have a track record in project implementation. The Regional Development Planning Section, which is intended to take on this function in the future, is only in the early stages of formation.

The line or "nation-building" departments at the provincial level have the lead role in implementing development programs. None of the specific agencies to be involved in this project, however, has a sufficiently broad mandate to serve as lead agency for the entire program planned. Agriculture, for example, has no authority in the area of infrastructure construction or employment training. The department would be unlikely to exercise effective control over powerful departments such as Communications and Works. The one line agency that in theory might play this role is Local Government and Rural Development (LGRD), but the work of this agency has been concentrated almost entirely on developing the local council program. It is therefore not viewed as having authority over other line agencies and could not play the coordinating role effectively.

The final organizational home considered for the project is the commissioner system, the political or administrative structure that parallels the line department system and has its roots in the administrative system established during the colonial period. This system, headed by the Home Secretary under the overall direction of the Governor, includes the Division Commissioners (heading the major divisions of the NWFP), the Deputy Commissioners (heading the district administrative offices), and the Assistant Commissioners (heading administrative offices at the "tehsil" or sub-district level). The commissioners have overall responsibility for the activities of government officers within their jurisdictions and, therefore, for the government programs in their area. In general, however, they do not become involved in the substantive direction of these programs. As the origin of the system implies, their concerns

center rather on the maintenance of law and order, the resolution of disputes, and other purely administrative matters. In consequence, their offices do not offer an appropriate home for the project's overall direction.

The net result of this analysis is that none of the agencies in the NWFP or Federal Government is an ideal choice for lead agency for the GAADP, combining responsibility and authority for area development with the necessary staff expertise and organizational experience. P and D represents the best of the available options, but it is recognized that certain features of the agency (notably its relative inexperience in project implementation) will require continued monitoring during project implementation.

2. Administrative Ability of the Line Agencies and Local Councils

The line agencies of the NWFP Government that will be involved in the GAADP (Agriculture, Communications and Works, and so on) have the administrative ability to carry out the responsibilities required of them. No special arrangements have been made to reinforce their administrative or organizational operations, other than through the provision of technical assistance for the implementation of the programs planned.

The experience and ability of each of these line agencies are further considered in the relevant component description annex and therefore will not be discussed here.

The project places considerable implementation responsibility on the local councils (the District and Union Councils), which will be primarily involved in implementing small infrastructure schemes and other construction. While the types of activities to be undertaken by the councils closely parallel their current programs, the project will greatly expand the level of activity. As described in Annex 13, the GAADP will reinforce the administrative ability of these councils through increased support via the LGRD, in-country training, and informal short courses conducted by the technical assistance team.

Despite the administrative and implementation capabilities of the individual agencies and organizations that will be involved in the GAADP, there is a need for a coordinating mechanism to bring together the activities of each participant, both to ensure that the different programs complement rather than conflict with one another and to provide the necessary degree of oversight and monitoring. This issue was also given considerable attention during project design and several features have been incorporated into the project design to fill this function, as described below.

B. Proposed Project Structure

1. The Project Coordination Unit

The project structure centers around the Project Coordination Unit (PCU) to be established within the P and D Department. The PCC will be headed by a regular staff member of P and D, who will be designated as the Project Director (PD/P&D). The offices of the PCU will be located in Topi, the largest town near the project area.

The PCU will be made up of three sections:

- Administration
- Monitoring and Evaluation
- Development Support Communications

The technical assistance team will also be based at the PCU, as will several of the specialized personnel working on GAADP programs within the line agencies. The latter may include, for example, the community organizers assigned to the LGRD, the ecologist who will work on the range and forestry program, and the nonformal educators. Such personnel will also have office facilities at the nearest office of their line agency, to ensure the necessary degree of contact and supervision.

a. Administration Section

The Administration Section, headed by an administrator, will comprise three subunits, responsible respectively for procurement and logistics, accounting, and general administration. The section will be staffed by an administrator, an accountant, two sub-accountants, a procurement officer, and a vehicle control officer. The Administration Section will also supervise the PCU support staff, consisting of three secretaries, four typists, four clerks, eight drivers, and ten general laborers (chowkidars, malis, jamadars, peons, etc.).

In addition to providing general support to the PCU operation itself, the Administration Section will support the activities of the line agencies and local councils involved in the GAADP. The procurement subunit, for example, will assist the line agencies with procurement as necessary.

With the exception of the two vehicles permanently assigned to the PCU Director and the chief of the TA team, all of the vehicles assigned to the PCU will operate as a motor pool. Individual vehicles will not be assigned for the permanent use of GAADP staff, whether members of the technical assistance team or GOP employees. It is intended that several of the project-funded vehicles assigned to the line agencies will also be based at the PCU. The vehicles will be managed by the vehicle control officer

and maintained through a joint maintenance contract with a local repair firm. This approach has been selected to increase efficiency, prevent problems associated with assignment of vehicles to individual staff, and reduce overall maintenance expenses.

The PCU accounting staff will be responsible for maintaining the expenditure records for all PLAs funded by the project. Their records will provide the basis for the annual independent audit of project funds and for post-audit by AID and the GOP as appropriate.

b. Monitoring and Evaluation

The Monitoring and Evaluation Section will be responsible for project information-gathering activities, both those intended to provide the basis for evaluation per se and those undertaken as the basis for detailed implementation planning of project activities. The section will be responsible for supervising the hydrological and mineral surveys planned for Phase I, for example.

The staff of the section will include an agricultural economist and a statistician. The unit will also receive considerable technical assistance from the Phase I and Phase II technical assistance teams' chiefs of party.

It is not intended that the Monitoring and Evaluation Section undertake a "baseline" or "multipurpose" survey early on in the project. Experience with such surveys indicates that they rarely serve the purposes for which they are intended, gathering both more information than can be analyzed and less information than is needed for final design. Instead, the unit will design and carry out small surveys tightly focussed around matters of specific concern to the project. For example, it may be necessary to construct a small survey on the issue of livestock ownership and management as the basis for planning the livestock and range management programs.

c. Development Support Communications

The Development Support Communications Section will support the activities of the project by preparing communications and training materials as needed and by providing assistance to other project personnel in the development of community intervention strategies. Early on in project implementation, for example, the section is expected to develop a cassette- or flipchart-based presentation that can be used to help explain the GAADP to villagers in the project area. As the program develops, the section may be involved in activities such as the design of extension materials, development of a project implementation manual for the local councils, and development of farmer groups for irrigation, range management, and marketing.

The section will also backstop in-country and U.S. training carried out under the project. This will include training actually funded by the the DSTP as well as short-term, informal training financed and implemented directly by the GAADP.

The section will be staffed by a trainer/communicator. This individual will receive a year of training at the University of Massachusetts under project sponsorship. Prior to his or her return, the operation of the section will be handled by the Pakistani community organizations specialist provided by the Phase I technical assistance team.

2. Project Coordinating Mechanisms

In addition to the PCU itself, two mechanisms have been developed to ensure adequate coordination of the activities of the various participants in project implementation. At the provincial and federal level, a Project Review Board (PRB) will be established within P and D. At the operational level, a Project Coordinating Committee (PCC) will be established to advise the Project Director.

The role and membership of the two committees will differ substantially, although USAID and the PNCB will have permanent members on both bodies. The PRB will function as the senior oversight and monitoring body for the project, providing overall direction and reviewing progress. The PD/P&D will report to the board, providing regular information on project progress and problems requiring intervention from AID or the senior levels of the provincial and federal governments. The PPB will approve project work plans prior to their submission to AID and will participate in evaluations.

The PCC, on the other hand, will be strictly concerned with project operations. It will operate under the chairmanship of the Project Director. The membership of the PCC will include representatives of the line agencies that will participate in implementation, as well as the Assistant Commissioner's office. If necessary, the Deputy Commissioner's office may also send a representative. The PCC will develop and review implementation arrangements and progress for the various participating agencies, providing coordination across agencies as necessary. The PCC will formulate the work plans on a six-monthly basis for approval by the Project Director and transmittal to the PRB for their action and final approval by USAID and the GOP. It is expected that the PCC will meet monthly (or more frequently if necessary), whereas the PRB will generally meet on a quarterly basis.

Neither the PCC nor the PRB will have staff and operating budget of their own. Travel and incidental expenses associated with committee meetings may be financed, if necessary, from the special allowance fund (see below).

3. Project Support

Several items that cannot be associated with any single project component have been combined and treated in the design under the rubric of "project support." These include the following:

- Staff housing for the TA team and PCU staff
- Evaluation (see Evaluation Plan in text)
- Per diem and allowances for GOP staff who participate only occasionally in the project
- The administrative fee for the personnel contractor
- Surveys and other data collection activities
- Audiovisual equipment to be managed by the Development Support Communications Section

Some of these require additional comment.

a. Staff Housing

The senior PCU staff and long-term technical assistance team will be housed at Tarbela Dam in facilities maintained there by WAPDA. These houses will be repaired and refurbished with project funds to bring them up to standard for permanent housing. Arrangements for this housing will be made by AID. It is extremely important that this housing be made available to the project in a timely manner, since suitable housing is not available in Topi or other sites near to the project area. The availability of adequate housing is expected to be a key factor in attracting qualified Pakistani staff to work on the project, whether as technical assistance staff, contract personnel, or regular GOP employees.

The project will also operate two guest houses. The first of these will be at Tarbela and will serve short-term TA GOP, and USAID personnel. The second will be located at Utla, in the center of the project area and the most distant village currently accessible by road. This second guest house will serve as a "base camp" for project personnel visiting the more distant parts of the project area, since it will not be practical to return to Tarbela or other permanent quarters every night, particularly when working in villages that cannot be reached within a single day's travel from outside the project area. The guest house will be permanently staffed with a cook and "chowkidar" to ensure that it is habitable and that staff do not lose inordinate amounts of time in domestic preparations. This guest house will be constructed on land provided by the GOP. After the end of the project, this facility will be transferred to one of the line agencies working in the project area for its use (as permanent

staff housing and office space for the Department of Agriculture, for example).

b. Contractor's Fee

The provision of extra staff needed for a time-limited program such as GAADP invariably poses a serious problem for both the GOP and AID. While such staff is indispensable to the project, it is difficult for the GOP to add staff quickly, to pay such staff a sufficient salary to attract them to a temporary assignment under difficult conditions, and, equally important, to remove such personnel from the payroll after the project is finished. At the same time, the many disadvantages associated with direct hiring of such personnel, whether by AID or the technical assistance contractor, are well known. Not only are such personnel not responsible to the GOP officials involved, creating the potential for schisms within the project staff, but the administrative burdens associated with managing these added personnel may divert scarce management resources from the more important tasks of directing project activities.

Several alternatives were considered to deal with this complex but extremely important issue. These included using permanent GOP staff seconded to the project, hiring staff locally on an individual basis, assigning the TA firm the task of recruiting and managing local staff, and contracting for such staff through GOP channels. All of these approaches were ultimately rejected in favor of using a professional contracting agency to hire the necessary staff, funded directly by the project. This approach, which is widely used in the GOP public and private sector to avoid precisely those difficulties described above, has been used with success in other AID projects (notably in the health sector). The contractor will be responsible only for professional level staff; lower-level staff (forest guards, chowkidars, etc.) will be hired locally and administered by the PCU.

The contractor will not be responsible for assigning responsibilities to the staff or for monitoring their performance. The contractor's duties will be limited to the administrative arrangements associated with these personnel, including employment agreements, payroll, administration of benefits, and so on. It is expected that in many cases GOP, USAID, or technical assistance team personnel will identify candidates for these positions, who will then be hired by arrangement with the personnel contractor. In other cases, the personnel contractor will identify suitable candidates (generally accomplished through newspaper advertisement) for review and approval by the project administration.

c. Special Allowance Fund

A budget for travel expenses and other allowances for project staff (GOP and contract) has been included in the budget for each component. This budget, however, covers only personnel who will have major involvement in the project. In practice, this means the personnel of Mardan District who work regularly in the project area (extension agents, LGRD supervisors and engineers, etc.). No allowance has been made in the component budgets for individuals who will not have day-to-day involvement in the project. Such personnel includes senior line agency personnel of Mardan District, personnel at the provincial level (P and D, WAPDA, etc.), and both junior and senior personnel in the other two districts (Abbottabad and Swat). The latter will be involved to a much lesser degree than those of Mardan, particularly if, as expected, the two union councils of Abbottabad are transferred to Mardan. (They are already considered part of the Mardan district by the Department of Agriculture.)

Although these personnel will be involved in the project only on an occasional basis, their participation will be important for project success. To ensure that administrative difficulties and the prevailing shortage of operating funds do not prevent their effective participation, a small fund has been established as part of the project support system to finance per diem, travel, and other allowances for these individuals. This fund will be controlled by the Project Director, who will be responsible for its sound management.

SOCIAL SOUNDNESS ANALYSIS

This social soundness analysis begins with a section that provides a general description of the project area giving particular consideration to the special and difficult characteristics of the area. These characteristics have been taken into account in evaluating the design of the project's components. The following section seeks to supply justification, from a social standpoint, of the appropriateness and utility of the project's components to provide viable economic alternatives as a replacement for the area residents' current dependence on poppy cultivation. The final section includes a discussion of the project's beneficiaries, the issue of enforcement, and ends with a conclusion that states that the project is, on balance, socially feasible.

A. General Description of the Project Area and Its Special Characteristics

This opening section of the social soundness analysis will provide a general description of the project area. Gadoon-Amazai, with particular reference to its special characteristics. These special characteristics relate directly to the project area's designation as the area of highest production of opium poppy in Pakistan. The underlying reasons that make this the case must be evaluated in social terms which, in turn, must be taken into account in the project's design in order to ensure the project a reasonable chance of success in accomplishing its objectives.

1. Location and Population

Gadoon-Amazai is a single mountain complex that lies due north of Tarbela dam on the Frontier province side of Tarbela lake which is formed by the Indus river. The mountain, called Mahaban by local residents (and thought to mean "the great forest" in Hindi), reaches a height of 7,323 feet above sea level and covers an area of 597 square kilometers that is divided into three administrative areas: the districts of Mardan, Abbottabad, and Swat (which also lie in three separate divisions; Peshawar, Hazara, and Malakand, respectively). The boundaries of the project area encompass seven union councils: four in Swabi tehsil of Mardan district, in the area known as Gadoon, two in Haripur tehsil of Abbottabad district and one in Buner subdivision of Swat district. The last three union councils are found in Hazara Amazai and Swat Amazai respectively from where the Amazai in Gadoon-Amazai is gotten.

The project area has a current population of 116,000 (1983 estimate) and thus a population density of 194 per square kilometer which is considerably above the provincial average of 170 (1983 estimate). More than half of the population--56 percent--is found in Gadoon (65,000) while Hazara Amazai and Swat Amazai have 28,000 (24 percent) and 23,000 (20 percent) respectively.

3. History, Tribal Structure and Law

Up until recent times Gadoon was a tribal area, Hazara Amazai was part tribal and part of the State of Amb (a former princely state), and Swat Amazai was part of the princely state of Swat. In 1952 Hazara Amazai and in 1953 Gadoon were merged into settled districts [1] while Swat Amazai waited until 1969 to become part of the settled district of Swat following the abolition of Swat State and its rule by the Wali.[2]

The areas of Gadoon and the two Amazais are dominated by Pushtun tribes which came into the Peshawar region (during the great Pushtun migrations) in the 15th and 16th centuries. The dominant tribe in Gadoon is the Jadoon (from which the name Gadoon comes) and they are recorded to have occupied Gadoon in the late 1500's. In Gadoon the Jadoons are divided into two main

sub-tribes: the more populous Mansurs who are concentrated in the upper reaches of Gadoon and the wealthier Salars who are settled further down the valley. These two main sub-tribes are further divided into clans or sections: Masaizais, Daulatzais, and Qadarzais (among Mansurs) and Sulaimanzais and Otozais (among Salars). (See Table 18-1 for proportional of these subtribes and

Table 18-1

Population Figures Including Percentages For Tribes and Sub Tribes of Gadoon

Tribes and Sub Tribes	Number of Population <1>	% of Mansurs/ Salars/ Stanadars	% of Jadoons	% of Total
A. Jadoons	38680			74.34
1. Mansurs<2>	22660		58.58	43.55
a) Masaisais	12559	55.43	32.47	24.13
b) Qadarzais	6363	28.08	16.45	12.23
c) Daulatzais	3738	16.49	9.66	7.18
Total		[100]		
2. Salars<3>	16020		41.42	30.79
a) Otozais	13110	81.84	33.89	5.59
b) Sulimanzais	2910	18.16	7.53	25.20
Total		[100]	[100]	
B. Stanadars<2>	6644			12.77
1. Stanadars	5674	85.40		10.91
2. Asazais	970	14.60		1.87
Total		[100]		
C. Gujars<4>	6703			12.89
Total	52707			[100]

<1> Based on unofficial figures of 1981 Census

<2> The figures for Mansurs and Stanadars are arrived at after deducting 17 percent population for Gujars

<3> The figures for Salars are arrived at after deducting 5 percent for Gujars

<4> The figures for Gujars are based on figures for Mansur, Salar and Stanadar populations

SOURCES: 1981 Census (unofficial)
Interview with Ajoon Khan Jadoon, April 18, 1983

clans in Gadoon). The Jadoons trace their lineage to Gurghusht, the third son of Qais bin Rashid, the putative ancestor of all Pathans and a contemporary of the Prophet Muhammad.

In Swat and Hazara Amazais are found the same Pushtun tribe of Amazais who are a section of the Utmanzai Yusufzai Pathans.[3] The Yusufzais who dominate in Swat and Mardan districts as well as parts of Peshawar district are one of the major Pushtun tribes who were among the first to migrate from Afghanistan and as a consequence they possess among the most fertile lands in the region. They trace their origins to the eldest son of Qais bin Rashid, Sarban.[4] In Hazara Amazai, in the lower part of the Baitgali union council area are found the Utmanzai who are also a subtribe of the Yusufzais and are fairly closely related to the Amazais in that they both trace their descent to Mardanr, the son of Yusuf who was a few generations removed from Qais.

Distinct from the Pushtuns of Gadoon-Amazai there are a few other significant social groupings including the Stanadars, the Tonolis and the Gujars. The Stanadars are concentrated in the Gabasni union council area of Gadoon (though there are some in the southern part of Bait Gali union council) and they are distinguished by their religious status. Most accounts identify the Stanadars as descendants of the Pir Baba family, the famous saint whose shrine is in Buner subdivision of Swat district. At some point in the past they were forced by a dispute to leave Buner and they came to settle in Gadoon. Because of their religious status (some among them claim to be Sayyidr [direct descendants of the Prophet] they were welcomed by the Jadoons and given stana (i.e., a place, land) to use on a more or less permanent lease arrangement. The Stanadars have a curious status; because of their religious standing they are asked to mediate in tribal squabbles by the Jadoons but there have also been occasions when the Stanadars have been harrassed and exploited by their Pushtun benefactors. It is interesting to note that the Stanadars played a role in the government's merging of Gadoon in 1952; they were also the first group to respond positively to the GAADP design team.

The Tonolis claim central Asian origin in their descent from a Mughal chieftain who lived in the 1400's but Ibbetson says "there can be little doubt that they are of Aryan and probably of Indian stock."[5] He claims they were driven out of the Mahaban basin by the Yusufzais in the 1600s and they settled where they presently are, in the territories of the former Nawab of Amb. Most of the Tonolis are landowners but a few are tenants.

By most accounts, the Gujars are descended from a central Asian tribe affiliated to the White Huns of Genghis Khan fame who entered the sub-continent prior to the Pushtun invasions. They were originally pastoralists and this is an occupation that they have continued up to the present day. A few, however, in the project area have become landowners but most are sharecroppers who divide their time between tending the fields and taking their animals up Mahaban for grazing.

As Pushtun tribes are the leading social group in the project area, Pushtun traditions and values form the predominant core of social mores, so much so that the other minority groups aspire to emulate Pushtun customs. Fundamental to Pushtun society is Pukhtunwali--a code or set of principles that defines ideal Pushtun behavior with respect to such concepts as badal (revenge), melmestia (hospitality), nanawatee (submission), tarboorwali (cousin rivalry), and tor (female honor). Of these concepts, the final two are the most important in Pushtun society in the view of the respected Pakistani anthropologist, Akbar Ahmed.[6] Tarboorwali refers to the structured rivalry between first cousins, more particularly father's brother's sons, which usually acts itself out over such issues as land and leadership and can result in blood feuds that can last for years, sometimes generations. Tor embodies the concept of female honor or the necessity of preserving female chastity, a concept which serves to reinforce and perpetuate the social order which gives to males the highest and central place of authority and control.

Pukhtunwali is an idealized code of behavior and as such it continues to have considerable influence on social relationships in the project area. However, it is important to note that some measure of social change has and is taking place and this has served to weaken the hold of Pukhtunwali. Among these have been the incorporation of the project area into settled districts, the coming of government laws and the establishment of such institutions as union councils. Another has been the compulsion of many of the working age males to seek employment opportunities outside where they have been exposed to differing social mores. A third has been the economic necessity of women to work in the fields or travel to gather water or firewood which has led to cases of elopement or abduction. An example from the project area demonstrates the changes taking place. A union councillor who is also a traditional malik is refusing to allow the extension of a council-funded irrigation scheme on his land to land below belonging to a sessions judge. The councillor resents the judge on two counts, one traditional and the other modern. The judge is married into the family of the councillor's

traditional rival and secondly the councillor feels threatened by the judge's new and rising status which has enabled him recently to host both the Deputy and Assistant Commissioners. Thus social values and relationships in the project area, though based on Pushtun traditions, are presently in a state of flux.

In the project area there are three legal traditions that have varying degrees of force. These are Pushtun rivaj (tribal, customary law); Islamic shariat (law) and the government civil, criminal and revenue codes.[7] Most minor disputes over such issues as property and inheritance are settled by tribal jirgas (assemblies of tribal elders or maliks) that base their decisions on rivaj.

Over the years, however, there has been some change in rivaj. Before Gadoon became a settled area, in abduction cases, the house of the guilty party was razed to the ground, his crops were distributed to the woman's family and he was banished from the village until a settlement was reached. Today the custom is to take money from the guilty party or, alternatively, a woman is taken from the offending man's family and married to a man in the aggrieved family.

In the event that a jirga cannot reach a decision that is acceptable to all parties, religious leaders are contacted who look for precedents in the Shariat to try and resolve disputes. As mentioned above this has been a role played by the Stanadars in Gadoon.

Resort to government law and the courts is usually only undertaken in such cases as murder. While government tolerates the continuation of rivaj, if a jirga-sanctioned settlement for some reason finds itself in court, that settlement has no legal sanction. The promulgation of Islamic laws under the current government has not, as far as is known, resulted in an increase in Shariat-sanctioned legal settlements though this may come eventually with the government's increased emphasis on and sponsorship of Islamic laws and courts.

3. Language and Religion

The language spoken by the majority of the people in the project area is Pushtu, the language of the Pushtuns. The other languages spoken include Hindko (an amalgam of Pushtu, Punjabi and Urdu), which is spoken in Hazara Amazai mostly by the Tonolis, and Gujari (a language akin to Urdu and Hindi) which is spoken just by the Gujars.

In terms of religion, virtually all of the population of the project area are Sunni Muslims; there are no known adherents of other religions in Gadoon-Amazai. The inhabitants of the region have been Muslims for generations and for the Pushtuns, aside from the compatibility of Pukhtunwali with the religioun principles of Islam, their identity is bound up with Islam in that their common ancestor, Qais bin Rashid, was converted to

Islam by the Prophet Muhammad himself. Reference has already been made to the role of Shariat in the project area and in recent years, under the current government, Islam-sanctioned Zakat and Ushr committees are beginning to establish roots in the area.

4. Resources of Land, Water and Range Rights and Practices

As a mountainous region, little of Gadoon-Amazai's total area is under cultivation. Of the total area of 140,000 acres, only 30,000 (or 21 percent) acres are under cultivation and most of this area is rainfed; only 804 acres in Gadoon and 1,011 in Swat Amazai are irrigated. Thus cultivated land in the project area is mostly in the form of small, hilly terraced fields (some of which go up to 5,000 feet or more) ranging in size from a few kanals (an eighth of an acre) to less than a kanal.

This smallness of fields is consistent with the typical size of landholding. Most of the land owners in Gadoon (89.6 percent) own less than five acres and among them the average of cultivated land per holding is half an acre. Of the farmers in Gadoon, an estimated 70 percent own all of the land they work; the balance are sharecroppers, some of whom own part of the land they work. When one considers that the area already has a high population density (there are 18,700 households in the area with an average size of 6.2 persons) and that the Pushtun custom of equal division of land among sons is in vogue, it is possible to understand the great pressure on the land and the consequent outmigration from the area for jobs. Recent estimates indicate that in the project area one household in every three has a working age male working outside the area suggesting an "emigrant" population of 7,000, roughly 15 percent of the total workforce.

Next to land, water is the most important natural resource in Gadoon-Amazai. Swat Amazai's water situation is comparatively better having as it does heavier tree cover, higher precipitation and a northern exposure. Nonetheless, there are springs as well as significant hill streams (khwars) or small rivers in both Gadoon and Hazara Amazai which are already providing water for both drinking and irrigation purposes. Of these, the latter especially have potential for greater exploitation to meet people's needs, particularly in the area of irrigation.

Unlike the government's position that water is a public resource and owned by all, in the project area, particularly Gadoon, water is viewed to be owned by he who has it at least in the case of irrigation. Thus if a landowner has a water source on his land that can be used for irrigation, it is accepted that he "owns" or at least can control that water.

The amount of water is the critical issue. The owner who has the water source or to whose land the water comes first will use what he needs for his land. If there is water left over, he will allow it to flow to his neighbors who are members of his

tappa (a lineage segment comprising those living, usually three or four generations). If there is sufficient water after the tappa's fields have been irrigated, then the water is allowed to flow to fields further down. The object is that there should be sufficient water for one's tappa but again availability is the crucial factor. Water disputes most often arise from insufficiency of supply and these often take place within tappas and are abetted by the principle of tarboorwali. Such disputes are settled by jirgas.

There are instances within the project area of three or four owners cooperating to undertake an irrigation scheme to provide water to their lands. They bear the cost collectively and also make arrangements for its maintenance. Water shares are determined by the needs of one's land with considerations for size and the nature of crop grown.

On lands that are used for range in the project area are found grasses that are used for grazing purposes but are also cut usually in November to be used for feed for animals in the villages. These range lands are often included in a village's shamilat or communally-owned property. In Gadoon this shamilat land lies up toward the top of Mahaban and each major settlement in Gadoon has shamilat in this high area. A village's shamilat is divided according to tappas in measures proportionate to a tappa's holding of land immediately around the village. Despite this arrangement it is possible for anyone from the village to use the community's shamilat. In practice, however, the Gujars in such settlements as Leran and Mazghund make heavier use of the range areas as they tend to have more animals than the average farmer. Also there is no one to police their movements if they happen to use the shamilat of a village down below for their flocks. According to one source, there is a little demand from a village below to use its high shamilat unless there is no rain during the summer, which suggests that enough forage can be gotten locally for animals in normal times.

Forage is gotten from local fields (wheat straw, rape seed husks, maize) but it is also brought in from Topi when supplies have run down, usually during the summer. Most families have a few animals such as water buffaloes, bullocks, cows, sheep, goats and poultry. A poor farmer will have at least one water buffalo or will try to get one which he will use for milk for his family. If there is an excess he will make butter oil (ghee) to sell on which he depends in some measure for his income, to supplement what he gets from the land as a small owner or sharecropper. Such farmers often have agreements with larger landholders whereby the poor farmer will graze his own buffalo along with those of the larger holder on a portion of the latter's land set aside for grazing purposes.

Despite their potential for meat and their relative economic advantages, goats are few in the project area and are mostly limited to Gujar flocks kept in the high areas. The unpopularity of goats stems at least in part from the Forestry deparment's ban

of 12-15 years ago undertaken to protect young trees from goat foraging.

As with goats, there is a ban on the collection of firewood for sale purposes in the project area. Despite the ban, however, firewood is collected and smuggled out of the area for sale in places like Topi and this practice, along with the use of firewood to meet local needs, is rapidly depleting what tree resources remain. Fifteen years ago firewood trees extended down as far as Sandhwa in the Gadoon valley; now such trees are limited to scattered patches in the vicinity of such settlements as Mazghund or high up on Mahaban in places that are virtually inaccessible.

Thus, based on the above discussion, the project area can be characterized as a region of high population density with great pressure on relatively scarce supplies of such resources as land, water, range and forest. Unfortunately the social customs of the area, demonstrated by such practices as division of landholding through inheritance and the "ownership' of water by the one who is closest to the source have not served to exploit natural resources in the best interests of most of the people of the project area. Therefore the project faces a considerable challenge in making use of what resources remain and building on them to provide socially acceptable means of economic development for the residents of the area.

5. Genesis of Poppy Cultivation in Gadoon-Amazai

It is not known precisely when opium poppy cultivation began in the Gadoon-Amazai area but most sources indicate it is an activity that has gone on for generations. There are records of opium cultivation in the late nineteenth century in British India when it was grown as a legal crop and exported. During the British period opium was grown under a license and this practice continued in independent Pakistan up until recently when opium cultivation was banned by the present government under the Hadd Ordinance in 1979.

Among the chief reasons why opium is grown in Gadoon is that it is a cash crop--in recent years a very lucrative one--and that no other crop that can yield the same economic returns can be grown there. The previous section discussed the high population density of the area, the small, terraced landholdings and other limited natural resources, all factors that together present a formidable challenge to any agricultural system that seeks to support farm families as well as provide them with cash income. However, even given these difficulties, the opium poppy plant flourished. It can grow in the relatively poor, non-retentive soils of the area; it can grow under rainfed conditions and at relatively high altitudes on very small land holdings. When it became a well-paying cash crop in recent years, it served to support families beyond the subsistence stage and gave them income. Given these conditions one can well appreciate why the residents of the area grow opium.

6. Socio-Economics of the Current Poppy System

The farmgate price of a kilogram of opium is currently Rs. 350-450, down from the high it reached in 1978 of Rs. 2,000 a kilo. Several reasons are given for this decline but the one that appears to be the most persuasive is that opium stocks have been carried over from year to year making for an increased supply and thus a lower price. An additional argument is that the vigilance of government enforcement has worked to bring the price down by making it appear to be an unattractive, risky and "uneconomic" commodity in which to trade. In any case, despite the decline in prices recently the farmers in the project area continue to grow opium principally because they have no choice.

Many of the farmers in Gadoon-Amazai, particularly the poorer ones, seek loans after they have planted the opium seed in order to tide them over until harvest. They get these loans from beoparis (traders) who are usually based locally. At the time the loan is made, an agreement is reached that the farmer's produce will go to the beoparis after harvest at the time the loan is paid back. These beopari most often do not extend their own cash as loans but get it from arthis or commission agents who for the Gadoon and Hazara Amazai area are based in Gandaf. Among these arthis are individuals who are smugglers (referred to as VIPs or "vested interest persons") who have contacts with the tribal areas and even reportedly with international smuggling rings which they use to move the opium out of the area.

The loans that come from the arthis are one link between the Gandaf interests and the farmer in the field and through them the farmer acquires a certain economic obligation. There are also other ways in which the farmers of Gadoon have become dependent on the Gandaf merchants. Over the years these merchants have extended hospitality to the farmers of Gadoon by providing them a place to stay at night on their trips to Topi or Swabi to get provisions. Another way has been their intercession on behalf of farmers when the latter have had legal cases brought against them. These functions impose some obligation on the farmers who use them and in these ways the VIPs of Gandaf are able to exercise some hold on the farmers of Gadoon.

Thus there are social as well as economic reasons that serve to perpetuate the growing of poppy in the project area. But as to the growing of poppy itself, sentiments were encountered during the design stage that indicated the farmers--at least a fair number of them--would prefer not to grow opium because of its addictive, intoxicative qualities which, they know to be contrary to Islam. Though there are village mullahs who find religious sanction for opium poppy production, this anti-poppy sentiment is felt to be fairly widespread and could be made use of by the project to good effect.

7. Record of Past Donor Interest/Activity in Area

It is important to take note of what donor interest or activity in Gadoon-Amazai there has been in the past because this experience has helped to shape the attitudes of the people toward GAADP.

According to Ajoon Khan Jadoon, the Provincial Councillor from Gadoon, the government was interested in 1962 in providing development schemes for Gadoon but the local population resisted these intentions not wishing outside interference in their tribal area. As a result only limited development funding was made available for the area and the larger-scale development plans of the government were not undertaken.

The next initiative came in the mid-1970s when USAID funded a study team to undertake research in the area and investigate the possibilities for development activity. At the outset the plan was that development interventions would follow on the study team's activity but in the interim USAID policy changed vis-a-vis poppy substitution projects with the result that no development activity was undertaken. However, during the course of the study project, the team members met with the local population and discussed with them the prospects of development schemes so that among at least some of the inhabitants of the area expectations for development were created.

The third source of interest in Gadoon as a project area came from the West German government in the early 1980s. They sent a survey team into the area to assess the prospects for development. The findings of the team were not encouraging; the area appeared to have little development potential (small landholdings, limited water resources, etc.) and little could be accomplished in these circumstances with the funds they were willing to commit ($1.6 million). For these reasons, as well security considerations (the inappropriateness of security personnel accompanying development experts and concern for experts' and their families' safety), the Germans to withdrew their interest in Gadoon as a project area.

What has been the legacy of these earlier aborted attempts to provide development in Gadoon? The set of attitudes held by those in the project area have been reinforced making the task of GAADP all the more difficult. For those who are opposed to outside interference by the government--not just the Gandaf interests but also traditional leaders who do not wish to have the area's tribal character altered--the failure of earlier attempts has served to confirm and strengthen their views. For those in the area who would welcome development activity, the experience with past efforts has blunted their expectations, created disappointment and led them to wonder if the view that Gadoon is too difficult a place to develop is not, after all, the one and only correct view to have.

Aside from Gadoon, of the other two parts of the project area--Swat and Hazara Amazai--only Swat Amazai has received foreign donor interest. Currently there is a UNFDAC project operating in the Buner subdivision of Swat district which includes in its project area Swat Amazai. This project, however, has yet to extend development activity to Swat Amazai, although it is currently considering some limited road construction in the area. Swat Amazai was the target of enforcement activity during the 1982-83 opium-growing season and the leaders of the area, including the union council chairman of Nagrai-Amazai, have been in contact with USAID appealing for development assistance. Given that the demands of the area are considerable and the interests of the people are keen, there is scope for GAADP activity to take place along with the development interventions planned by UNFDAC.

8. Experience of GAADP Design Team in the Project Area

The GAADP design team encountered a mixed response to its interests and activities in the project area. Considerable difficulty was experienced in gaining access to Gadoon because of the legacy of past attempts, the opposition of the Gandaf opium interests (both mentioned above) and the go-slow approach adopted by the Deputy Commissioner of Mardan. (See Appendix 1 for a chronology of developments leading to access to Gadoon).

In contrast to the experience in Gadoon was the reception received by team members on visits to the two areas of Swat and Hazara Amazai. As mentioned above the people of Swat Amazai have shown keen interest in USAID development activity in their area. The case has been similar in Hazara Amazai where the local leadership expressed interest in development activity during the one visit possible to the area. The local administration has also indicated serious interest in such efforts. The leadership in Hazara Amazai has been inhibited somewhat by wanting to see first the outcome of developments in Gadoon but they still plan to present a list of schemes they would like for their area at a later time.

The following discussion, which is limited to the team's experience in Gadoon, is undertaken to illustrate the point that a straight-forward approach will not work in the Gadoon area. An approach must be followed that is measured, attentive to local political realities and responsive to those elements that wish development activity. An approach that does not take these factors into account runs the risk of increasing opposition to the project, which could result in the area being closed to GAADP.

Soon after its arrival in Peshawar the design team met with the D.C. of Mardan to plan the team's access to Gadoon. Whereas the D.C. had been in his post only a short time and had not yet been to Gadoon, he was aware of the local sensitivities to outside development interventions and decided to adopt a go-slow approach. Based on his experience in the tribal areas, he also

decided to use a series of jirgas (which became large public meetings) to prepare the ground for the team's entry into the area.

This approach did not yield rapid results and later a modified approach was adpoted which involved direct, unadvertised contacts with the area's leaders and led finally to greater access for the team.

The team's first meeting with leaders and people of Gadoon was held in Gabasni Union Council, the first union council to respond positively to GAADP interests. At this meeting which was directed by the assistant commissioner/Swabi a list of schemes were presented by the leaders in attendance. But a few days after the meeting, some opposition was expressed to GAADP from certain quarters, which was reported to have been orchestrated from behind the scenes by the Gandaf trading interests. This development compelled the assistant commissioner to alter his approach and he devised a formula for subsequent visits to the area that proved successful during design. First he visited the area to meet with the leaders and people and get from them a list of schemes that they want, then a follow-up visit was undertaken by Pakistani team members (an engineer and an agriculturalist from USAID) to survey the area according to the schemes listed and then finally a visit to the area was made by expatriate experts. This was the pattern followed in the two union councils of Gabasni and Ganichatra; an abbreviated approach was followed in Kabgani due to time pressure.

The opposition in Gadoon to GAADP has come principally from the Gandaf trading interests who have used propaganda and outright lies (that GAADP is paying off certain councillors to cooperate with the project) to mislead and confuse the people. These efforts have resulted at least in part in certain communities, concentrated in Gabasni union council, declining to cooperate with the project. It is expected that the Gandaf interests will continue to foment opposition to the project but it is felt that their efforts will not be able to stop the project from moving forward. They realize that if they are responsible for any harm to project staff the government will take serious measures to put them out of business.

By working with those elements that are cooperative and by providing viable economic alternatives, the project will be able over time to win over more and more supporters in the area. The project has the support of at least 50 percent of the population now. This support will be reinforced by the government's enforcement activity which, if undertaken in the first year of the project as planned, ought to effectively eliminate the opposition in Gandaf forcing them to abandon their activities for something else or take them elsewhere.

B. Social Feasibility of Project Components

This section of the social soundness analysis will evaluate the social feasibility of the project's activities. These activities have been grouped under three heads: infrastructure development; agriculture, watershed management and irrigation; and promotion of off-farm employment and basic education. These activities will be carried out through two implementation channels: government line agencies and local (district and union) councils. Social considerations pertaining to the use of these two implementation channels will be discussed below.

1. Infrastructure Development

Activities under infrastructure development will extend the existing network of basic facilities in the following areas: roads and paths, potable water, and electricity.

Under roads the two major activities will be the financing of the extension of the Topi-Utla road to Dhund in Hazara Amazai and the construction of the Bada to Gabai road. These two roads, which will have some proximity to each other, will open the area to an estimated 40,000 population. These roads will ease the access of the population into and out of the area, will facilitate agricultural marketing and use of social services and will contribute to the success of other project activities. In addition to promoting the overall development of the area, these roads are in response to the wishes of the people and hence are judged to be socially feasible activities.

Under potable water, two new supply schemes will be constructed and repairs will be undertaken to improve two existing schemes. These activities will benefit an estimated 25,000 population by delivering a basic human need, drinking water, to some of this population who will for the first time have a safe and convenient water supply. For the others it wil improve and increase the supply they presently have. These schemes will contribute to the overall health and social welfare of the benefitted population and one group it will help in particular will be the women whose responsibility it is to provide water for the family and who presently, in villages where there is no supply scheme or an insufficient one, spend a significant amount of time fetching water.

Under Phases I and II schemes to extend electrical supply will be undertaken to benefit 18 villages in the first year and an additional 35,000 area residents in the final four years. In addition to improving the quality of village life, raising the level of public services, and providing potential for new economic opportunities, these shcemes are in response to community requests received during the design stage.

The above activities will be carried out by the appropriate line agencies. The same kind of activities (except electricity) will also be undertaken by district and union councils following

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the procedures that have been established and are practiced. In addition to providing the social benefits discussed above, these council schemes will ensure a high degree of social acceptability because they will be carried out by the local leadership in keeping with local needs and customs. One of those needs is income which will be provided through employment opportunities in the construction of village feeder roads, improved hilly tracks and donkey paths.

2. Agriculture, Watershed Management and Irrigation

As mentioned in the detailed project description, the strategy for agricultural development in Gadoon-Amazai will focus on increasing the total productivity of the land base by developing the full potential that exists in the area in dryland agriculture, watershed management and irrigation.

Under dryland agriculture project schemes will build upon activities that currently exist such as wheat and maize cultivation and increase their yield by such means as improved seeds and fertilizer. In addition, high-value crops that may be new to the area but are tested and proven by field trials to be feasible, will be introduced into the area to provide some income to farmers though it is recognized that these alternative crops will not equal the income they currently derive from poppy.

These activities will, however, comprise only one part of agricultural development under the project. As noted above, most of the project area consists of uncultivated and/or non-cultivable land. Almost all of this land that is at all productive having grasses, shrubs and small trees has been heavily used by area residents for animal feed and firewood and left unimproved. Thus under the project, a program of watershed management will be undertaken in the areas of reforestation, firewood plots, improved pasture shrubs and grasses, improved ruminants and watercourse development. Related to these activities and comprising the third main initiative under the project's agricultural development will be irrigation schemes which will add 375 acres to the irrigated area of Gadoon-Amazai.

These activities will be undertaken by the appropriate line agencies except for the siting and construction of irrigation channels to be undertaken by union councils with assistance from the irrigation department. The union councils are the appropriate institutions to use for the irrigation channels as they are comprised of local leaders who will need to use their knowledge of local land and water rights and customs in the mediation and decisionmaking involved in carrying out these schemes.

Virtually all of the residents in the project area depend in one way or another on the land--for their food, for their income, for their animals, for the goods that they barter, trade, sell or consume. These close ties to the land reflect the high social premium placed on land ownership in Pushtun society.

There is a Pushto proverb in Persian which says all a Pushtun cares about are zar, zan and zamin (gold, woman, and land).

As the agricultural component is intended to increase the total productivity of the project area's land across a number of different but interrelated fronts, most of the area's population will be benefitted. One particular group to benefit from the activities of this component will be women and children who currently spend considerable amounts of time in firewood collection and shepherding of animals.

At present the people in the project area have a unilinear outlook stemming from their single cash crop of poppy which because of its high value has been able, as a single source of income, to sustain their livelihood. Thus they are conditioned to look for a single alternative income source to poppy and sensing that there is none (they are right) they lose hope and despair that they will always be poor. But the project offers an alternative--not a single one, but an intervention with many dimensions that, acting across a broad front, can benefit much of the land of the project area and increase its productivity. Once this point becomes clear to the residents it is felt that they will readily support this approach.

3. Off-farm Employment, Basic Education, and Small Enterprise Fund

The ending of poppy cultivation will add to the area's labor force which augmented by natural population growth will not be absorbed by the agriculture sector, no matter how spectacular the success of the project's agricultural component. This additional labor will need to receive income from some source. For this purpose the project has included a component that will provide training under the auspices of the Overseas Pakistani Foundation at three sites in the project area to produce 1,080 skilled artisans a year in such construction trades as carpentry, masonry, plumbing and steel fixing. A complimentary training program will be implemented by Dillingham Inc. at its Tarbela facility which will train 300 area residents annually in such skill categories as electrician, mechanic, fitter, turner-machinist and welder. These activities are deemed to be socially acceptable as they are consistent with the demands of the people for vocational training as well as with the present pattern of outmigration from the project area to seek employment in Pakistan's urban centers and the Middle East.

In the basic education sector, the project will finance the construction of ten male schools and 20 female schools to be undertaken in conjunction with the Education Department and the district councils and the repair of 35 male and female schools to be undertaken by the union councils. In addition the project will finance the expansion of the Mohalla School program operated by the Education Department to provide basic literacy and skills to women and children. These efforts will strengthen the existing network of schools, particularly those at the middle-

and high-school levels, and will give special impetus to the development of female education.

By providing new and improved female schools the number of girls attending school will more than double over the life of the project (from 461 to over 1,000). In addition, access to education beyond primary school will be tripled by the opening of two additional middle schools. These facilities will be designed and constructed to include boundary walls, enclosed latrines and teachers' quarters which will be in keeping with important social norms. The absence of such facilities has discouraged village families from sending their daughters to school as well as made it difficult to post female staff to these schools.

The Mohalla program which provides basic education to women and girls who are outside the formal school system because of age or poverty will give basic literacy training to about 900 females a year in the project area. Using this training as a basis it may be possible to extend other development activities to area women (such as health education and skill training). This program has already gained some measure of social acceptance in some communities reflected in the fact that the teacher is often the wife of a malik.

During the course of project implementation the project will make available a Small Enterprise Fund to be used to finance small-scale enterprises that make use of opportunities provided by project component activity. In order to make the Fund available to the residents of the project area in ways that are socially feasible, the project should undertake to link the Fund's resources with the area's land resources. As mentioned earlier, Pushtun society places a high value on land ownership and this is so, in part, because of the dependence on land's productivity to sustain family, kin and tribal settlements. Thus Fund activities that build upon and enhance the land's productivity (i.e. agricultural processing enterprises) will find ready acceptance among the area's residents. Though not as socially prestigious, fund activities that relate to vocational training and allied activities should nonetheless be socially feasible because of the precedents that have already been established and continue in the area.

As mentioned above, the two implementation channels for project components will be the line agencies and the local councils. From a social standpoint, the line agencies have already gained acceptance by area residents through the activities they have already undertaken. Problem areas, however, can be foreseen for those agencies that participate in the watershed management sub-component because of the complex of traditional rights and practices that shape the context in which activities will be undertaken. Project staff will need to work closely with line agency staff to insure that a proper understanding of these traditions is reached which in turn informs the plans that are made and carried out.

As implementation channels, the local councils have several important positive attributes including their election by and accountability to the local people, their sanction and encouragement by the government and their established record of planning, and implementing development schemes. On the other hand, they have problems with such issues as political factionalism and equity in the distribution of development benefits discussed elsewhere in the project paper. These issues are deeply imbedded in the social fabric and doubtless will continue during project implementation but the project will help to mitigate these problems with its plans to provide training and seminars for district and union councillors, union council secretaries and munshis/community organizers. Through such assistance the project should be able to ensure that the councils operate more efficiently and that the benefits of their schemes reach a wider segment of the local society.

C. Project Beneficiaries

As the above discussion has mentioned, there will be a number of beneficiaries of the project in the Gadoon-Amazai area. As the purpose of the project is to provide viable economic alternatives to poppy cultivation in the area, the principal target group is the farmers. Through the components that are planned, principally in agricultural development and infrastructure, farmers' land will be made more productive in the growing of traditional non-poppy crops as well as in the growing of new but proven high value crops. In addition, neglected land will be improved through watershed management and irrigation thereby adding to the farmer's income and raising overall his quality of life. The project will also need to insure in this process that the large influential farmers are not the only ones to be benefitted but that the poor, small farmers also get their due share.

The conservatism of the project area along with the social norms that relegate women to a secluded and subordinate role in society will make it difficult for the project to deliver development benefits to women. Nonetheless women in the project area already participate in a variety of productive social and economic activities and the project will seek to build upon and expand this involvement through the components of education, agricultural production and infrastructure. Increased basic education for women will raise their ability to benefit from other project components' activities, improve the ability of the line agencies to staff positions with local women (such as Lady Health Visitors), and promote a greater role for women in all aspects of the society. Under agricultural development women will benefit from increased access to firewood, from improved range land for animals and from improved processing facilities in the villages. In terms of infrastructure development, women will share in the general benefits derived from improved roads, increased services from line agencies and greater access to markets.

A third group to benefit directly from the project will be the area's unemployed or underemployed residents. By providing through the vocational training component these residents with skills that are in demand in the market place they will be able to provide income for their families and themselves as well as enable them to lead more socially productive lives.

Finally, government staff of line agencies that work with the project as well as district and union councillors in the project area will benefit from the technical assistance and training to be provided by the project. These inputs will increase the capabilities of these agencies and institutions to plan, design, implement, monitor and maintain development schemes and activities and this greater capacity will benefit not just those in the project area but those elsewhere in the province.

D. The Issue of Enforcement

The residents of Gadoon-Amazai realize that enforcement of the poppy ban is going to come to their area some day; in fact, some of the area's residents--those of Swat Amazai--have already felt the brunt of enforcment when last October and November selected fields in their area were ploughed under after being planted with poppy. This action led, apparently, to the cessation of poppy cultivation in Swat Amazai this year but it has also created great concern and anxiety among the people leading them to wonder what will take poppy's place. This concern has been reflected in their requests to USAID to provide development assistance to this area to which GAADP has responded by including Swat Amazai in the project area.

But will the response of the residents of Gadoon and Hazara Amazai be similar to that of the residents of Swat Amazai? It is felt that the majority of Gadoon residents would respond in much the same way. Even without enforcement having taken place in Gadoon, in meetings with residents of the area, design team members found keen interest in development activity on the part of many. Many do not want to grow poppy but they continue to do so because they know of no alternative that will supply their needs to the same extent as poppy. There are also residents who have adopted a defiant, uncooperative stance because of a tribal tradition that is opposed to outside influences or because of alliance with the trading interests in Gandaf. But those in this category are believed to be in a minority and as development activities move ahead under the project, at least some of these residents will see the benefits coming and will move to support the project.

E. Conclusion

Based on the preceding discussions, it is felt that the project components that have been designed for GAADP are, on balance, socially feasible. As pointed out above, there are factors in the local society that will inhibit project success such as the reluctance to abandon poppy for other untried

economic alternatives, the presence of oppositional interests in the area and the conservatism that keeps women in a subordinate position. However, there are also factors in the society that will encourage acceptance of the project. Among these are the preference for some income source other than poppy, the known interest of the majority of the people in development benefits that will improve the quality of their lives and that of their children and those elements of project components that are consistent with local social values. As it is felt these positive factors outweigh the negative, it is concluded that the project is socially sound.

FOOTNOTES

[1] For an account of the merging of Gadoon with Mardan district see Abdul Rashid, Civil Service on the Frontier (n.p., n.d.) pp. 138-144. The author was Deputy Commissioner of Mardan at the time of Gadoon's merger.

[2] The rule of the Walis is described in A.H. McMahon and A.D.G. Ramsay, Report on the Tribes of Dir, Swat, and Bajour Together with the Utman Khel and Sam Ranizai. (Peshawar: Saeed Book Bank, 1981 [reprint of 1901 edition].)

[3] See D. Ibbetson et. al., A Glossary of the Tribes and Castes of the Punjab and the North West Frontier Province. (Lahore: Aziz Publishers, 1978.) Vol. II, p. 12.

[4] Ibid., p. 222.

[5] Ibid., p. 256.

[6] See Akbar S. Ahmed, Pukhtun Economy and Society: Traditional Structure and Economic Development In a Tribal Society. (London: Routledge and Kegan Paul, 1980), pp. 71-77.

[7] See Ahmad's discussion in Pukhtun Economy and Society, p. 51 ff.

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United Nations Fund for Drug Abuse Control, Buner Project Report

SUPPORTING DATA FOR THE ECONOMIC ANALYSIS

This annex presents the data that provide the basis for the economic analysis presented in the text. Since a formal economic analysis was not conducted for this project, the data will be presented in summary form only, rather than accompanied by a detailed presentation of assumptions, data sources, and so on.

The presentation is organized into three parts. The first part provides additional supporting information on the economics of poppy cultivation as discussed in the text, including estimates of the profitability of wheat (the current alternative for cultivation in the winter season). The second part presents enterprise budgets for other crop activities and economic data on the improvement of the livestock sector. The third part presents illustrative household budgets for different family types, providing a rough indication of how the project will affect families from several of the major social strata in the project area.

A. The Comparative Economics of Poppy Cultivation

The following discussion compares the return to be expected in the project area from poppy cultivation, as compared to the main alternative, wheat production. The estimates presented below are highly dependent on the assumptions made with respect to wheat yield, poppy yield, and the prices for the two products. These estimates (in particular the yield figures) are believed to be accurate for the project area, but do not apply to most other areas of Pakistan. The estimates provided here, therefore, may not represent the comparative economics in other areas of the country. Moreover, the estimate of poppy yield and price is, of necessity, based on indirect information. If these figures are overstated, then the income figure is correspondingly overestimated.

Net return value per acre to rabi season poppy cultivation in Gadoon under the assumptions used is at least double the net return value to high-yielding wheat cultivation. It is estimated that, at 1982 opium prices, poppy cultivation in Gadoon provides four times the net return to the typical farmer that high-yielding wheat cultivation would provide. If prices of opium rise, the proportion will become even greater, as shown in the analysis of sensitivity of net returns to poppy price below.

Labor inputs of the farming family are not included in the costs of production, since these may be considered as part of the family's income. The following sections discuss the assumptions used in more detail.

1. Wheat Yields

The calculated present and potential future wheat yields in Gadoon are based on estimates made by agricultural officers responsible for the Gadoon area in discussions with the design team. Actual yields on unirrigated lands (about 95 percent of the land under cultivation) were estimated to be 400-600 kg/acre, and on irrigated lands 500-750 kg/acre. Field assistants estimated that, with proper fertilizer application, seeds, and irrigation they could obtain wheat yields of 1200-1300 kg/acre. Because only five percent of the project area is now irrigated and the project may irrigate only two percent more, average present yield is estimated to be 500 kg/acre, and expected average yield on farmers' plots using proper inputs and high-yield seed is projected to be 1,000 kg/acre. This also assumes that farmers will achieve yields somewhat below these on demonstration plots.

These estimates are corroborated by preliminary reports of actual yields in nearby Buner for 1982-83 barani demonstration and adjacent farmers' plots. In this area, which receives considerably more rainfall, infrastructure, and agricultural extension coverage than Gadoon, average farmer's wheat-plot yields were 794 kg/acre and average adjacent demonstration Pak-81-plot yields were 1,311 kg/acre (see Table 19-5).

2. Wheat Price

Growers in Upper Gadoon sell opium and buy wheat grain or flour in the lowlands. The value of high-yielding wheat harvest in Upper Gadoon is calculated as the cost of wheat grain purchased in Topi plus transportation costs. If there were a surplus of wheat in Gadoon, however, the wheat grown as a cash crop should be valued at a price lower because transportation charges would be subtracted from the sale price for wheat "exported" from the area.

3. Poppy Yields

The estimated fresh opium yield of poppy in the Gadoon area is 16 kg/acre. This estimate is based on nearly unanimous agreement among officials and the poppy farmers in the Gadoon area who were contacted both formally and casually by members of the design team in May 1983.

The same result was found in a USAID-sponsored survey of 20 sample villages in 1975-76 in Swabi-Gadoon by the Institute of Economic Studies, University of Peshawar (see Table 19-6). The above data are further corroborated by Dr. Mumtaz Ahmad's "Poppy Growing Areas of N.W.F.P.," which calculates eight seers of dry opium per barani acre, or about 15 kg of fresh opium per acre. Estimates from other areas, however, support a much lower poppy yield figure, on the order of 8-10 kg/acre.

4. Poppy Price

Growers in Gadoon stated that the 1983 price for fresh opium is not yet known, but the 1982 price was Rs. 350-400/kg The lower estimate, Rs. 350/Kg, is used in these calculations. It must be recognized, however, that over the next five years it is likely that the price will rise as traders' inventories of the last few years are depleted, although the price is not expected to return to the 1978 level of Rs. 2000/kg. The sensitivity of poppy net return to prices prevailing over the previous five years is shown in Table 19-4.

Table 19-1

Return to Improved Wheat (Pak-81) in Gadoon
(Per Acre)

Inputs	
Certified seed (Pak-81)	
40 kg x 4 Rs./kg (incl. 0.3 Rs. transport)	160
Fertilizer	
1.5 bags urea @ Rs. 2.36/kg 1 bag DAP @ Rs. 1.20/kg Above costs plus Rs. 0.3/kg transport	275
Land preparation	360
	795
Returns	
1000 kg wheat grain yield @ Rs. 1.56/kg. Wheat grain sells for 1.26-1.7 Rs./kg in Topi at harvest time and transport costs Rs. 0.3/kg.	1560
Stalks/straw	200
	1760
Net return to high-yield wheat	965

Table 19-2

Sensitivity of New Return to Assumed Wheat Yields

Average Yield (kg/acre)	Net Return (Rs.)
800	653
1000	965
1200	1277
1400	1589

Table 19-3

Return to Poppy in Gadoon
(Per Acre)

Inputs

Seed 3 kg x Rs. 4/kg	12
Fertilizer (2 bags ammonium sulfate)	140
Lancing, collection of gum	750
	902

Returns

16 kg fresh opium @ Rs. 350/kg	5,600
200 kg seed @ Rs. 1/kg	800
75 kg dried capsules @ Rs. 1/kg	75
	6,475

Net return to poppy cultivation Rs. 5,573

Table 19-4

Sensitivity of Net Return to Assumed Poppy Price

Fresh Opium Price (Rs./kg)	Net Return (Rs.)
350 (1982 price)	5,573
500	7,973
1,000	15,973
1,500	23,973
2,000 (1978 price)	31,973

Table 19-5

Wheat Demonstration Plot Yields in Buner, 1982-83
(Barani Pak-81)
(Kg/Acre)

	Demonstration Plot Yield	Farmer's Plot Yield
Highest Yield	1,559	933
Lowest Yield	981	597
Average Yield (15 locations)	1,311	794

Source: Statement of Barani Demonstration Plots Laid Out in Buner, 1982-83 (EADA, Buner)

Table 19-6

Reported Fresh Opium Yield
in 20 Sample Villages in Swabi-Gadoon 1975-76

	Yield (kg/acre)
Highest Yield	20.02
Lowest Yield	9.89
Average Yield (20 villages)	15.94

Source: Causes, Effects and Remedies of Poppy Cultivation in Swabi-Gadoon Area, Volume II p. 109 (Institute of Economic Studies, University of Peshawar, 1979)

B. Enterprise Budgets for Current and Alternative Economic Activities in Gadoon

The following budgets (Tables 19-7 through 19-29) present estimates of the return to be anticipated from various possible alternative crops and other economic activities in the project area. Two estimated return figures are provided. The first estimates the return to the farmer (that is, the total return less the cost of purchased inputs). This estimate gives an approximation of the return to the farmer's land, labor, and management skill (no attempt is made to disaggregate these). The second estimate of return provides a very rough approximation of area value added. This is defined as the total return less the cost of inputs "imported" from outside the area. Thus, the cost of renting a bullock pair would be subtracted from the former estimate, but not from the latter, because it comes from within the project area. The second estimate thus takes into account the added income accruing to laborers and other project area residents other than the farmer.

Where relevant, separate estimates are given for crop production under irrigated and "barani" (dryland) conditions. Irrigation is assumed to be performed using only on-farm inputs (that is, family labor) without use of purchased inputs (such as fuel or irrigation equipment). Separate estimates are also provided for return to the farmers if the crop is consumed on the farm (purchase price at nearby market village plus transport to project area) and if the crop is sold (sale price at nearby market village less transport to market).

The comparative budgets for Gadoon area income before and after the project, as presented in the text (Economic Analysis, Section V), are based on these crop budgets. In some cases, however, the estimated net returns shown in the following tables differ slightly from the figures used to construct the estimates in the text, due to refinements in the figures completed after Section V was finalized. In any case, the area-wide income estimates must be regarded as highly tentative.

The area-wide comparative budgets for Gadoon income before and after the project are based on the following rotational pattern:

Rotation	Before Project	After Project
	(Acres)	
Poppy/Maize (Barani)	5317	0
Poppy/Maize (Irrigated)	683	0
Wheat/Maize (Barani)	8279	9000
Wheat/Maize (Irrigated)	121	0
Wheat/Soybean (Barani)	0	4525
Almonds (Irrigated)	0	131
Groundnut/Wheat/Maize (Irrigated)	0	744
Total	14400	14400

The tables also include information on the productivity of the range resource before and after the project, including both the carrying capacity of the range and the production of crop residues that can be used to support productive livestock.

Table 19-7
Wheat
(Traditional, Barani)

(per acre)

	Price (Rs)	Quantity	Amount (Rs)
Inputs			
Seed (kg)	1.93	40	77
Fertilizer			
Ammonium Sulfate (bags)	54	1	54
Manure (cartloads)	20	10	200
Transport (kg)	0.3	50	15
Plowing (Bullock pair/day)	90	4	360
Total			
Cost to farmer			706
Cost of "imported" inputs			146
Gross Income			
Grain (kg)			
If consumed on farm	1.93	500	965
If sold in Topi	1.22	500	610
Stalks, by-products (kg)	0.30	600	180
Total			
If grain consumed on farm			1145
If grain sold			790

Net Income (Rs)	**If Consumed**	**If Sold**
To farm family	439	84
To area economy	999	644

Table 19-8
Wheat
(Traditional, Irrigated)

(per acre)

	Price (Rs)	Quantity	Amount (Rs)
Inputs			
Seed (kg)	1.93	40	77
Fertilizer			
Ammonium Sulfate (bags)	54	1	54
Manure (cartloads)	20	10	200
Transport (kg)	0.3	50	15
Plowing (Bullock pair/day)	90	4	360
Total			
Cost to farmer			706
Cost of "imported" inputs			146
Gross Income			
Grain (kg)			
If consumed on farm	1.93	583	1125
If sold in Topi	1.22	583	711
Stalks, by-products (kg)	0.30	670	201
Total			
If grain consumed on farm			1326
If grain sold			912

Net Income (Rs)	If Consumed	If Sold
To farm family	620	206
To area economy	1180	766

Table 19-9
Maize
(Traditional, Barani)

(per acre)

	Price (Rs)	Quantity	Amount (Rs)
Inputs			
Seed (kg)	1.56	10	16
Fertilizer	--	--	--
Plowing (Bullock pair/day)	90	4	360
Total			
Cost to farmer			376
Cost of "imported" inputs			16
Gross Income			
Grain (kg)			
If consumed on farm	1.56	500	780
If sold in Topi	0.90	500	450
Stalks, by-products (kg)	0.10	750	75
Total			
If grain consumed on farm			855
If grain sold			525
Net Income	**If Consumed**		**If Sold**
To farm family	479		149
To area economy	839		509

Table 19-10
Maize
(Traditional, Irrigated)

(per acre)

	Price (Rs)	Quantity	Amount (Rs)
Inputs			
Seed (kg)	1.56	12	19
Fertilizer	--	--	--
Plowing (Bullock pair/day)	90	4	360
Total			
Cost to farmer			379
Cost of "imported" inputs			19
Gross Income			
Grain (kg)			
If consumed on farm	1.56	650	1014
If sold in Topi	0.90	650	585
Stalks, by-products (kg)	0.10	975	98
Total			
If grain consumed on farm			1112
If grain sold			683
Net Income	**If Consumed**		**If Sold**
To farm family	733		304
To area economy	1093		664

Table 19-11
Maize
(High-yielding Variety, Barani)

(per acre)

	Price (Rs)	Quantity	Amount (Rs)
Inputs			
Seed (kg of Swabi White)	3	10	30
Fertilizer			
Urea (bags)	118	0.75	88
Diammonium phosphate (bags)	110	0.50	55
Transport (kg)	0.3	62	19
Plowing (Bullock pair/day)	90	3	270
Total			
Cost to farmer			462
Cost of "imported" inputs			192
Gross Income			
Grain (kg)			
If consumed on farm	1.56	800	1248
If sold in Topi	0.90	800	720
Stalks, by-products (kg)	0.10	1200	120
Total			
If grain consumed on farm			1368
If grain sold			840

Net Income (Rs)	If Consumed	If Sold
To farm family	906	378
To area economy	1176	648

Table 19-12
Maize
(High-yielding, Irrigated)

(per acre)

	Price (Rs)	Quantity	Amount (Rs)
Inputs			
Seed (kg of Swabi White)	3	12	36
Fertilizer			
Urea (bags)	118	0.75	88
Diammonium phosphate (bags)	110	0.50	55
Transport (kg)	0.3	62	19
Plowing (Bullock pair/day)	90	3	270
Total			
Cost to farmer			468
Cost of "imported" inputs			200
Gross Income			
Grain (kg)			
If consumed on farm	1.56	1200	1872
If sold in Topi	0.90	1200	1080
Stalks, by-products (kg)	0.10	1800	180
Total			
If grain consumed on farm			2052
If grain sold			1260

Net Income (Rs)	If Consumed	If Sold
To farm family	1584	792
To area economy	1852	1060

Table 19-13
Almonds
(Irrigated)

(per acre)

Inputs

Year	1	2	3	4	5	6
Seedlings @ Rs 2.5 each, 110 planted in year 1	275					
Chemicals						
Urea						
Kg/acre	12.4	24.8	4.51	13.2	13.2	13.2
Cost @ Rs 2.66 per kg	33	66	100	293	293	293
Pesticides	400	500	640	640	640	640
Total cost	708	574	752	968	968	968

Gross Income

Year	3	4	5	6
Yield/tree (kg)	3	8	12	15
Total yield/acre (kg)	330	880	1320	1650
Income @ 12 Rs/kg	3960	10560	15840	19800

Net Income

Year	1	2	3	4	5	6
Income (Rs)	(708)	(566)	3220	9627	14907	18867

Average Income
Over Six Years: Rs 7558

Note: Wheat and soybean may be grown as intercrops during first four years, but return to this activity is not included here.

Table 19-14
Groundnuts
(Barani)

(per acre)

	Price (Rs)	Quantity	Amount (Rs)
Inputs			
Seed (kg)	15.30	24	367
Fertilizer			
Diammonium phosphate (bags)	110	1	110
Transport (kg)	0.3	50	15
Plowing (Bullock pair/day)	90	4	360
Total cost to farmer			852
Total cost of "imported" inputs			492
Gross Income			
Groundnuts (kg)	5.22	500	2610
Total			2610
Net Income			
To farm family			1758
To area economy			2118

Table 19-15
Groundnuts
(Irrigated)

(per acre)

	Price (Rs)	Quantity	Amount (Rs)
Inputs			
Seed (kg)	15.30	24	367
Fertilizer			
Diammonium phosphate (bags)	110	1	110
Transport (kg)	0.3	50	15
Plowing (Bullock pair/day)	90	4	360
Total cost to farmer			852
Total cost of "imported" inputs			492
Gross Income			
Groundnuts (kg)	5.22	700	3654
Total			3654
Net Income			
To farm family			2802
To area economy			3162

Table 19-16
Soybean
(Barani)

(per acre)

	Price (Rs)	Quantity	Amount (Rs)
Inputs			
Seed (kg)	4.25	32	136
Fertilizer (bags)	69	1	69
Plowing (Bullock pair/day)	90	4	360
Total			
Cost to farmer			565
Cost of "imported" inputs			205
Gross Income			
Soybeans (kg, sold for seed to Ghee Corporation)	3.05	550	1677
Total income			1677
Net Income			
To farm family			1112
To area economy			1472

Note: Soybean only possible without irrigation in areas of highest rainfall.

Table 19-17
Soybean
(Irrigated)

(per acre)

	Price (Rs)	Quantity	Amount (Rs)
Inputs			
Seed (kg)	4.25	32	136
Fertilizer (bags)	69	1	69
Plowing (Bullock pair/day)	90	4	360
Total			
Cost to farmer			565
Cost of "imported" inputs			205
Gross Income			
Soybeans (kg, sold for seed to Ghee Corporation)	3.05	1000	3050
Total income			3050
Net Income			
To farm family			2485
To area economy			2845

Table 19-18
Sunflower
(Barani)

(per acre)

	Price (Rs)	Quantity	Amount (Rs)
Inputs			
Seed (kg of NK212 from Ghee Corporation)	50	10	500
Fertilizer			
Urea (bags)	118	1	118
Diammonium phosphate (bags)	110	0.5	55
Transport (kg)	0.3	75	22
Plowing (Bullock pair/day)	90	4	360
Total			
Cost to farmer			1055
Cost of "imported" inputs			695
Gross Income			
Seed (sold to Ghee Corporation)	3.50	500	1750
Stalks, by-products (not valued)			--
Total			1750
Net Income			
To farm family			695
To area economy			1055

Table 19-19
Sunflower
(Irrigated)

(per acre)

	Price (Rs)	Quantity	Amount (Rs)
Inputs			
Seed (kg of NK212 from Ghee Corporation)	50	7	350
Fertilizer			
Urea (bags)	118	1	118
Diammonium phosphate (bags)	110	0.5	55
Transport (kg)	0.3	75	22
Plowing (Bullock pair/day)	90	4	360
Total			
Cost to farmer			905
Cost of "imported" inputs			545
Gross Income			
Seed (sold to Ghee Corporation)	3.50	825	2888
Stalks, by-products (not valued)			--
Total			2888
Net Income			
To farm family			1983
To area economy			2343

Table 19-20

Range, Fodder, and Animal Population in Gadoon

Gadoon's Animal population (from Livestock Department)

			Goat Units (g.u.)
Cattle	19,450 head x 5	=	97,250
Buffalo	10,350 head x 5	=	51,750
Goats	11,560 head x 1	=	11,560
Sheep	245 head x 1	=	245
Mules	2,129 head x 5	=	10,645
Camels	416 head x 5	=	2,080
			173,530 g.u.

Gadoon's Land Area Total: 68,000 acres of which following is estimated:

24% is cultivated:	16,320
10% inaccessible:	6,800
5% is forest:	3,400
61% is range:	41,480

Before Project

Of the range's 41,480 acres:

	Yield (lbs) per acre dry matter		Dry matter (lbs)
40% or 16,592 acres are in uppper elevation	1,000 lbs	=	16,592,000
60% or 24,888 acres are in lower elevation	500 lbs	=	12,444,000
Total dry matter on range in 1983			29,036,000

Barani corn 750 kg x 2.2 x 13,596 acres	=	22,433,400
Barani wheat 600 kg x 2.2 x 8,279 acres	=	10,928,280
Irrigated corn 975 kg x 2.2 x 804 acres	=	1,724,580
Irrigated wheat 670 kg x 2.2 x 121 acres	=	178,354
Total dry matter from crops		35,264,614 lb
Total dry matter, Gadoon, 1983		64,300,614
Dry matter per goat unit, 1983		30.88 lbs/g.u./mo

According to good range management practice the maximum goat units that should graze 64,300,614 lb dry matter is $\frac{64,300,614 \text{ lb}}{150 \times 12 \text{ mos}}$ = 35,722 g-u/yr but total goat units in present population are 173,530 g.u. yr, which means at present, if figures are correct, land is five times overutilized, and the average goat gets only 20% of proper nutrition, which means the average goat is seriously undernourished.

After Project

The production of the range will be increased by 50%, but in any one year, half the range will be unused.

	Yield (lbs) per acre dry matter		Dry matter (lbs)
Top elevation 8,296 acres x 1,500 lb		=	12,444,000
Low elevation 12,444 acres x 750 lb		=	9,333,000
Total dry matter on half range in 1989			21,777,000
Barani corn 13,525 acres x 1,200 kg x 2.2		=	35,706,000
Barani wheat 13,525 acres x 1,200 kg x 2.2		=	35,706,000
Irrigated corn 744 acres x 1,200 kg x 2.2		=	1,964,160
Irrigated wheat 744 acres x 933 Kg x 2.2		=	1,527,134
Total dry matter from crops			74,903,294

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or it t corn and wheat grown on irrigated land, total = 76,649,760 lbs

Total dry matter, Gadoon, 1989	96,680,294
Dry matter per goat unit, 1989 (if same number g.u. on range as 1983)	46.43 lbs/g.u./mo

If the same number of animals is maintained from 1983 to 1989, each animal will receive 50% more nutrition by 1989. Old animals will be replaced with healthier ones and better varieties such as the teddi goat. Milk production will increase, and better prices will be obtained for the animals that are sold.

Table 19-21

Gadoon - Income from Animal Sales (Before Project)

Considering poor nutrition, following annual reproduction rates are assumed. Assumed that 10% of all animals die or cannot be sold.

Category	Annual Reproduction Rate	Gadoon Census	x .4	At Average Market Price	
Cattle	0.67	19,450	11,728	1,500 Rs	11,728.000
Buffalo	0.33	10,350	3,074	2,000 Rs	6,148,000
Goats	1	11,560	10,404	500 Rs	5,202,000
Sheep	1	245	220	500 Rs	110,000
Gross Returns for Animals					23,188,000 Rs/yr

Above sales now supported by 29,036,000 lbs (45%) dry matter on range and 35,264,614 lbs (55%) dry matter from crops. Pro-rated animal income from range is 23,188,000 Rs/yr x 0.45 = 10,434,600 Rs/yr, or Rs 252/acre/yr for 41,480 acres.

From the above receipts of animal sales should be subtracted the value of dry matter.

Barani corn 750 kg x 13,596 acres x 0.1 Rs/kg	=	1,019,700
Barani wheat 600 kg x 8,279 acres x 0.3 Rs/kg	=	1,490,220
Irrig. corn 975 kg x 804 acres x 0.1 Rs/kg	=	78,390
Irrig. wheat 670 kg x 121 acres x 0.3 Rs/kg	=	24,321
		2,612,631 Rs/yr

Net returns from animal sales, Gadoon, 1983 20,575,369 Rs/yr

Buffalo/cow/goat milk is not commonly sold in Gadoon, so the value of one liter of one goat unit's milk is taken to be Rs 3, based on the price in nearby areas. A local goat now is said to give 2 liters/day. If poorly nourished, any average goat may give 1 liter/day @ a value of Rs 3. If 75% of the goat units are milk-bearing females, the value of buffalo/cow/goat milk is 175,530 x 3/4 x 3 x 365 or 14,396,512 Rs/yr.

Table 19-22

Estimate of Production on a Protected Range

Project Year	Added Acres	Total Acres	Total Acres Used any Year	Pounds of Dry Matter	Number of Goats Supported	End of Year Year Production	@ 450 Rs/Goat Value
3	1,500	1,500	750	956,250	531	2,151	967,950
4	1,500	3,000	1,500	1,912,500	1,062	4,779	2,150,550
5	1,700	4,700	2,350	2,996,250	1,665	6,743	3,034,350

Assumptions:

4700 acres will be added to a restricted range over the last 3 years of the project. Seventy percent of the range is expected to be in Upper Gadoon (1500 lbs of dry matter/year) and 30% in Lower Gadoon (750 lbs of dry matter). At this nourishment level they should have three kids three times every 12 years.

Table 19-23

Gadoon Income from Animal Sales
(After Project)

Income from protected range/teddi goats (4,700 acres) 3,034,350 Rs/yr

Income from other 36,780 acres, overgrazed as before on other 88.67% of range, assuming animals get same amount of food as before:

0.7 x 36,780 x 1,000 lb	=	25,746,000
0.3 x 36,780 x 500 lb	=	5,517,000
		31,263,000 lbs

Dry matter from crops, 1989 74,903,294 lbs

Total dry matter 106,166,294 lbs

$$\frac{106{,}166{,}294 \text{ lbs/yr}}{30.88 \text{ lbs/goat unit/mo} \times 12 \text{ mo/yr}} = 286{,}502 \text{ goat units}$$

$$\frac{23{,}188{,}000 \text{ Rs/yr}}{173{,}530 \text{ goat units}} \times 286{,}502 \text{ goat units} = 38{,}283{,}918 \text{ Rs/yr}$$

Total income: 41,318,268

Less value of dry matter from crops, 1989 (because already included in crop return)

Barani corn 13,525 acres x 1,200 kg x 0.1 Rs/kg	=	1,623,000
Barani wheat 13,525 acres x 1,200 kg x 0.3 Rs/kg	=	1,623,000
Irrig. corn 744 acres x 1,200 kg x 0.1 Rs/kg	=	89,280
Irrig. wheat 744 acres x 1,200 kg x 0.3 Rs/kg	=	208,246
Less		3,543,536 Rs/yr
Net Return		37,774,742 Rs/yr

Table 19-24

Firewood Production

Acres (cumulative) Project Firewood Program	Project Year	Acres (cumulative) Incentive Program	Total
0	1	0	0
250	2	125	375
375	3	375	750
500	4	625	1,125
625	5	1,125	1,750

Assumptions:

4 years required for firewood shrub to grow. If harvest in project year 5, harvest 375 acres (planted in project year 2)

Yield is 1,862 kg of wood/acre/year of mature (4 yr old) wood (80 cubic feet/acre/yr) x 375 acres = 698,250 kg. Wood sells at 0.8 Rs/kg in project area and 0.9 Rs/kg in Topi less 0.3 Rs/kg transportation. Return = 418,950 Rs/yr at end of fifth year. At end of sixth year, 1,862 x 750 x .6 = 837,900. At end of seventh year, 1,256,850 Rs/yr, etc.

At end of ninth year, value of sustainable annual yield from both the firewood program and incentive program is:

1,862kg/acre/yr x 1,750 acres x 0.6 Rs/kg = 1,955,100 Rs/yr

In 1983, most consumption of firewood is either illegal logging or for use in area homes. Observers estimate 8 camel loads (250 kg each) of wood enter Topi nightly from the 41,480 acres of range. Camel drivers steal wood for a back haul, so transport calculated at half the cost of going up the hill. Value of wood sold outside the area is:

250 kg x 8 loads x 365 days x 0.75 Rs/kg = Rs 547,500
(Based on 41,480 acreage of range)

At end of project, if people still strip the range areas outside the incentive programs and protected areas, they will strip 36,780 acres or 88.7% of the 41,480 acres. Value of production at year of maximum sustainable annual yield is:

(0.8445 x Rs 547,500) + 1,955,100 Rs/yr = 2,417,464 Rs/yr

Table 19-25

Outside Employment

Estimate of increase of employment in and outside Pakistan over life of project for Gadoon:

There is continuing out-migration to jobs in Pakistan and the Middle East, but it does not follow a steady annual progression. Out-migration to the Middle East is reported to be tied to the price of opium as a higher price provides extra income for the "entry ticket" visa, runing Rs 10,000-34,000. Entry into jobs in Lahore, and Karachi, depends on individuals who may open up positions for fellow villagers.

Project vocational training will train at least 660 people the first year and 1,380 people annually thereafter, or a total of 6,180 people. Many who might otherwise have sought jobs as unskilled laborers in Karachi are expected to enter this program. Eighty percent are expected to find jobs afterward, or about 5,000, for entire project area, and 2,800 for Gadoon.

The labor force is expected to grow naturally at 3% per year less out-migrants.

Males able to work in Gadoon are estimated to be 14,941 persons and about 3,920 are estimated to be working elsewhere in Pakistan or abroad in 1985, (7,000 in whole of project area).

Out-migration is expected to proceed at the rate of 1% of population in Gadoon per year. Entrants to labor force increase at 3%. Over six years, 4,542 are expected to out-migrate in ratio of .9 to 1 (Pakistan: ME) or 4,088:454.

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C. Illustrative Household Budgets for Gadoon Families

Tables 19-26 through 19-29 present illustrative household budgets for Gadoon area families under a range of assumptions with regard to family size, landholding, etc. The purpose of these budgets is to suggest how the project's activities will affect different types of families.

It is assumed that the typical household has the following characteristics:

- workforce: five working members (including an adult male, an adult female, and three children of working age)
- animals: one cow and one goat (six animal units), but no bullocks
- land: 9.73 acres owned, of which 2.04 cultivated (all rainfed), with minor degree of fragmentation
- agricultural rotation: 1.5 acres in poppy, 0.5 acres in wheat during the winter season
- employment out of the area: one adult working in Pakistan

Table 19-26
Average Landed Household--Gadoon

Rs

Income Source	Amount
Before Project	
Remittances from family member working in Karachi	4000
Poppy/maize rotation (1.5 acres)	9078
Wheat/maize rotation (0.5 acres)	459
Return to livestock	6570
Less hired labor during year for crop production	(1200)
Total	18907
After Project	
Remittances from family member working in Karachi	4000
High-yielding wheat (2 acres)	1930
High-yielding maize (2 acres)	1812
Improved livestock	12055
Less hired labor during year for crop production	(1200)
Total	18597

Table 19-27
Household Owning 0.5 Acres of Cultivated Land

Rs

Assumptions

Family: Two working adults, two working children, plus one member working in Karachi, who participates in project-funded training program
Land: Own 0.5 acres (4 kanals), all cultivable
Animals: Own no draft animals or productive livestock

Income Source	Amount
Before Project	
Remittances from family member in Karachi	4000
Poppy crop (0.5 acres)	2786
Maize crop (0.5 acres)	239
Total	7025
After Project	
Remittances from family member in Karachi	6000
High-yielding wheat (0.5 acres)	482
High-yielding corn (0.5 acres)	453
Total	6935

Table 19-28
Household Sharecropping 0.5 Acres of Cultivated Land

Rs

Assumptions

Family: Two adults able to work, two children able to work, one family member in Karachi who participates in project training
Land: Sharecrop 0.5 acres cultivable land on 50-50 basis
Animals: No productive or draft animals

Income Source	Amount
Before Project	
Remittances from family member	4000
Poppy crop (0.5 acres)	1393
Maize crop (0.5 acres)	120
Total	5513
After Project	
Remittances from family member	6000
High-yielding wheat/maize rotation	468
Total	6468

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Table 19-29
Household Owning 3.0 Acres of Irrigated Land, All Rented Out

Rs

Assumptions

Family: No working family members
Land: Own 3 acres irrigated land. Rent out on sharecrop basis prior to project. After project manage one acre of almonds directly, sharecrop remainder
Animals: Own no productive or draft animals

Income Source	Amount
Before Project	
Poppy/maize rotation (3 acres)	9459
Total	9459
After Project	
Almond (1 acre at full production)	18867
Less labor hired for almonds (36 days @ Rs 25)	(900)
Groundnut/wheat/maize rotation (2 acres) (Note: this is a two-year rotation)	2831
Total	22598

TRAINING AND COMMUNICATIONS IN SUPPORT OF PROJECT ACTIVITIES

A. Introduction

This annex will look at the training, communications, and non-formal education required to support the Gadoon-Amazai Area Development Project. It starts with the assumption that people in the project area and government and project staff working in the area have the following needs:

- to develop an understanding of the aims and operations of the project
- to be persuaded that its activities are worth promoting and supporting, and
- to learn certain skills, processes, concepts and attitudes necessary to participate actively and effectively in the project.

This annex will differentiate the training and upgrading of government personnel from the training, communication activities, and non-formal education involving the local community--both its representatives (e.g., union councillors) and the general public. The former will tend to concentrate on the specific skills required by government staff in order to implement their project responsibilities. The latter will include both "role training" related to the planning, implementation and monitoring of specific GAADP programs (e.g., union council projects) and more generalized awareness education or communication on a) the aims and operations of the project as a whole and b) new knowledge, attitudes, and practices required to participate in and respond to GAADP programs.

The first will be referred to as **Manpower Training**, the second as **Development Support Communication**.

MANPOWER TRAINING

B. Background

The Gadoon-Amazai Area Development Project will require various forms of manpower training in order to strengthen the capacity of project and government personnel to plan, implement and monitor development programs for the Gadoon-Amazai area.

The training is necessary because:

- most line department staff working in the area have received limited or no training for their current jobs

- the project will be introducing new ideas, technologies, processes, and working methods which will require new understandings and skills by those implementing the project

- the quantitative increase in development activity (e.g., the 400 percent increase in union council projects) will necessitate new skills in areas such as planning, management, monitoring, etc.

To be successful, the project will need to provide a training component. Much of the training, however, will not require an institutionalized form remote from the activities being undertaken by project-related officials. The heightened development activity generated by the project will provide an opportunity for a good deal of on-the-job training. Those responsible for implementing each program can do a good deal of the training of field personnel in the course of implementation.

It is useful to define the priority areas of skills and knowledge required by the project and to examine the most effective ways of transmitting them.

1. Training Needs

The priority training areas that need to be addressed by the project are:

- management training
- technical training
- operational training.

Management training will need to be provided for senior supervisory personnel working on the project in some of the following areas:

- budgeting
- supervision
- decisionmaking
- planning, scheduling, and management of implementation
- the integration of subject areas
- organization development.

Technical training will need to be provided for project personnel in: i) agriculture, ii) animal husbandry, iii) forestry, and iv) range management, and in their inter-linkages in multi-purpose programs. For example, field assistants will need to learn about the methods and technologies for producing new types of crops and organizing new cropping systems. In addition a few senior personnel will need specialist training in: i) regional planning, ii) local government, iii) development communications, and iv) non-formal education.

Operational training is needed by all field-level personnel in:

- planning and work organization
- reporting systems
- information delivery
- group/community organization.

2. Existing Provision of Training

Training provided by government departments is with one or two exceptions limited to pre-service training in government training colleges e.g., the Agricultural Training Institute, the Cooperatives Training College, the Pakistan Forest Institute, etc. Instruction in these institutions is on the whole fairly theoretical, with few opportunities for practicals.

Pre-service institutional training is normally limited to supervisory ranks in the line departments. Although agricultural field assistants and some stock assistants receive pre-service training (at the Agricultural Institute, Peshawar) the majority of front-line field workers are trained on-the-job. On-the-job training of lower cadres is unstructured and for the most part skills are acquired in a random and one on way.

Refresher courses for middle and senior cadres are organized in an ad hoc manner and given a low priority. The courses are too few in number to cover the existing establishment and chronically underfunded. Often the traveling costs for participants are not included in the refresher course budget and as a result the courses are poorly attended. The courses are also not tailored to the actual requirements of field performance.

One major exception to the above is the in-service training provided to field assistants as part of the Training and Visit system. T and V is a special approach to agricultural extension which has been adopted by a few agricultural programs in Pakistan, including the SCARP in Mardan district. T and V operates in only four small areas of the NWFP--Buner, the Swat valley, Mardan SCARP and D.I. Khan. In the T and V system a field assistant is briefed every fortnight on the agricultural requirements for a two-week period. On returning to his area after the one-day briefing, the field assistant communicates and demonstrates the technical message he has been given to an agreed number of contact growers. The contact growers in turn pass the message along to other farmers. Contact growers are invited to some of the fortnightly briefings so that agricultural supervisory staff gain direct feedback from the farmers.

T and V, if well organized, can be an efffective system for in-service training of field staff. Skills are acquired in direct relation to operational practice and on a continuing basis. These are reinforced through immediate application in talks and demonstrations in the field. Questions and problems

identified in the field are given a quick response. The other strength of T and V is its systematic training for contact work with farmers.

3. Proposed Program

It is proposed to organize a manpower training program in support of the Gadoon-Amazai Area Development Project. The overall aim will be to strengthen the capacity of project and government personnel to plan, implement, and monitor the development programs undertaken by GAADP. The managerial, technical and operational skills and decision-making capabilities of a select number of project staff and government officials will be upgraded through this project. The training program will focus on those sectors to be supported by GAADP.

Important assumptions are that:

- government staff will be identified and released for in-situ and overseas training
- government staff who have been trained will return to the project area upon completion of their training
- continuing assistance will be provided to individuals who have been trained so that their newly acquired skills are refined and developed in their work situation.

It is estimated that as many as 200 individuals will receive training under this project. Of this total 180 or approximately 90 percent will receive training on a regular basis as part of the operations of their respective departments. An estimated 20 participants will attend in-country refresher-course training provided by extra-Gadoon training institutions. Seven senior project staff will go to the U.S. for short-term, non-degree specialist training.

As its major activity, the program will provide two forms of in-service training:

- regular, short-duration training courses for the key cadres involved in GAADP
- longer-duration courses in government training institutions or overseas training institutions for a select number of senior project personnel.

As a minor activity the training program will provide selective support for pre-service training of area-based cadres, in particular the financial support and coordination required to increase the recruitment of government staff from the Gadoon-Amazai area.

a. Regular Training

Regular, on-the-job training will be the principal instruction activity of GAADP, an important support for the whole development effort. This kind of training can be kept within the control and direction of the project and can be assisted to focus on the special needs and requirements of the project. On-site training can involve more people and is seen as more effective and less expensive than institution-based, generalized refresher training.

The training program will build on and strengthen existing training of field cadres (e.g. Mardan SCARP's T and V system) and in those departments where minimal training is done the program will help to create new systems of in-place training. This training will be conducted by the supervisory staff in each line department (Agricultural Officer, Veterinary Officer, Range Officer, Forestry Officer, etc.) and will be assisted by the training and communications specialist attached to the project and by other senior project staff. In the case of local government the project trainer will work with the assistant director to set up a regular system of short-course, training for union council secretaries and union councillors.

Training will be carefully tailored to the immediate operational requirements of project personnel and respond to feedback coming from the field (the T and V approach).

For example, in the case of the Agricultural Department, fortnightly training will prepare field assistants for each agricultural operation they are expected to demonstrate in the field. In the case of local government the training of union council secretaries will be related to the tasks they are required to carry out in planning, implementing and monitoring union council projects:

- for example, the training course in May or June will upgrade the secretaries' skills in budget-making, priority-setting and producing development plans in order to facilitate the task of producing an Annual Plan for the union council (to be completed by July)

- the training course in August will focus on implementation

- the training course in November will deal with project monitoring.

In addition to the above, the project trainer will initiate regular inter-departmental seminars involving the key sectoral personnel to promote:

- an overall understanding of GAADP

- integration among the different sectors

- the systematic appraisal of each stage of the project (in conjunction with the monitoring and evaluation unit).

A good deal of on-the-job training will be done on the project without being given the glorified title of training. It will be so integrated into the day-to-day operations that it need not be separated out as training. For example, the staff of the agricultural research stations--both field assistants and agricultural laborers--will learn the daily operations (planting, fertilizing, irrigating, etc.) by doing them on a daily basis on the station under supervision by the AO.

Table 20-1

PROJECT-SUPPORTED IN-SITU TRAINING

	(year)			
Type of Training Activity	II	III	IV	V
Inter-Departmental Seminar	2	2	2	2
Fortnightly/Monthly Training of Field Cadres (FAs)	13-26	13-26	13-26	13-26
	(per line department)			
Training Courses for Union Council Secretaries	4	4	4	4
Training Courses for Union Councillors	2	1	1	1
Annual Planning Conference (May) One Per Union Council	-	5	5	5

Table 20-2

REGULAR TRAINING

COURSE	TRAINEES	NUMBER TRAIN-EES	NO COURSES/ YEAR	COURSE LENGTH	TRAINERS	TRNG CONTENT	TRNG PAID BY
Field Cadre Training	Field Assts + Laborers	10 20	26	1-day	EADA AO	Contact Work, Technical	SCARP
	Forest Guards + Laborers	5-25	26	1-day	RO	Technical Content	Project
	Range Guards Stock Assts Laborers	5 5 10-20	26	1-day	VO VO	Contact Work Technical Content	Project
U.C. Secre-tary Training	U.C. Sec.	7	4	1-2 days	AO PT	Annual Plan Production, budgeting, bookkeeping, project implementation monitoring, report-writing, ect.	LGRD
Union Counc. Seminars	Union Counc. UC Sec.	56 7	1	1-2 days (now)	AO PT	need ident-ification, setting priorities, planning, monitoring, etc.	Project
Annual Planing Confer. (1 per U.C.)	Union Counc. UC Sec. Village Reps Govt. Staff	8 1 40-60 5-10	1x5 UCs = 5	2-3 days (May)	PT AD Proj Staff	review of GAADP and union counc. projects; planning for next year	Project

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Inter-Departmental Seminar	Senior and Middle-Level Staff	20-30	2	1-2 days	PT + Proj Evaluation	GAADP, integration, proj. approval/ monitoring	Project

PHASING OF ANNUAL UNION COUNCIL TRAINING

May
- Annual Planning Conference (2-3 days): Kabgani High School (District Councillors, Union Councillors, UC Secretaries, Organizers, village reps + line dept staff) Agenda: review past year, plan for next year
- Training Course For Union Council Secretaries (budget-making, setting priorities, producing dev. plan)

June

July
- Training Course For Union Council Secretaries (implementation)

September

October

November
- Union Councillors' Seminar (2 days): monitoring (Union Councillors + Union Council Secretaries)
- Training Course for Union Council Secretaries

December

January

February
- Training Course For Union Council Secretariis

March

April

Union Council Secretary Training; two days--one day reporting and problem-solving; one day training

b. In-Country Refresher Training Outside the Project Area

The training program will also draw on in-service training opportunities provided by other government training institutions to upgrade the expertise of middle- and senior-level project personnel and Gadoon-Amazai government staff (e.g., EADA, ADAH, DFO, etc.). This will be done on a selective basis and with support from the Development Support Training Project (DSTP). Only those institutions whose courses are directly relevant to the operational requirements of the project will be used.

Outside-the-area training will be used primarily to upgrade management capacities required by the project. In the day-to-day operations of the project and in project team meetings senior project staff will work to upgrade the organizational and management capacity of government supervisory personnel. In addition, where it seems useful, certain individuals will be sent for short-term, institution-based training on specific management tasks required by the project (e.g., union council project planning).

One possible home for some of this training may be the Pakistan Academy for Rural Development (PARD), which runs a range of in-service courses for middle- and field-level government staff and conducts courses targetted at specific district, tehsil, and union council personnel. PARD is currently modifying its curriculum in regional planning to incorporate local level planning with assistance from UNICEF. AID's DSTP will assist PARD to upgrade its training capacity. Another possible base for in-service training of senior personnel is the newly-opened National Center for Rural Development (Islamabad).

The training and communications specialist will work closely with suitable institutions to arrange for the refresher training of project area personnel. In some cases it may be possible to involve PARD trainers and other institution-based trainers in courses specially tailored for and located in the Gadoon-Amazai area.

c. External Training

A small number of key project personnel will be sent for non-degree, specialized six- to nine-month training in the U.S., with funding from the Development Support Training Project. The projected fellowships will be limited to the following priority operational areas of the project:

- regional planning
- local government planning
- range management
- agriculture
- training and communication
- non-formal education.

Trainee placements will be phased over the project period according to the needs of the particular sector and the overall project:

- personnel in sectors in which there is little experience in Pakistan (e.g. communications and non-formal education) will be sent off in the first year of the project in order to prepare them to manage their respective components of the project

- personnel in other technical areas will be deployed on the project and once their capabilities and the needs of their sectors are assessed they will be sent for overseas training.

A detailed training requirement for each of those positions which require immediate training is set out in the Appendix. Course length will vary depending on the subject to be covered and the background of the trainee.

Table 20-3

EXTERNAL (PARTICIPANT) TRAINING SCHEDULE

TRAINING AREA	NUMBER OF TRAINEES	WHO TO BE TRAINED	YEAR OF PROJECT	STARTING DATE	ACADEMIC BACKGROUND OF TRAINEE	SUGGESTED TRAINING INSTITUTION
Training and Communication	1	P&D Dept or LGRD	I	Oct '83	Graduate	Center for International Education (University of Massachusetts)
Non-Formal Education	2	Non-Formal Educators (Swabi Education Office)	I	Oct '83		" "
Regional Planning	1	P&D Dept (Section Officer Level)	II	Sept '84	Graduate	1 University of Pittsburgh 1 Institute of of Public Service (Connecticut)
Local Government	1	Assistant Director (LGRD)	II	Sept '84		University of Nebraska
Range Management	1	Range Officer	II	Sept '84		1 Colorado State 1 Utah State 2 Wyoming
Semi-Arid Agriculture	1	Extra Asst. Director Ag.	III	Sept '85		1 Arizona State 1 University of California (Davis) 2 Texas A&M
Total:	7					

d. Recruitment and Training of People From the Gadoon-Amazai Area

The training program will also have as one of its objectives the recruitment and training of people from the Gadoon-Amazai area as project personnel or as government cadres posted in the area. One of the constraints in filling the established posts in the Gadoon-Amazai area is the aversion by outsiders to working in the area. The new roads and other facilities to be developed by GAADP will make the area more attractive to government personnel.

Nevertheless an associated effort is required to encourage the hiring of local people for various posts on the mountain. Local people will be more willing to take up posts in the area and will have an important advantage in terms of local knowledge. At present only a few young people have the educational background to qualify for jobs in line departments. For economic reasons few of the graduates of the area's school system continue on with further training which could prepare them for posts in the bureaucracy.

The training program will work closely with the school system in the area to identify potential trainees from middle school and high school graduates. The project trainer will assist some of the brighter students to take advantage of the scholarships offered by government to Gado n area youth in order for them to do further training in government institutions (Agricultural Training Institute, Cooperative Training College etc.). In other cases young people from the area will be hired by the project (e.g., in the agricultural program) and trained on the job in relation to the needs of the project.

e. Implementation

The coordination of all training activities will be undertaken by the project trainer/communicator, who will be attached to the project office. The scope of work for his training responsibility will include:

- organizing and supporting a training system for Gadoon area field staff
- planning and organizing inter-departmental seminars for project area staff
- planning and organizing training for union council secretaries and union councillors
- arranging for project area personnel to attend suitable in-country training courses and overseas training courses

- supporting the identification, recruitment and training of Gadoon-Amazai youth for development positions in the project area.

The post of an area-based trainer with a broad, inter-departmental training responsibility, is a new one. All other training officers in Pakistan are attached to a training institution and their training role is limited to a particular sector. There are two options for filling this post:

- hiring on contract a graduate with a wide range of experience in rural development and upgrading his skill as a trainer/communicator through a) short-term, in-country attachments with a few select training and communication programs (funded by DSTP), and b) on-the-job training facilitated by a short-term technical advisor; and,

- identifying a suitable 17+ level official in the Planning and Development Department (or Local Government and Rural Development), and arranging for him to be trained overseas (with funding from DSTP) and seconded to the project (and paid by P and D or LGRD).

In both cases the trainer/communicator will need to be given on-the-job training in the early stages of the project. This will be facilitated by a short-term technical advisor who will work with the communications and training specialist in:

- drawing up a comprehensive training plan

- developing an in-situ training system for one of the field cadres (e.g., field assistants)

- designing an in-situ training system for union council secretaries and union councillors

- planning (i.e., designing course objectives and content and preparing training materials), conducting and evaluating 3-4 short training courses (e.g., one-day course for field assistants, two-day course for union council secretaries, one-day course for union councillors, one-day inter-departmental seminar)

- preparing area-specific training materials.

This collaboratively-undertaken activity will give the project trainer "hands-on" experience in doing the major tasks of the training program and at the same time will help to work out a concrete training system.

The training of the project's training and communications specialist will also take advantage of the DSTP program to upgrade the capacity of a select number of Pakistani training officers. The project's specialist will attend DSTP-sponsored

in-country courses on a) Training of Trainers and b) Training Management.

In the day-to-day operations of the training program the project specialist will need to work closely with other project staff and the line departments. The project specialist will be assisted in his training and communication responsibilities by two community organizers, who will be specially hired for this project and trained on the job.

APPENDIX, ANNEX 20

TRAINING REQUIREMENT FOR GADOON-AMAZAI AREA DEVELOPMENT PROJECT

ONE TRAINER/COMMUNICATOR (MALE)

1. Training is required for the trainer/communicator to be attached to the Gadoon-Amazai Area Development Project.

2. The Job Description for this post includes:

a. coordinating all training aspects of the project:

- arranging for project staff and related staff to go to government training institutions (e.g., PARD, NIPA, etc.)
- supporting/promoting in-service training of Gadoon/Amazai staff by line departments
- running project-related training courses such as four, two-day courses a year for union council secretaries and two, two-day seminars a year for union councillors and village representatives.

b. planning, developing and coordinating communications in support of project activities:

- organizing mass awareness campaigns on various aspects of the project (e.g., communicating the aims and operations of the project and enlisting the support and active participation of the villagers)
- arranging for and supporting non-formal education initiatives in the area carried out by other organizations (e.g., Literacy and Mass Education commission, FEPRA, etc.) and where necessary backing them up with funding of materials and/or training support.
- operating a communications production unit in support of various aspects of the project (with a capacity to produce flipcharts, booklets, leaflets, audio-cassettes, video, etc.).

3. It is recommended that the trainer/communicator be trained in both communication and non-formal education with specialized briefing on:

a) planning/organizing rural training workshops (for government staff and villagers)

b) planning/organizing mass awareness campaigns (using, for example, cassette-based learning groups)

c) functional, work-oriented literacy

d) development support communications.

4. It is recommended that the trainer/communicator be trained at the University of Massachusetts (Center for International Education) with an additional attachment to the Academy for Educational Development (Washington).

TRAINING REQUIREMENT FOR GADOON-AMAZAI AREA DEVELOPMENT PROJECT

TWO NON-FORMAL EDUCATORS (FEMALE)

1. Background

Local expertise is required to assist the Department of Education (schools, female) to establish and manage a community school program (mohalla schools) in the Gadoon area of Swabi tehsil.

A maximum of 30 mohalla schools will be established between years two and five of the Gadoon-Amazai Project lifetime. These schools will be established, with support from the project, with the aim of attracting to school those girls and young women who would otherwise not have the chance for a basic education. The mohalla schools will have the advantage over formal primary schools in the following ways:

- they will be located in the homes or rented quarters of women in the community and thus enable parents who want their daughter to observe purdah to attend
- hours of schooling will be flexible to allow those girls and young women involved in labor activities in the morning to attend (this affects poor children expecially)
- the curricula may be flexible, suiting both parental requirements (study of the Quran as the basis of literacy), and community and skill-related requirements (health, home skills, etc, in addition to basic literacy)
- the teacher, who need not be a fully qualified teacher, may be recruited locally and then will be known to the community (teachers from outside the area have faced difficulties in Gadoon)
- there is no restriction on ages of attending students; this enables young women, or adolescent girls who have missed the chance for education to attend
- a mohalla school is a good stepping stone to acceptance of formal education for girls in areas where such acceptance is still a problem.

The GAADP will assist the Department of Education (schools, female) in establishing and managing the mohalla program in the following ways:

- training for them two teachers in the techniques of non-formal education, and in the establishment and management of non-formal education programs

- provide logistical and material support for the estblishment of the schools.

2. The two non-formal educators will return or be posted to the Swabi tehsil Education Office after training, charged with the reponsibility to:

- survey the Gadoon area to determine where mohalla schools could be established, solicit community support and select local teachers
- conduct initial pre-training of these teachers (one month)
- assist the teachers in establishing their schools
- establish a teacher support system through regular visiting and seminars.

3. It is recommended that two women be trained in non-formal education and management techniques. Training two instead of one woman covers the possibility of one dropping out of the course and also provides the Department of Education with an extra resource in this area; it should be noted that the Department of Education is anxious to develop a full-scale non-formal education system for girls and currently lacks expertise in this area. They claim that many of their initiatives in this area have suffered to date form the absence of such expertise.

4. In-country and third-country training institutions have been considered but none offer the kind of training or quality that may be offered stateside. It is recommended that these two non-formal educators be sent for training to the University of Massachusetts which offers a 12-month course in adult Education--Non-Formal Education. Although the school year typically begins in September, an arrangement should be sought to enable these two candidates to enter the course mid-term.

ADDITIONAL FINANCIAL TABLES AND COSTING DATA

The following tables provide additional information on the project budgets. This information is presented in three parts:

- A discussion of the bases for the project cost estimates in two areas: a) personnel and b) vehicle operations
- Detailed estimates of the personnel expenses for local-hire, contract, and GOP staff, by project component
- Additional detailed budgets for specific project components.

A. Cost Bases

1. Current Pay-Scales in the NWFP and Project Personnel Rates

There will be four categories of personnel involved in the GAADP:

- government staff already in place who assist the project in the course of their normal duties, on either a full-time or part-time basis (this includes positions that are currently unfilled but which are fully sanctioned posts);
- new government staff who will be made available to the project;
- staff employed on contract basis directly by the project;
- locally-hired staff, many of who will be paid on a daily rate basis.

a. Government Staff in Place

This category includes the following officials:

- Local Government and Rural Development: the Assistant Director, Assistant Engineer, Sub-Engineer and Supervisor, and the Union Council Secretaries
- Agriculture: the Agricultural Officer and existing Field Assistants
- Forestry: the Ranger and Foresters in place.

All of the above are critical to the implementation of the project. While basic salaries and standard allowances (house rent, cost of living allowance, etc.) will continue to be paid by government to these officials, the project will cover the following costs in those instances where these officials are carrying out work directly for the project in the project area:

- daily allowance
- lodging allowance (when staying overnight in the project area)
- travel allowance (when using non-project or non-project supplied transport for traveling in the project area).

These allowances will be paid strictly in accordance with government rates for the appropriate position/salary level of the officer (see Tables 21-5 and 21-6). For budgeting purposes, the number of days and nights out have been estimated for each official directly involved with the project. These figures may be found under each of the appropriate components. It will be noted that these budgets include the provision of a limited number of daily and lodging allowances for lower-level staff who live within the project area. These allowances have been budgeted to enable these staff to attend seminars and training courses outside the project area.

b. New Government Staff

The project will require the services of a small number of officials in positions that have not already been established for the area. Nearly all of these officials are at a senior level and are required primarily for supervisory purposes. They include:

- Project Director (Grade 18/19), to be provided by the Planning and Development Department
- Trainer-Communicator (Grade 17), selected by the Planning and Development Department
- two female Non-Formal Educators (Grade 17), to be provided by Education, Schools (female)
- Supervisor (Grade 11), provided by the Department of Local Government and Rural Development.

The appropriate departments have already committed themselves to providing these individuals for the duration of the project. Three of the above five (the two Non-Formal Educators and the Trainer-Communicator) will be sent for training prior to secondment to the project. The salaries of all five officers will continue to be paid by their respective departments, along with all allowances due to them in the course of normal service. However, the proejct will cover the daily allowances due for days

spent in the project area and lodging allowances on occasions of overnight stays in the project area.

c. Project Direct Hire Trough Contract

The project will employ, through the services of a contractor, a number of technicians, as listed in Tables 21-7 through 21-18. Full costs of their hire, including basic salary and allowances, will be covered by the project for the duration of their hire. Salaries have been calculated on the following format:

- the equivalent government pay grade (Revised National Pay Sacles) has been calculated, allowing for standard increments after ten years service (see Table 21-1)
- allowances normally provided government staff have been added at the appropriate rates for those scales (see Tables 21-2 and 21-3)
- the total figure has been multiplied by 1.5 to compensate these contract-hired staff for the lack of job security (maximum five years employment only), and as incentive for hire. It is considered that this amount meets the requisite balance between providing incentive on the one hand and keeping salaries paid in line with those paid to equivalent-level staff so as to avoid resentment among the government-hired and contract-hired staff working for the project.

d. Local Hire, or Daily Rate

This category includes personnel who will be hired whenever possible from the project area itself, primarily field workers and other low-level staff. They will be hired directly by the Project Coordinating Unit or by the appropriate department. Funds will be channelled to the relevant departments for this purpose. The majority of locally-hired staff will be paid on a daily-rate basis. The rate used is Rs. 20 per day, which at 25 days per month amounts to Rs. 500 per month. This amount is comensurate with a scale 1 salary with normal allowances paid to the equivalent cadres by government (see Table 21-4). Other local-hire cadres will be paid on a monthly basis, at slightly higer rates, equivalent to grades 3 and 5 as appropriate. Staff within this category include range guards, stock guards, agricultural field workers, community school teachers, peons, chowkidars, jamadars, and laborers.

Table 21-1
Government Pay Scales
Revised National Pay Scales

Grade	1	5	6	8	11	16	17	18
Years Service	Base Salary 250	290	315	370	430	625	900	1350
2	(+5) 255	(+10) 300	(+12) 327	(+16) 386	(+24) 454	(+40) 665	(+50) 950	(+75) 1425
3	260	310	339	402	478	705	1000	1500
4	265	320	351	418	502	745	1050	1575
5	270	330	363	434	526	785	1100	1650
6	275	340	375	450	550	825	1150	(+100) 1750
7	280	350	387	466	(+28) 578	(+50) 875	(+60) 1210	1850
8	(+6) 286	(+12) 362	399	482	606	925	1270	1950
9	292	374	(+14) 413	498	634	975	1330	2050
10	298	386	427	514	662	1025	1390	2150
11	304	398	441	(+18) 532	690	1075	1450	2250
12	310	410	455	550	718	1125	1510	2350
13	316	422	469	568	746	1175	1630	2450
14	322	434	483	586	774	1225	1690	2550
15	328	446	497	604	802	1275	1750	2650
16	334	458	511	622	830	1325	(+100) 1850	
17	(+7) 340	470	525	640	(+30) 860	(+60) 1385	1950	
18	347	(+15) 485	(+16) 541	(+22) 662	890	1445	2050	
19	354	500	557	684	920	1505	2150	
20	361	515	573	705	950	1565	2250	
21	368	530	589	728	980	1625		
22	375		605	750				
Maximum Salary	375	530	605	750	980	1625	2250	2650

Table 21-2 NWFP Allowances Payable to Government Officials

ALLOWANCE	PAID	RATES
1. Housing	Paid monthly with salary	A percentage of minimum basic salary, i.e. not including annual increments Peshawar 45 percent Elsewhere 20 percent
2. Conveyance (Home to Office)	Paid monthly with salary	Grades 1-16, Rs. 70 per month; Grades 17-22, Rs. 200 per month Peshawar only
3. Local Compensatory (Big City)	Paid monthly with salary	5 percent of pay, full (i.e. with increments) Peshawar only. 7.5 percent large towns
4. Dearness (Cost of Living)	Paid monthly with salary	45 percent of pay to all civil servants in all locations minimum Rs. 150 per month; maximum Rs. 450 per month.
5. Unattractive Area	Paid monthly with salary	Only paid to officials (all staff) in Tribal Areas and very hilly or remote areas. Twenty percent of basic pay, but not to exceed Rs. 75 per month below Grade 16, or Rs. 200 per month for staff Grade 17 and above
6. Firewood	Paid monthly with salary	Applicable only in areas determined by government to be "very cold," e.g. Chitral. Rs. 4.55 per day for non-gazetted officials, Rs. 5.50 per day for gazetted officers (Grade 16 and above). Elsewhere Rs. 2 per day for all civil servants.
7. Rest and Recreation	Paid annually with salary	Fifty percent of present pay, to a maximum of Rs. 500 per annum.
8. Dress	Paid monthly with salary	Naib Qasid - Rs. 24 Farash - Rs. 21 Sweeper - Rs. 21
9. Senior Post	Paid monthly with salary	Grade 20 - Rs. 200 per month Grade 21 - Rs. 400 per month Grade 22 - Rs. 600 per month
10. Entertainment	Paid annually with salary	Twenty percent of pay. Maximum Rs. 500 per annum.

Table 21-3

Traveling and Daily Allowances

A. Daily (without lodging)	Claimed from budgets of department	For salary of Rs. 2150 per month or above Rs. 75 - ordinary rate Rs. 90 - expensive cities Salary of Rs. 1350-2149 per month Rs. 65 - ordinary rate Rs. 75 - expensive cities Salary of Rs. 700-1349 per month Rs. 40 - ordinary rate Rs. 50 - expensive cities Salary of Rs. 320-699 per month Rs. 35 - ordinary rate Rs. 40 - expensive cities Salary up to Rs. 319 per month Rs. 20 - ordinary rate Rs. 25 - expensive cities
B. Lodging	Claimed as above	1.5 times daily allowance for ordinary rate; 3 times daily allowance for expensive cities
C. Travel (using own vehicle)	Claimed as above	Salary exceeding Rs. 400 per month receives 20 paisa per km.; Salary below Rs. 400 per month 12 paisa per km. subject to condition that travel exceeds 16 km. Travel within 10 km., payment made on actual expenses
Medical	Claimed from budget of department	Made on evidence of receipts for actual expenditures

Table 21-4

Typical Current Levels of Remuneration for Government Employees in Gadoon-Amazai

	Rs. Per Month					Rs.P.A.	US$
RNPS Grade	Salary After Ten Years Service	House Rent Allowance at 20% Basic Pay *	Cost of Living Allowance at 45% Current Pay **	Rest & Rec. Allowance at 50% Current Pay***	Total Monthly Wage ****	Total Annual Wage	Total Annual Wage
1	298	50	150	12	510	6120	478
3	300	54	150	13	517	6204	484
5	386	58	150	16	610	7320	572
6	427	63	150	18	658	7890	617
8	514	74	231	16	835	10020	783
11	662	86	298	21	1067	12804	1000
12	720	92	324	30	1166	13992	1093
16	1025	125	450	42	1642	19704	1539
17	1390	180	450	42	2062	24744	1933
18	2150	270	450	42	2912	34944	2730

* Basic pay not shown in this table

** Minimum Rs. 150 per month, maximum Rs. 450 per month

*** Maximum Rs. 500 per annum

**** Unattractive Areas Allowance (given only by some departments for Gadoon) not included nor is special pay recorded, provided at rate of Rs. 150 per month to officials in supervisory positions

Table 21-5

Typical Daily Allowances Payable Under GAADP

Salary Grade	Salary Range Rs. Per Month	Maximum Daily Allowance (Rs.)	Fifteen Days Per Month x Twelve Months (Rs.)	US$ Per Annum
5	290-530	35	6300	492
6	315-605	35	6300	492
8	370-750	40	7200	563
11	430-980	40	7200	563
16	625-1625	65	11700	914
17	900-2250	65	11700	914
18	1350-2650	75	13500	1055

Table 21-6

Typical Lodging Allowances Payable to Staff in Project Area

RNPS Grade	Salary Range	Maximum Lodging Rate Per Night (Rs.)	Rate for Five Nights Per Month (Rs.)	US$ Per Annum
5	290-530	52.5	3150	246
6	315-605	52.5	3150	246
8	370-750	60	3600	281
11	430-980	60	3600	281
16	625-1625	97.5	5850	457
17	900-2250	97.5	5850	457
18	1350-2650	112.5	6750	527

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2. Vehicle Operating Expenses

The project budgets have been based on an estimated annual running cost for project vehicles of $3000 per year per vehicle. This cost is substantially lower than the figure recommended by USAID/Islamabad ($7500). The former figure has been developed taking into consideration the particular characteristics of the project area and the types of vehicles to be used and is therefore believed to provide a more realistic estimate than the general recommendation.

The estimate is based on the following considerations:

a. The vehicle to be used is the Toyota crew-cab diesel pick-up. Although there is only limited information on how this vehicle performs in Pakistan, it is estimated that the single-cab pick-up achieves 12 km. per litre of diesel. An estimate of 8 km. per litre has therefore been taken for the double-cab pick-up. Diesel currently costs Rs. 4.02 per litre (public rate).

b. An allowance for spares equal to 20 percent of total project cost is built into the purchase price. An additinal allowance of 5 percent per year has been added to cover small spares not provided (fanbelts, etc.)

c. Roads in the project area are very limited, which restricts the monthly expected mileage to less than it would be in an area with more normal roads. It is estimated that every vehicle will travel from the project office to the end of the current road 20 times per month. The resulting figure of 1000 km. per month was increased to 2000 km. per month to allow for additional trips to Peshawar, Islamabad, and elsewhere.

d. An allowance for regular servicing six times per year and a complete set of tire every year was added.

e. An allowance for insurance and registration of $500 per year was added.

These assumptions may be summarized as follows:

	Rupees	US$
Service charges (incl. lubricants)	8000	625
Fuel	12000	1000
Local spares	3800	300
Insurance		500
Subtotal:		2425
Rounded to:		3000

B. Detailed Personnel Estimates

Tables 21-7 through 21-19 provide detailed estimates of the personnel costs and allowances for each project component.

Table 21-7

Summary of Project Personnel Needs
(Full-time personnel only)[1]

	COP			GAADP			Total
	Current Staff	New Staff	Total	Contract[3]	Local Hire	Total	
PCU	1	1	2	23	14	37	39
LGRD	6	1	7	14	1	15	22
Agriculture[2]	23	-	23	16	25	41	64
Education	2	-	2	2	31	33	35
Total	32	2	34	55	71	126	160

1 Does not include staff for new facilities built, e.g. schools.
2 Includes Departments of Agriculture, Forestry, and Animal Husbandry.
3 Does not include staff of OPF, Tarbela Center, or technical assistance team.

Table 21-8

Summary of PCU Personnel Costs

US $

Staff	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Project Director	2,109	2,109	2,109	2,109	2,110	10,547
Administrator	5,664	5,664	5,664	5,664	5,666	28,332
Accountant	3,141	3,141	3,141	3,140	3,140	15,703
Procurement and Logistics Officer	2,093	2,879	2,879	2,879	2,879	13,609
Agricultural Economist	3,156	4,208	4,208	4,209	4,209	19,990
Trainer Communicator	-	1,373	1,373	1,374	1,374	5,494
Vehicle Controller	-	2,376	2,376	2,377	2,377	9,506
Statistician	-	1,431	1,431	1,431	1,430	5,723
Assistant Accountant (2)	-	2,861	2,861	2,861	2,862	11,445
Secretary (3)	4,427	4,427	4,427	4,427	4,426	22,134
Typist (4)	1,091	4,365	4,365	4,365	4,365	18,551
Driver (8)	2,706	10,823	10,823	10,822	10,822	45,996
Clerk (4)	1,944	1,944	1,944	1,945	1,945	9,722
Peon, Laborer, Chowkider, Jamadars (10)	1,412	4,942	4,942	4,941	4,941	21,178
Totals	27,744	52,543	52,543	52,544	52,546	237,920

Table 21-9

Detailed PCU Personnel Support Costs

	Project Director	Administrator	Accountant	Procurement and Logistics Officer	Agricultural Economist	Trainer Communicator	Vehicle Controller
Number of staff	1	1	1	1	1	1	1
Employment status	GOP	Contract	Contract	Contract	Contract	GOP	Contract
Salary grade	18/19	18	17	17	17	17	16
Base salary (Rs/mo)	GOP	4,542[1]	3,024[1]	3,024[1]	3,024[1]	GOP	2,210[1]
Daily allowance (Rs/mo)	1,125	375	130	130	975	375	325
days	15	5	2	2	15	15	5
rate	75	75	65	65	65	65	65
Lodging allowance (Rs/mo)	1,125	1,125	196	196	490	490	-
days	5	5	2	2	5	5	-
rate	225	225	98	98	98	98	-
Total salary allowance/mo	2,250	6,042	3,350	3,350	4,489	1,465	2,535
Person-months	60	60	60	52	57	48	48
Total cost (Rs)	135,000	362,520	201,000	174,200	255,873	70,320	121,680
Total cost ($)	10,547	28,322	15,703	13,609	19,990	5,494	9,506

(continued)

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Table 21-9, continued

	Statistician	Assistant Accountant	Secretary	Typist	Driver	Clerk	Peon, Chowkidar, Laborer, etc.
Number of staff	1	2	3	4	8	4	10
Employment status	Contract	Contract	Contract	Contract	Contract	Local	Local
Salary grade	11	11	12	8	6	5	1
Base salary (Rs/mo)	1,526[1]	1,526[1]	1,574[1]	1,164[1]	987[1]	610	500[1]
Daily allowance (Rs/mo)	-	-	-	-	350	-	-
days	-	-	-	-	10	-	-
rate	-	-	-	-	35	-	-
Lodging allowance (Rs/mo)	-	-	-	-	106	-	-
days	-	-	-	-	2	-	-
rate	-	-	-	-	53	-	-
Total salary allowance/mo	1,526	1,526	1,574	1,164	1,443	610	500
Person-months	48	96	180	204	408	204	540
Total cost (Rs)	73,248	146,496	283,320	237,456	588,744	124,440	270,000
Total cost ($)	5,723	11,445	22,134	18,551	45,996	9,722	21,094

Subtotal costs, page 1:	Rs 1,320,593	$ 103,171
Subtotal costs, this page:	Rs 1,723,704	$ 134,664
Grand total, all staff:	Rs 3,044,297	$ 237,835

Note:

1 Figure shown is 1.5 times government of Pakistan base.

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Table 21-10

Summary Budget for Agricultural Personnel

	FY/84	FY/85	FY/86	FY/87	FY88	Total
Track I	7,554	7,554	7,554	7,554	7,554	37,770
Gov't. Staff	3,848	3,848	3,848	3,848	3,848	19,240
Contract	1,353	1,353	1,353	1,353	1,353	6,675
Local	2,353	2,353	2,353	2,353	2,353	11,765
Track II	-	16,995	16,995	16,995	[5,100	15,100
Gov't. Staff	-	-	-	-	-	-
Contract	-	12,290	12,290	12,290	12,290	49,160
Local	-	4,705	4,705	4,705	4,705	18,820
Forestry	-	15,100	15,100	15,100	15,100	60,400
Gov't. Staff	-	3,240	3,240	3,240	3,240	12,960
Contract	-	1,353	6,028	6,028	1,353	14,762
Local	-	10,507	5,832	5,832	10,507	32,678
Range Management	8,000	14,480	14,480	14,480	14,480	65,920
Gov't. Staff	1,983	2,161	3,063	3,063	3,063	13,333
Contract	4,857	5,767	1,093	1,093	1,093	13,903
Local	1,160	6,552	10,324	10,324	10,324	38,684
Animal Husbandry	-	10,530	10,530	10,530	10,530	32,120
Gov't. Staff	-	-	-	-	-	-
Contract	-	6,462	6,462	6,462	6,462	25,848
Local	-	4,068	4,068	4,068	4,068	16,272
Total	15,554	64,659	64,659	64,659	64,659	274,190
Gov't. Staff	5,831	9,249	10,151	10,151	10,151	45,533
Contract	6,210	27,225	27,226	27,226	22,551	110,439
Local	3,513	28,185	27,282	27,282	31,957	118,219

Table 21-11

Agricultural Component: Track I
Support to Personnel

	Agricultural Officer	Field Assistant	Field Worker-1	Field Worker-2	Driver
Number of staff	1	5	5	5	1
Employment status	GOP	GOP	GOP	Local	Contract
Salary grade	17+	5	1	1	-
Base salary (Rs/mo)[2]	GOP	GOP	GOP	502	987
Daily allowance (Rs/mo)	975	140	70	-	350
days	15	4	2	-	10
rate	65	35	35	-	35
Lodging allowance (Rs/mo)	490	212	106	-	106
nights	5	4	2	-	2
rate	98	53	53	-	53
Total salary allowance/mo.	1,465	352	176	502[1]	1,443
Person-months	60	300	300	300	60
Total cost (Rs)	87,900	105,600	52,800	150,600	86,580
Total cost ($)	6,867	8,250	4,125	11,766	6,764

Grand total cost, all staff: $37,772

Notes: 1 Based on government grade 1 salary and allowances (excluding unattractive area allowance).

2 Includes normal house rent, dearness, and rest and recreation allowances.

Table 21-12

Support to Personnel Agricultural Component: Track II

	Agricultural Officer	Field Assistant	Field Worker	Driver
Number of cadres	1	5	10	1
Employment status	Contract	Contract	Local	Contract
Salary Grade	17+	5	-	-
Base salary (Rs/mo)	3,521	1,336[1]	502[2]	987
Daily allowance (Rs/mo)	975	-	-	350
days	15	-	-	10
rate	65	-	-	35
Lodging allowance (Rs/mo)	490	-	-	106
days	5	-	-	2
rate	98	-	-	53
Total salary allowance/mo	4,986	1,336	502	1,443
Person-months	48	240	480	48
Total cost (Rs)	239,328	320,640	240,960	62,264
Total cost ($)	18,698	25,050	18,825	5,411

Grand total cost, all staff: $ 67,984

Notes:

1 Based on equivalent government salary including allowances for rent, cost of living, rest and recreation and unattractive area allowance (386+58+150+16+58=668x2=1,336). This is 33% higher than government FA's salary and allowances.

2 Based on government field worker's salary and allowances excluding unattractive area allowance because field worker is local hire.

Table 21-13

Personnel Costs: Forestry Program

	Ecologist (part-time)	Forest Guard	Guard[1]	Driver	Laborer[1]
Number of staff	1	5	—	1	—
Employment status	Contract	GOP	Local	Contract	Local
Salary grade	17	3	1	6	-
Base salary (Rs/mo)	3,521	516	500	987	500
Daily allowance (Rs/mo)	975	175	-	350	-
days	15	5	-	10	-
rate	65	35	-	35	-
Lodging allowance (Rs/mo)	490	-	-	106	-
days	5	-	-	2	-
rate	98	-	-	53	-
Total salary allowance/mo	4,986	691	500	1,443	500
Person-months	24	300	600	52	142
Total cost (Rs)	119,664	207,300	300,000	75,036	71,000
Total cost ($)	9,349	16,195	23,438	5,862	5,547

Grand total, all staff: $ 60,390

Notes:

1 Daily hire, assuming Rs 20 per day times 25 laborer-days per month.

Table 21-14

Personnel Costs: Animal Husbandry Program

	Stock Assistant		Driver Laborers[1]
Number of staff	3	2	-
Employment status	Contract	Contract	Local
Salary grade	5	6	-
Base salary (Rs/mo)	530	987	500
Daily allowance (Rs/mo)	280	350	-
days	8	10	-
rate	35	35	-
Lodging allowance (Rs/mo)	530	106	-
days	10	2	-
rate	53	53	-
Total salary allowance/mo	1,340	1,443	500
Person-months	144	96	416
Total cost (Rs)	192,960	138,528	208,000
Total cost ($)	15,075	10,822	16,250

Grand total $42,147

Notes:

1 Daily rate Rs 20 times 25 laborer = days/month.

Table 21-15

Personnel Costs: Range Program

	Range Officer	Range Guard[1]	Veterinary Officer	Stock Assistant	Stock Guard	Laborers[1]	Ecologist (part-time)	Typist
Number of staff	1	5	1	5	5	-	1	1
Employment status	GOP	Local	GOP	GOP	Local	Local	Contract	Contract
Salary grade	16+	3	16+	5	3	-	17	8
Base salary (Rs/mo)	GOP	516	GOP	GOP	516	500	3,521	1,164
Daily allowance (Rs/mo)	975	175	650	175	175	-	975	-
days	15	5	10	5	5	-	15	-
rate	65	35	65	35	35	-	65	-
Lodging allowance (Rs/mo)	490	-	-	53	-	-	490	-
days	5	-	-	1	-	-	5	-
rate	98	-	-	53	-	-	98	-
Total salary allowance/mo	1,465	691	650	228	691	500	4,986	1,164
Person-months	60	300	60	192	240	244	24	50
Total cost, (Rs)	87,900	207,300	39,000	43,776	165,840	122,000	119,664	58,200
Total cost ($)	6,867	16,195	3,047	3,420	12,965	9,532	9,349	4,547

Grand total, all staff: $65,913

Note:

1 Daily hire at daily rate of Rs 20 times 25 laborer-days per month.

Table 21-16

Personnel Costs: Forestry Program
Rs
(US $)

Staff	Salary Grade	Basic Salary Contract Hire at Daily Rate	Daily Allowance Per Month Days	Daily Allowance Per Month Rate	Lodging Allowance Per Month Days	Lodging Allowance Per Month Rate	Total Payable Per Month Per Person	No.	Total Person Months	Total	Total
Forest Guards (government funds)	3	516	5	35 175		-	691	5	300	207,300	(16,195)
Laborers (Daily rate Rs 20) (local hire)	1	500		-		-	500	-	142	71,000	(5,547)
Ecologist (contract)	17	3,521	15	65 975	5	98 490	4,986	1	24	119,664	(9,349)
Guards (Daily rate Rs 20) (local hire)	1	500		-		-	500	-	600	300,000	(23,438)
Driver (contract)	6	987	10	35 350	2	53 106	1,443	1	52	75,036	(5,862)

Table 21-17

Personnel Cost Summary: Local Government and Rural Development
US $
(Rs)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Government staff	7,874	7,874	7,874	7,874	7,874	39,370
GOP salaries and support (GOP funds)	(100,788)	(100,788)	(100,788)	(100,788)	(100,788)	(503,935)
Project funded support	1,996	1,996	1,996	1,996	1,996	9,980
Project funds	(25,549)	(25,549)	(25,549)	(25,549)	(25,549)	(127,744)
Contract staff	10,265	23,829	23,829	23,829	23,829	105,581
salaries and support	(131,392)	(305,011)	(305,011)	(305,011)	(305,011)	(1,351,436)
Totals	20,135	33,699	33,699	33,699	33,699	154,931
	(257,728)	(431,347)	(431,347)	(431,347)	(431,347)	(1,983,116)

Table 21-18

Personnel Support: Local Government and Rural Development

	Assistant Director	Assistant Engineer	Sub-Engineer	Supervisor	Work Munshi	Union Council Secretary	Assistant Engineer
Number of staff	1	1	1	1	1	1	1
Employment status	GOP	GOP	GOP	GOP	GOP	GOP	Contract
Salary grade	17+	17	11	11	6	6	17+
Base salary (Rs./mo.)	GOP	GOP	GOP	GOP	GOP	GOP	3,024
Daily allowance (Rs./mo.)	325	130	120	120	105	105	975
days	5	2	3	3	3	3	15
rate	65	65	40	40	35	35	65
Lodging allowance (Rs./mo.)	98	-	60	60	53	53	490
days	5	2	3	3	3	3	15
rate	65	65	40	40	35	35	65
Total salary and, allowance (Rs.)	423	130	180	180	158	158	4,489
Person-months	60	60	60	60	60	60	48
Total cost, Rs	25,380	7,800	10,800	10,800	9,480	9,480	215,472
Total cost, $	1,983	609	844	844	741	741	16,834

(continued)

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Table 21-18, continued

	Sub-Engineer	Supervisor	Work Munshi	Work Munshi	Assistant Accountant	Community Organizer	Typist
Number of staff	2	1	1	3	1	2	1
Employment status	Contract	GOP	Contract	Contract	Contract	Contract	Contract
Salary grade	11	11	6	5	11	8	8
Base salary (Rs/mo)	1,526	GOP	658	610	1,526[1]	777	1,166[1]
Daily allowance (Rs/mo)	600	600	525	525	-	600	-
days	15	15	15	15	-	15	-
rate	40	40	35	35	-	40	-
Lodging allowance (Rs/mo)	300	300	265	265	-	300	-
days	5	5	5	5	-	5	-
rate	60	60	53	53	-	60	-
Total salary, and allowance (Rs)	2,465	900	1,418	1,400	1,526	1,677	1,166
Person-months	108	60	60	144	60	96	60
Total cost, Rs	262,008	54,000	85,880	201,600	91,560	160,992	69,960
Total cost, $	20,469	4,219	6,788	15,750	7,153	12,578	5,466

Notes:

1 Base salary shown is 1.5 times GOP base.

(continued)

Table 21-18, continued

	Clerk	Peon	Driver
Number of cadres	1	1	2
Employment status	Contract	Local	Contract
Salary Grade	6	1	6
Base salary (Rs/mo)	987[1]	500	658
Daily allowance (Rs/mo)	-	-	525
days	-	-	15
rate	-	-	35
Lodging allowance (Rs/mo)	-	-	265
days	-	-	5
rate	-	-	53
Total salary and allowance (Rs/mo)	987	500	1,448
Person-months	60	60	120
Total cost, Rs	59,220	30,000	173,760
Total cost, $	4,627	2,343	13,575

Grand Total, all staff: Rs 1,479,192 $ 115,562

Table 21-19

Personnel Support: Education Component

	Non-Formal Educator	Driver	Typist/ Clerk	Community Teachers	Peon
Number of staff	2	1	1	30	1
Employment status	GOP	Contract[1]	Contract[1]	Local	Local
Salary grade	17	6	8	-	-
Base salary (Rs/mo)	Govt	987	1,253	500[2]	500
Daily allowance (Rs/mo)	975	525	-	-	-
days	15	15	-	-	-
rate	65	35	-	-	-
Lodging allowance (Rs/mo)	490	371	-	-	-
nights	5	7	-	-	-
rate	98	53	-	-	-
Total salary allowance/mo	1,465	1,883	1,253	500	500
Person-months	96	48	48	480	48
Total cost (Rs)	140,640	90,384	60,144	240,000	24,000
Total cost ($)	10,988	7,061	4,699	18,750	1,875

Grand total cost, all staff: $ 43,373

Notes:

1 Contract base salary worked out by multiplying equivalent government salary by 1.5.

2 Local hire at daily rate of 20 Rs for 25 days per month.

C. Additional Cost Estimates

Tables 21-20 through 21-63 provide additional information on the estimated costs for the project's main components, with the exception of construction by the line agencies and the local councils. The latter costs are discussed in detail as part of the technical and financial discussion in the appropriate component description annex.

Table 21-20

Programmed Support from Other AID-Funded Projects

(US $ 000)

	FY84	FY85	FY86	FY87	FY88	Total
Project						
Agricultural Commodities	128	0	0	0	0	128
Crew-cab pickups	101	0	0	0	0	101
Trailbikes	15	0	0	0	0	15
Inflation/Contingency	12	0	0	0	0	12
Development Suppport Training	35	78	128	47	1	289
U.S. training	30	60	90	30	0	210
In-country training	2	4	4	1	1	12
Inflation/Contingency	3	14	34	16	0	67
Total	163	78	128	47	1	417

Cost factors:

Crew-cab pickups: $7,200 including 20% spares.
Trailbikes: $1,200 including 20% spares.
U.S. training: $30,000 per 8-month course (including transport).
In-country training: $500 per month, all inclusive.

Inflation factor 0.13
Contingency factor 0.10

Table 21-21

Value of GOP Contribution

(Rupee and in-kind contribution to $ 000)

Line Item	FY84	FY85	FY86	FY87	FY88	Total
Personnel	29	29	29	30	30	147
PCU	5	5	5	5	5	25
LGRD	8	8	8	8	8	40
Agriculture	9	9	9	10	10	47
Education	4	4	4	4	4	20
Other	3	3	3	3	3	15
Operations	10	50	95	147	197	499
Current line agency operations	10	10	10	10	10	50
New facilities	0	40	85	137	187	449
Commodities	0	0	0	0	0	0
Construction	188	0	0	0	0	188
Land and other facilities	16	35	27	10	9	97
Topi office	6	6	6	6	6	30
Land for construction	10	29	21	4	3	67
Subtotal	243	114	151	187	236	931
Inflation and contingency	24	29	64	116	200	433
Total	267	143	215	303	436	1,364

Cost factors:

Inflation factor	0.15
Contingency factor	0.10
Inflation + contingency	0.10

Table 21-22

Project Management Budget

US $ 000
(Rs 000)

	FY/84	FY/85	FY/86	FY/87	FY/88	Total
Project coordination unit	232 (2,970)	118 (1,510)	103 (1,318)	101 (1,293)	99 (1,267)	653 (8,358)
Project support	249 (3,174)	159 (2,035)	140 (1,792)	132 (1,690)	125 (1,600)	805 (10,304)
Housing	141 (1,805)	129 (1,651)	115 (1,472)	108 (1,382)	101 (1,293)	594 (7,603)
Staff support	7 (90)	14 (180)	14 (180)	13 (166)	13 (166)	61 (781)
Surveys and other support	101 (1,293)	16 (205)	11 (141)	11 (141)	11 (141)	150 (1,920)
Evaluation	- -	20 (256)	- -	30 (384)	10 (128)	60 (768)
Total	481 (6,157)	297 (3,802)	243 (3,110)	263 (3,366)	234 (2,995)	1,518 (19,430)

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Table 21-23

Project Coordination Unit Budget

US $ 000
(Rs 000)

	FY/84	FY/85	FY/86	FY/87	FY/88	Total
Personnel	27 (346)	53 (678)	53 (678)	53 (678)	52 (666)	238 (3,046)
Equipment	84 (1,075)	14 (179)	- -	- -	- -	98 (1,254)
Vehicles	48 (614)	- -	- -	- -	- -	48 (614)
Other-office	36 (461)	14 (179)	- -	- -	- -	50 (640)
Construction/ Renovation	95 (1,216)	- -	- -	- -	- -	95 (1,216)
Operations	26 (333)	51 (653)	50 (640)	48 (614)	47 (602)	222 (2,842)
Building maintenance	- -	10 (128)	10 (128)	9 (115)	9 (115)	38 (486)
Vehicles	16 (205)	26 (333)	26 (333)	25 (320)	[illegible] (320)	118 (1,510)
Other operations	10 (128)	15 (192)	14 (179)	14 (179)	13 ([illegible])	66 (845)
Total	232 (2,970)	118 (1,510)	103 (1,318)	101 (1,293)	99 (1,267)	653 (8,358)

Table 21-24

Project Support Budget

US $ 000
(Rs 000)

	FY/84	FY/85	FY/86	FY/87	FY/88	Total
Housing	141 (1,805)	129 (1,651)	115 (1,472)	108 (1,382)	101 (1,293)	594 (7,603)
Staff support	7 (90)	14 (180)	14 (180)	13 (166)	13 (166)	61 (781)
Surveys and other operations	101 (1,293)	16 (205)	11 (141)	11 (141)	11 (141)	150 (1,920)
Surveys	50 (640)	10 (128)	5 (64)	5 (64)	5 (64)	75 (960)
Audit	11 (141)	6 (77)	6 (77)	6 (77)	6 (77)	35 (448)
Development Support Communications	40 (512)	- -	- -	- -	- -	40 (512)
Total	249 (3,174)	159 (2,035)	140 (1,792)	132 (1,690)	125 (1,600)	805 (10,304)

Table 21-25

Project Management Expense by Input Category

US $ 000
(Rs 000)

	FY/84	FY/85	FY/86	FY/87	FY/88	Total
Personnel	34 (435)	67 (858)	67 (858)	66 (845)	65 (832)	299 (3,827)
Construction/ Renovation	150 (91,520)	14 (179)	- -	- -	- -	164 (2,099)
Commodities	129 (1,651)	14 (179)	- -	- -	- -	143 (1,830)
Operations	168 (2,150)	202 (2,585)	176 (2,253)	197 (2,253)	169 (2,163)	912 (11,674)
Building maintenance and operation	81 (1,037)	125 (1,600)	125 (1,600)	117 (1,498)	110 (1,408)	558 (7,142)
Vehicles	16 (205)	26 (333)	26 (333)	25 (320)	25 (320)	118 (1,510)
Other (including evaluation)	71 (909)	51 (653)	25 (320)	55 (704)	34 (435)	236 (3,021)
Total	481 (6,157)	297 (3,802)	243 (3,110)	263 (3,366)	234 (2,995)	1,518 (19,430)

Table 21-26

PCU Expenditures by Input Category

US $

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Personnel support	27,744	52,543	52,543	52,544	52,5[illegible]	237,920
Construction	95,156	-	-	-	-	95,156
Commodities	51,200	30,000	-	-	-	81,200
Operations	161,606	189,122	170,122	163,122	155,116	839,088
Total	335,706	271,665	222,665	215,666	207,662	1,253,363

Table 21-27

PCU Building-Related Costs

US $

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Repair of building[1]	95,156	-	-	-	-	95,156
Annual maintenance @ 10% of operating costs	-	9,516	9,516	9,516	9,516	38,064
Total						133,220

IRDP Markaz 2, Topi

Total Area:

a) 16,132 sq. ft.
Repairs/improvements at rate of Rs 60/sq. ft.
Total cost: Rs 968,000
Includes water supply connection and distribution, electrical wiring/fitting, waterproofing, plastering and painting, bathroom and kitchen repair, fittings and miscellaneous minor improvements.

b) 1 Tubewell @ Rs 200,000

c) 1 Transformer @ Rs 50,000

Total Rs 1,218,000 $95,156

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Table 21-28

Summary of Housing Costs by Year

US $

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Total
House rent @ $2,000 per house per year	20,000	32,000	32,000	30,000	28,000	142,000
House renovation and repair @ $2,000 per house	20,000	14,000	-	-	-	34,000
Utilities @ $5,000 per house per year	50,000	80,000	80,000	75,000	70,000	355,000
Total	90,000	126,000	112,000	105,000	98,000	531,000

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Table 21-29

Long-term Housing Required (Tarbela)

	Year 1	Year 2	Year 3	Year 4	Year 5	Years Required
Project Director	1	1	1	1	1	5
Administrator	1	1	1	1	1	5
Accountant	1	1	1	1	1	5
Procurement and Logistic Officer	1	1	1	1	1	5
Agricultural Economist	1	1	1	1	1	5
U.S. Technical Assistance	2	3	3	2	1	11
Pakistani Technical Assistance	2	4	4	4	4	18
Guest house	1	1	1	1	1	5
Agricultural Officer		1	1	1	1	4
Ecologist		1	1	1	1	4
Engineer		1	1	1	1	4
Totals	10	16	16	15	14	

Table 21-30

Details of Utilities and Maintenance for Houses

Item	Rs per Month	Rs per Year	US $ per Year
Electricity	3,000	36,000	2,813
Water	150	1,800	141
Gas	300	3,600	282
Fumigation service	-	3,000	235
Annual mainterance	-	12,500	977
Miscellaneous	-	7,040	550
Total	3,450	63,940	4,998

Table 21-31

Guest House Utl

US $

Item	FY/84	FY/85	FY/86	FY/87	FY/88
Purchase/leasing of land and site preparation (Est. 2,500 sq. ft.)	10,000	-	-	-	-
Construction of Quarters (Est. Rs 160 sq. ft.: 4 bedrooms, 1 living/dining room, 1 kitchen, 4 bathrooms, 1 veranda, 2 storerooms)	35,000	-	-	-	-
Cost of furnishings (furniture, refrigerator, stove, heaters)	5,000	-	-	-	-
Maintenance costs (5% of construction cost)		1,750	1,750	1,750	1,750
Staff (Cook (Rs 800/month), chowkidar (Rs 500/month))	750 469	750 469	750 469	750 469	750 469
Subtotal	51,216	2,969	2,969	2,969	2,969

Total 63,092

Table 21-32

PCU Operating US $

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Vehicle-related running costs	16,406	25,406	25,406	25,400	25,400	118,024
Traveling cooperation support fund	4,000	4,000	4,000	4,000	4,000	20,000
Office supplies and related office support @ 250 per month	3,000	7,000	7,000	7,000	6,000	30,000
Telephone costs @ 250 per month	3,000	3,000	3,000	3,000	3,000	15,000
Electricity and water @ 350 per month	4,200	4,200	4,200	4,200	4,200	21,000
Survey costs	50,000	10,000	5,000	5,000	5,000	75,000
Building maintenance	-	9,516	9,516	9,516	9,516	38,064
Housing-related costs	90,000	126,000	112,000	105,000	98,000	531,000
Total	170,606	189,122	170,122	163,122	155,116	848,088

Table 21-33

PCU Vehicle Costs

US $

Provided To:	Vehicle Type	No.	Basic Cost CIF with Spares	Annual Running Cost	No. Years	Total
Project Director	Toyota L/C[2]	1	15,600[1]	3,000[1]	5	30,600
Project COP	Toyota L/C	1	15,600	3,000	5	30,600
Assistant Commissioner	Toyota L/C	1	16,000	-	-	16,000
Administrator Accountant Procurement and Logistics Agricultural Economist Commications-Trainer Vehicle Controller	Toyota Diesel Pick-Up	2	[1]	3,000	10	30,000
Technical Assistance Team	Toyota Diesel Pickup	4	[1]	3,000	17	51,000
Truck Rental @ Rs 750/day 2 days per month x 60 months						7,030
		9	41,200	-	37	165,230

Notes:

1 Covered by Agricultural Commodities Project (USAID 394-0468).

2 Toyota Diesel Land Crusior.

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Table 21-34

PCU Equipment Costs[1]

US $

Commodity	Cost Per Unit	No.	Total Cost
Microcomputer	3,000	2	6,000
Typewriter (electric)	1,300	2	2,600
Typewriter (manual)	500	4	2,000
Photocopier	6,000	1	6,000
Calculator	250	1	250
Mini-calculator	20	10	200
Furniture/offices[2]			25,000
Miscellaneous			7,050
			50,000

Notes:

1 Not including vehicles.

2 Desks, chairs, tables, filing cabinets, bookcases, furnishings, etc.

Table 21-35

Development Support Communications Commodities

US $

Equipment	No.	Cost
Duplicating machine	1	300
Stencil cutting machine	1	300
35 mm slide projector and accessories	1	300
16 mm projector, dust cover, spare parts	1	1,800
Projection screen	1	400
Heavy duty cassette recorder	1	500
Portable cassette players (for use in village educational campaigns: 200 settlements @ 2 cassette players per settlement x unit cost of 50	400	20,000
Public address equipment	1	500
Video equipment: 1/2" Betamax Color Cassette (portable camera, video-recorder, monitor, battery pack, etc.)	1	10,000
Miscellaneous		5,400
Total		40,000

Table 21-36

Table Local Government Support Budget
US $
(Rs)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Personnel[1]	12,000 (153,600)	26,000 (332,800)	26,000 (332,800)	26,000 (332,800)	26,000 (332,800)	116,000 (1,484,800)
Transportation[2] 3 Toyota pickups Operating costs	6,000 (76,800)	6,000 (76,800)	6,000 (76,800)	6,000 (76,800)	6,000 (76,800)	30,000 (384,000)
Operations (including supplies)	1,000 (12,000)	1,000 (12,800)	1,000 (12,800)	1,000 (12,800)	1,000 (12,800)	5,000 (64,000)
Commodities (Equipment)	3,000 (38,400)					3,000 (38,400)
Training	2,000 (25,600)	2,000 (25,600)	2,000 (25,600)	1,000 (12,800)	1,000 (12,800)	8,000 (102,400)
Subtotals	24,000 (307,200)	35,000 (448,000)	35,000 (448,000)	34,000 (435,200)	34,000 (435,200)	162,000 (2,073,600)

1 See Table 8 for breakdown of funds for government and project Staff

2 Drivers included in personnel category. Toyota pickups funded under Agriculture Commodities and Equipment Program.

Table 21-37

Agricultural Program Summary
US $
(Rs)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Track I: Field crop support						
Staff support	7,554	7,554	7,554	7,554	7,554	37,770
Vehicle/motorcyles operation and truck rental	6,250	6,250	6,250	6,250	6,250	31,250
Equipment	37,100	11,000	11,000	12,200	12,200	83,500
Supplies/demonstration	10,385	84,735	102,885	121,055	22,530	341,590
Field offices/storage	14,000	14,000	7,000	-	-	35,000
Track II: Cash alternative						
Staff support	-	16,996	16,996	16,996	16,996	67,984
Vehicle/motorcycle operation (truck)	-	6,500	6,500	6,500	6,500	26,000
Equipment	-	70,000	15,000	20,000	20,000	125,000
Supplies, stations	-	12,500	15,000	15.000	20,000	62,500
Field offices/storage	-	35,000	-	-	-	35,000
Land lease, tree stations, meteorological stations	5,000	35,000	10,000	5,000	5,000	60,000

Agricultural Production Summary
US $
(Rs)

Subtotals:						
Field crop support	75,289 (963,700)	123,549 (1,581,700)	134,659 (1,724,030)	147,059 (1,882,370)	48,534 (621,190)	529,110 (6,772,600)
Cash alternative	5,000 (64,000)	175,996 (2,252,730)	63,496 (812,735)	63,496 (812,735)	68,496 (876,735)	376,484 (4,818,945)
Total	80,289 (1,027,710)	299,535 (3,834,050)	198,185 (2,536,768)	210,555 (2,695,100)	117,030 (1,497,920)	905,594 (11,591,550)

Table 21-38

Agricultural Production (Track I)
US $
(Rs)

Field Crop Support:	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Personnel	7,554 (96,700)	7,554 (96,700)	7,554 (96,700)	7,554 (96,700)	7,554 (96,700)	37,770 (483,460)
Transportation[1] Vehicle & motorcycle Operating costs	6,250 (80,000)	6,250 (80,000)	6,250 (80,000)	6,250 (80,000)	6,250 (80,000)	31,250 (400,000)
Equipment	37,100 (474,880)	11,000 (140,800)	11,000 (140,800)	12,200 (156,160)	12,200 (156,160)	83,500 (1,068,800)
Gadoon Hazara	29,300	9,000	9,000	10,200	10,200	67,700
Swat Amazai	7,800	2,000	2,000	2,000	2,000	15,800
Supplies	10,385	84,735	102,885	121,055	22,530	341,590
Demonstration	3,630	26,720	26,720	26,720	4,415	88,205
Swat Amazai	3,125	3,515	3,515	3,515	3,515	17,185
Special Program	3,630	54,500	72,650	90,820	14,600	236,200
Construction						
Field offices & storage	14,000 (179,200)	14,000 (179,200)	7,000 (89,600)	- -	- -	35,000 (448,000)
Subtotal	75,290 (963,700)	123,540 (1,581,300)	134,690 (1,724,030)	147,060 (1,882,370)	48,530 (621,190	529,110 (6,772,600)

Note: 1 Driver included in personnel category. Toyota pickup, motorcycles funded under Agriculture Commodities and Equipment Program.

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Table 21-39

Agricultural Production (Track II)
US $
(Rs)

Cash Alternative:	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Personnel		16,995 (217,550)	16,995 (217,550)	16,995 (217,550)	16,995 (217,550)	67,980 (870,195)
Transportation[1] Vehicle & motorcycle operating costs		6,500 (83,200)	6,500 (83,200)	6,500 (83,200)	6,500 (83,200)	26,000 (332,800)
Equipment		70,000 (896,000)	15,000 (192,000)	20,000 (256,000)	20,000 (256,000)	125,000 (1,600,000)
Field measuring equipment		40,000	5,000	2,500	5,000	52,500
Irrigation pumps & Accessories		20,000	7,500	7,500	7,500	42,500
Small implements & tools		10,000	2,500	10,000	7,500	30,000
Supplies	5,000 (64,000)	47,500 (608,000)	25,000 (320,000)	20,000 (256,000)	25,000 (320,000)	122,500 (1,568,000)
Field stations	-	12,500	15,000	15,000	20,000	62,500
Land lease, tree stations	5,000	35,000	10,000	5,000	5,000	60,000
Construction						
Field offices		35,000 (448,000)	-	-	-	35,000 (448,00)
Subtotal	5,000 (64,000)	175,995 (2,252,730)	63,495 (812,735)	63,495 (812,735)	68,495 (876,735)	376,480 (4,818,945)

Note: 1 Driver included in personnel category. Toyota pickup, motorcycle funded under Agricultur Commodities and Equipment Program.

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Table 21-40

Agricultural Marketing
US $
(Rs)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Agricultural Marketing	-	25,000 (320,000)	75,000 (960,000)	75,000 (960,000)	125,000 (1,600,000)	300,000 (3,840,000)

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Table 21-41

Watershed Management Program Summary
US $
(Rs)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Range program	95,375 (1,220,800)	51,855 (663,750)	56,855 (727,750)	64,355 (823,750)	74,355 (951,750)	342,795 (4,387,800)
Forestry program	5,500 (70,400)	60,350 (772,480)	59,850 (776,080)	60,850 (778,900)	85,350 (1,092,500)	271,900 (3,480.320)
Animal husbandry program		64,530 (825,600)	22,530 (288,400)	24,030 (307,600)	25,030 (320,400)	136,120 (1,742.300)
Subtotal	100,875 (1,291,200)	176,735 (2,262,210)	139,235 (1,782,200)	149,235 (1,910,210)	184,735 (2,364,610)	750,815 (9,610,430)

Table 21-42

Range Program
US $
(Rs)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Personnel	8,000 (102,400)	14,480 (185,350)	14,480 (185,350)	14,480 (185,350)	14,480 (185,350)	65,920 (843,780)
Transportation						
(Allocated under Forestry Program)						
Equipment	15,000 (192,000)	7,500 (96,000)	7,500 (96,000)	10,000 (128,000)	15,000 (192,000)	55,000 (704,000)
Field measuring equipment	10,000	5,000	4,000	5,000	7,500	31,500
Small tools, implement	5,000	2,500	3,500	5,000	7,500	23,500
Supplies	22,375 (286,400)	29,875 (382,400)	34,875 (446,400)	39,875 (510,400)	44,875 (574,400)	171,875 (2,200,000)
Supplies	10,000	17,500	2,500	7,500	7,500	45.000
Range seeding	1,125	1,125	1,125	1,125	1,125	5,625
Land lease	11,250	11,250	11,250	11,250	11,250	56,250
Range incentive	-	-	20,000	20,000	25,000	65,000
Construction						
Pens, quarters	50,000 (640,000)	-	-	-	-	50,000 (640,000)
Subtotal	95,375 (1,220,800)	51,855 (663,750)	56,855 (727,750)	64,355 (823,750)	74,355 (951,750)	342,795 (4,387,800)
Size of stations established (acres)	75	75	75	75	75	375
Area in range protection program (acres)			1,500	1,500	1,700	4,700

Table 21-43

Animal Husbandry Program
US $
(Rs)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Personnel		10,530 (134,800)	10,530 (134,800)	10,530 (134,800)	10,530 (134,800)	42,120 (539,100)
Transportation[1]						
Operating costs		6,000 (76,800)	6,000 (76,800)	6,000 (76,800)	6,000 (76,800)	24,000 (307,200)
Equipment						
Artificial insemination equipment		12,000 (153,600)	1,000 (12,800)	1,000 (12,800)	1,000 (12,800)	15,000 (192,000)
Supplies		1,000 (12,800)	5,000 (64,000)	6,500 (83,200)	7,500 (96,000)	20,000 (256,000)
Poultry		1,000	2,000	3,500	3,500	10,000
Animals (sheep & goats)			3,000	3,000	4,000	10,000
Construction		35,000 (448,000)				35,000 (448,000)
Dispensary		25,000				25,000
Poultry		10,000				10,000
Subtotal		64,530 (825,600)	22,530 (288,400)	24,030 (307,600)	25,030 (320,400)	136,120 (1,742,300)

Note: 1 Driver included in personnel category. Toyota pickups, motorcycle funded under Agriculture Commodities and Equipment Program.

Table 21-44

Forestry Program
US $
(Rs)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Personnel		15,100 (193,280)	15,100 (193,280)	15,100 (193,280)	15,100 (193,280)	60,400 (773,120)
Transportation[1]						
Operating cost		3,000 (38,400)	3,000 (38,400)	3,000 (38,400)	3,000 (38,400)	12,000 (153,600)
Equipment	3,500 (44,800)	7,000 (89,600)	5,000 (64,000)	5,000 (64,000)	5,000 (64,000)	25,500 (326,400)
Forest seed	2,500	3,500	3,500	4,000	3,500	17,000
Forest tools	1,000	3,500	1,500	1,000	1,500	8,500
Supplies	4,000 (51,200)	33,250 (425,600)	36,750 (470,400)	37,750 (483,200)	62,250 (796,800)	174,000 (2,227,200)
Seedlings & planting	-	19,000	12,250	12,250	12,250	55,750
Incentive program		9,250	19,500	19,500	40,000	88,250
Sericulture	4,000	5,000	5,000	6,000	10,000	30,000
Construction						
Subtotal	7,500 (96,000)	58,350 (746,880)	59,850 (776,080)	60,850 (778,900)	85,350 (1,092,500)	271,900 (3,480,320)

Note: 1 Driver included in personnel category. Toyota pickup, motorcycle funded under Agriculture Commodities and Equipment Program.

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Table 21-45

Irrigation Program
US $
(Rs)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Irrigation Department						
Construction of check dams		125,000 (1,600,000)	150,000 (1,920,000)	125,000 (1,600,000)	50,000 (640,000)	450,000 (5,760,000)
Union Council						
Construction of irrigation channels		75,000 (960,000)	100,000 (1,280,000)	100,000 (1,280,000)	25,000 (320,000)	300,000 (3,840,000)
Subtotal		200,000 (2,560,000)	250,000 (3,200,000)	225,000 (2,880,000)	75,000 (960,000)	750,000 (9,600,000)

Table 21-46

Agricultural Program
Equipment Summary: Track I

US $ (Rs)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Location						
Gadoon	29,300	9,000	9,000	10,200	10,200	67,700
	(375,000)	(115,000)	(115,000)	(130,000)	(130,000)	(865,000)
Buner	7,800	2,000	2,000	2,000	2,000	15,800
	(100,000)	(25,000)	(25,000)	(25,000)	(25,000)	(200,000)
Total						
	37,100	11,000	11,000	12,200	12,200	83,500
	(475,000)	(140,000)	(140,000)	(155,000)	(155,000)	(1,065,000)

Table 21-47

Agricultural Program
Swat Amazai

Equipment List
Track I

US $

Equipment	Cost
Year 1	
Hand tools, shovels, rakes, sickles	1,800
Fertilizer and seed spreaders, hand planters	500
Field scales, measuring tapes, plows	2,500
Miscellaneous size jute bags, audio-visual equipment, books, etc	2,000
	7,800
Year 2	
Audio-visual equipment, miscellaneous supplies for Training & Visitation	2,000
Year 3	
Replacement of small hand tools, repairs of field equipment	1,500
Audio-visual equipment, supplies, books	1,500
	2,000
Year 4	
Training & Visitation Program material, miscellaneous field supplies	2,000

Year 5

Repair and replace hand tools, field equipment	1,000
Replace audio-visual equipment, books, journals, etc.	1,000
	2,000

Table 21-48

Gadoon - Amazai
Equipment List
Track I

US $

	Cost
Year 1	
Hand tools, shovels, rakes, sickles	3,500
Corn planters, fertilizer and seed spreaders	4,300
Field scales, measuring tapes, bullock plows	4,000
Containers - 20 ton capacity, twine, jute bags - miscellaneous sizes	17,500
	29,300
Year 2	
Tool replacement, hand tools, miscellaneous small tools, Back pack sprayer	1,000
Audio-visual equipment, books, film strip, blackboards, etc	2,400
Jute bags - for distribution of seed & fertilizer	5,600
	9,000
Year 3	
Small tool replacement, hand tools, measuring tapes, etc.	1,500
Supplies for Training and Visitation Program	1,900
Jute bags - twine	5,600
	9,000

Year 4

Jute bags, twine, small bags for fertilizer & seed distribution	6,200
Training and Visitation audio-visual supplies, books, journals, etc.	3,000
Replacement of hand tools, repairs on small equipment	1,000
	10,200

Year 5

Replace all worn-out hand tools, plows	3,000
Replace corn planter, fertilizer & seed spreader, measuring tapes, field scales	4,000
Jute bags - assorted sizes, twine, replace supply	2,000
Replace audio equipment, repair other equipment, books, etc.	1,200
	10,200

Table 21-49

Agricultural Program

Equipment List
Track II

US $

Equipment	Cost
Year 2	
Fertilizer & seed spreaders	8,000
Hand planter Planet Jr. complete w/plate & openers	8,500
Hand corn planters	4,800
Plows (bullock type)	3,000
Back pack sprayers, & miscellaneous	6,500
Pruning shears, hand clippers, markers, measuring tapes, irrigation equipment Low Lift pump, pipe extenders, hand tools, shovels, rakes, sickles	18,200
Tool shed, lock, door etc	21,000
	70,000
Year 3	
Hand tool replacement	5,000
Irrigation maintenance equipment	7,500
Parts for sprayers, planters	2,500
	15,000

Year 4

Irrigation pump maintenance, repairs, parts	7,500
Replace lost tools, repair planters	5,000
Maintain tool shed/repairs	2,500
	15,000

Year 5

Replace lost tools, repair all hand tools	5,000
Repair or replace sprayers, new seals, tanks, parts for fertilizer & seed spreader	5,000
Irrigation equipment parts, repairs, pipes	7,500
Replace research equipment, parts for weather station, measuring equipment	2,500
	20,000

Table 21-50

Agricultural Program
Supplies: Track I Summary
US $
(Rs)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Gadoon-Main Program						
Demonstrations & supplemental incentives	3,630 (46,500)	26,720 (342,000)	26,720 (342,000)	26,720 (342,000)	4,415 (56,500)	88,200 (1,129,000)
	100 acres	700 acres	700 acres	700 acres	100 acres	2300 acres
Gadoon-Special Program with Poppy Farmers						
Special fertilizer/ improved seed	3,630 (46,500)	54,500 (697,500)	72,650 (930,000)	90,820 (1,162,500)	14,600 (186,000)	236,200 (3,010,500)
	100 acres	1,500 acres	2,000 acres	2,500 acres	400 acres	6,000 acres
Swat Amazo.						
Fertilizer, seed, trees, etc.	3,125 (40,000)	3,515 (45,000)	3,515 (45,000)	3,515 (45,000)	3,515 (45,000)	17,185 (220,000)
	60 acres	60 acres	60 acres	60 acres	60 acres	300 acres
						341,590
	(10,385)	(84,735)	(102,885)	(121,055)	(22,530)	(4,359,000)

Inputs per acre:

Urea: 1 1/2 bag per acre @ Rs 120/bag =	180
Di-ammonium phosphate: 1 bag per acre @ Rs 125/bag =	125
Seed: 40 kg per acre @ Rs 4/kg. =	160
	Rs 465 = $36.30

Table 21-51

Gadoon - Amazai

Agricultural Program Supplies

Rs

(US $)

Track I

Supplies	Cost
Year 1	
Gadoon-Main Program	
100 acres	
150 bags Urea (50 kg) @ 120 Rs/bag	18,000
100 bags DAP (50 kg) @ 125 Rs/bag	12,500
Seed-40 kg/acre @ 4 Rs/Kg (Certified seed)	16,000
	46,500
	(3,630)
Gadoon-Special Poppy Growers Program	
100 acres	46,500
Same as above	(3,630)
Year 2	
Gadoon-Special Poppy Growers Program	
700 acres	
1,050 bags of Urea @ 120 Rs/bag	126,000
700 bags DAP 125 Rs/bag	87,500
Seed 28,000 kg	112,000
Fruit trees, chemicals	16,500
	342,000
	(26,720)

499

Gadoon-Special Poppy Growers Progra

1,500 acres	
2,250 bags Urea @ 120 Rs/bag	270,000
1,500 bags DAP @ 125 Rs/bag	187,000
Seed 60,000	240,000
	697,500
	(54,500)

Year 3

Gadoon-Main Program

700 acres	
1,050 bags Urea 120 Rs/bag	126,000
750 bags DAP 125 Rs/bag	87,500
Seed 28,000 kg	112,000
Fruit trees, pesticides, etc.	16,500
	342,000
	(26,720)

Gadoon-Special Poppy Growers Progra

2,000 acres	
3,000 bags Urea 120 Rs/bag	360,000
2,000 bags DAP 125 Rs/bag	250,000
Seed 80,000 kg	320,000
	930,000
	(72,650)

Year 4

Gadoon-Main Program

700 acres	
1,050 bags Urea @ 120 Rs/bag	126,000
700 bags DAP @ 125 Rs/bag	87,500
Seed 28,000 kg @ 4 Rs/kg	112,000
Fruit trees, pesticides, etc.	16,500
	342,000
	(26,720)

580

Gadoon-Special Poppy Growers Program

2,500 acres	
3,750 bags of Urea @ 120 Rs/bag	450,000
2,500 bags DAP @ 125 Rs/bag	312,500
Seed	400,000
	1,162,500
	(90,820)

Year 5

Gadoon-Main Program

100 acres	
150 bags Urea @ 120 Rs/bag	18,000
100 bags DAP @ 125 Rs/bag	12,500
Seed 4,000 kg @ 4 Rs/kg	16,000
Fruit trees, pesticides	10,000
	56,500
	(4,415)

Gadoon-Special Poppy Growers Program

400 acres	
600 bags Urea @ 120 Rs/bag	72,000
400 bags DAP 125 Rs/bag	50,000
Seed 16,000 kg	64,000
	186,000
	(14,600)

Table 21-52

Swat Amazai

Supplies

Track I
Rs

(US $)

Supplies	Cost
Year 1	
60 acres	
90 bags Urea @ 120 Rs/bag	10,800
60 bags DAP @ 125 Rs/bag	7,500
Seed	9,600
Fruit trees, pesticides etc.	12,100
	40,000
	(3,125)
Year 2	
60 acres	
90 bags Urea @ 120 Rs/bag	10,800
60 bags DAP @ 125 Rs/bag	7,500
Seed	9,600
Fruit trees, pesticides, miscellaneous audio visual supplies	17,100
	45,000
	(3,515)

Table 21-53

Agricultural Program
Supplies
Track 1I

Rs

(US $)

Supplies	Cost
Year 2	
150 bags Urea @ 120 Rs/bag	18,000
100 bags DAP @ 125 Rs/bag	12,500
Seed, fruit trees, fungicides, insecticides	116,000
Jute bags, twine, markers, etc	13,500
	160,000
	(12,500)
Year 3	
Maintenance for Low Lift pump (fuel, oil, parts)	96,000
Teaching visuals supplies, books, journals, etc.	64,000
Pesticides, fruit trees, seed	32,000
	192,000
	(15,000)
Year 4	
150 bags Urea @ 120 Rs/bag	18,000
100 bags DAP @ 125 Rs/bag	12,500
Fruit trees, seed, pesticides	34,000

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Jute bags, twine, markers for plots irrigation supplies, fuel, oil, (pumps)	128,000
	192,000
	(15,000)
Year 5	
Maintenance & repairs on Low Lift irrigation pumps, fuel, oil	128,000
Teaching material for Training & Visi ation Program	96,000
Pesticides, seed, fruit trees	32,000
	256,000
	20,000
	(62,500)

TABLE 21-34

Animal Husbandry Support Program Detailed by Year
(US $)

	Year 2	Year 3	Year 4	Year 5	Total	Remarks
Track 2 Dispensary Construction	5,000				5,000	Upgrade dispensary at Kabgani
Track 2 Operations	20,000				20,000	New Dispensary at Utla
Track 3 AI Equipment	12,000	1,000	1,000	1,000	15,000	
Track 3 AI Running expenses	4,353	4,353	4,353	4,353	17,412	
Track 3 AI Truck & Driver	4,353	4,353	4,353	4,353	17,412	Truck recurring cost 3000/year Driver 1353/year
Track 4 Poultry Hatchery	10,000				10,000	
Track 4 Poultry Purchase	1,000	2,000	3,500	3,500	10,000	Purchase 10,000 birds over 4 years
Track 5 Animal Purchase		3,000	3,000	4,000	10,000	Purchase sheep and goats starting year 3
Personnel: 3 SA (5) 8 Laborers(3)	3,756	3,756	3,756	3,756	15,024	
3 Drivers	5,422	5,422	5,422	5,422	21,688	
Total	64,531	22,531	24,031	25,031	136,124	

Table 21-55

Animal Husbandry Support Programmatic Detail

US$

Track Activity			
I	a)	Upgrade veterinary dispensary at Gabgari	5,000
	b)	Personnel - 1 Stock Assistant (SA)	
II	a)	Construct veterinary dispensary at Utla	20,000
	b)	Personnel - 1 Stock Assistant (SA)	
III	a)	Mobile artificial insemination (AI) 1 veterinary dispensary unit - truck 4x4	
	b)	Personnel 1 Driver 1 AI Technician 2 Stock assistants (SA) 2 Laborers	
	c)	AI equipment - liquid nitrogen tank 3 liter and 20 liter size containers, AI equipment, liquid nitrogen etc.	15,000
IV		Poultry Program	
	a)	Upgrade producing facility	10,000
	b)	Yearly chicken distribution program	
		Year 1 - 1,000	1,000
		Year 2 - 1,500	1,500
		Year 3 - 2,000	2,000
		Year 4 - 2,500	2,500
		Year 5 - 3,000	3,000
		10,000	10,000
	c)	Personnel 1 Stock Assistant 2 Laborers	
V		Sheep and Goat Program: Start 3rd year based on the capacity of the existing range condition.	
	a)	Animal Procurement	
		Year 3	3,000
		Year 4	3,000
		Year 5	4,000
			10,000
	b)	Personnel 1 Stock assistant 2 Laborers	

General

2 trucks and driver
1 AI
1 other as part of program

Contract Hire	Grade
SA 4,300/yr	(5)
Laborers 2,300/yr	(3)

Limit of 32,000 for five years:

Alternative staffing pattern
within budget

7 SA - 0-laborers
6 SA - 2 laborers
5 SA - 4 laborers
4 SA - 6 laborers
3 SA - 8 laborers

Notes:

III Mobile Artificial Insemination (AI) and Veterinary Dispensary Unit
The unit should be equipped to handle both AI and dispensary equipment and supplies. Emphasis should be placed on upgrading the buffalo herd for better milk production and animals that are more adaptable to steep hillside surroundings.

IV Poultry Program (Fayoumi Breed)
Initially three-month old chicks will be distributed at a subsidized price to employees of the project. Subsequently, chicks will be sold to local farmers at reduced price. Three-month old chicks are recommended for the following reasons:

a) Better disease resistance
b) Excellent scavenging ability
c) Better chance to survive in surroundings

V Sheep and Goat Program
Introduction of improved breeds will be based on the condition and supporting capacity of the range land. Animals will be sold to project employees initially at a reduced price. Local farmers will have the opportunity to buy improved breeds through arrangements with local credit establishment.

Table 21-56

Forestry Supplies and Equipment

US $

Year 1	
Forest firewood species (seed) - 600 kg	2,500
Miscellaneous hand tools, shovels, rakes	1,000
	3,500
Year 2	
Forest seed - 1200 kg	5,000
Replacement tools	500
Measuring tapes, stakes for markers, paint, brushes, seed spreaders	1,500
	7,000
Year 3	
Forest seed - 1000 kg	4,000
Hand tools, shears, clippers	1,000
	5,000
Year 4	
Forest seed - 1000 kg	4,000
Replace seed spreaders, parts, hand tools	1,000
	5,000
Year 5	
Seed - 1000 kg	4,000
Hand tools, shears, shovels	500
Parts for spreaders	500
	5,000

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Table 21-57

Range Equipment

US $

Year 1	
Scales, measuring equipment (tapes, stakes), nylon rope, steel posts	10,000
Miscellaneous marking equipment for boundaries	2,500
Miscellaneous equipment for forage sampling and making silage	2,500
	15,000
Year 2	
Small animal scales (tripod mounted)	5,000
Miscellaneous small tools and replacement	2,500
	7,500
Year 3	
Repair and replace measuring equipment (pivot & tripod scales)	5,000
Marking equipment for animal and range boundary	2,500
	7,500
Year 4	
Additional equipment for incentive program and replacement	5,000
Miscellaneous hand tools for additional program and replacement	2,500
Markers for boundaries, small tools	2,500
	10,000

Year 5

Repair and replace all measuring equipment	7,000
Repair, replace hand tools, small implements	5,000
Repair replace forage silage equipment	2,500
	15,000

Table 21-58

Range Supplies

US $

Year 1	
Hand tools, shovels, grass clippers, sickles, rakes, collection sample bags	10,000
	10,000
Year 2	
Animals (sheep & goats)	15,000
Animal veterinary supplies, ear tags, and miscellaneous animal markers	2,500
	17,500
Year 3	
Stock upgrading program	2,500
	2,500
Year 4	
Animal veterinary supplies (additional) animal in program	5,000
Stock upgrading program	2,500
	7,500
Year 5	
Veterinary supplies for additional animals in the incentive program	5,000
Stock upgrading program	2,500
	7,500

Table 21-59

Forestry Program Details By Year

Items	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Number of Forest Guards (local hire)	5	10	15	20	25	
Number of Laborers (local hire)	10 (4 mos)	20 (4 mos)	20 (4 mos)	20 (6 mos)	20 (6 mos)	
Direct Seeding (acres)	125	125	125	125	125	625
Number of Seedlings (20% mortality)	-	210,000	105,000	105,000	105,000	525,000
Planting schedule (acres)	-	250	125	125	125	625
Seedling cost 1 Rs/seedling (converted to US $)	-	11,500	8,500	8,500	8,500	37,000
Planting cost 30 US $/acre	-	7,500	3,750	3,750	3,750	18,750
Equipment and Supplies: seed, tools, etc.	3,500	7,000	5,000	5,000	5,000	25,500
Incentive Program (seedlings for farmers) US $ (acres)	-	5.500 125	12,000 250	12,000 250	25,000 500	76,500 1,125

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Planting cost 30 US $/acre	-	3,750	7,500	7,500	15,000	33,750
Sericulture US $	4,000	5,000	5,000	6,000	10,000	30,000

Table 21-60

Off-Farm Employment Summary by Input Category

US $ 000
(Rs 000)

	FY/84	FY/85	FY/86	FY/87	FY/88	Total
Personnel	47 (602)	86 (1,101)	85 (1,088)	85 (1,088)	79 (1,011)	382 (4,890)
Commodities	268 (2,048)	106 (141)	110 (77)	108 (128)	79 (64)	671 (2,458)
Operations	62 (794)	183 (2,342)	135 (1,728)	136 (1,741)	133 (1,702)	649 (8,307)
Total	537 (6,874)	386 (4,941)	336 (4,301)	339 (4,339)	296 (3,789)	1,894 (24,243)

Note: Training included under "Operations" category.

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Table 21-61

Off-Farm Employment Tarbela Contractor

US $ 000
(Rs 000)

	FY/84	FY/85	FY/86	FY/87	FY/88	Total
Personnel	37 (474)	37 (474)	37 (474)	36 (461)	36 (461)	183 (2,342)
Commodities	120 (1,536)	- -	- -	- -	- -	120 (1,536)
Construction	180 (2,304)	- -	- -	- -	- -	180 (2,304)
Operations	44 (563)	44 (563)	43 (551)	43 (551)	43 (551)	217 (2,778)
Total	381 (4,877)	81 (1,037)	80 (1,024)	79 (1,011)	79 (1,011)	700 (8,960)

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Table 21-62

Off-Farm Employment Overseas Pakistan
Foundation Expenditure by Category

US $ 000
(Rs 000)

	FY/84	FY/85	FY/86	FY/87	FY/88	Total
Personnel	10 (128)	36 (461)	37 (474)	36 (461)	36 (461)	155 (1,984)
Commodities	40 (512)	- -	- -	- -	- -	40 (512)
Construction	80 (1,024)	- -	- -	- -	- -	80 (1,024)
Operations	19 (243)	80 (1,024)	80 (1,024)	80 (1,024)	80 (1,024)	339 (4,339)
Total	149 (1,907)	116 (1,485)	117 (1,498)	116 (1,485)	116 (1,485)	614 (7,859)

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Table 21-63

Education Expenditure by Input Category

US $ 000
(Rs 000)

	FY/84	FY/85	FY/86	FY/87	FY/88	Total
Personnel	-	11	11	11	10	43
	-	(138)	(138)	(138)	(128)	(556)
Commodities	-	11	7	10	5	33
	-	(138)	(90)	(128)	(64)	(422)
Construction	8	197	110	108	79	413
	(102)	(1,370)	(1,408)	(1,382)	(1,011)	(5,286)
Operations	-	10	12	13	9	44
		(128)	(154)	(166)	(115)	(563)
Total	8	139	140	142	103	532
	(102)	(1,779)	(1,792)	(1,818)	(1,318)	(6,809)