Program in Support of Agriculture & Rural Development

USAID
Mission to
PAKISTAN

CONTENTS

INTRODUCTION

A major challenge over the next decade will be increasing agricultural production to meet the growing demand of growing populations, worldwide. Between 1982-1987, the United States Agency for International Development (USAID) invested $730 million in Pakistan's agriculture and rural development sector with plans to invest an additional $1.1 billion between 1988-1993. This investment supports the Government of Pakistan's agricultural strategy of increasing agricultural productivity to contribute to sustained national economic growth.

The United States Agency for International Development looks forward to continuing its joint endeavor in agriculture and rural development with the Government of Pakistan. The programs and projects described in this booklet are being implemented by the Government of Pakistan with support from USAID in an attempt to increase the contribution that Pakistan's substantial agricultural and rural populations can make to the economic growth of the country.

The United States Government is proud to be part of this long standing critical effort on the part of the Government of Pakistan to improve the incomes and well-being of rural Pakistan.

James A. Norris
Director,
United States Agency for
International Development
Mission to Pakistan

Dr. Amir Mohammed Khan, Chairman Pakistan Agricultural Research Council and James Norris, Director, United States Agency for International Development Mission to Pakistan. Earth-breaking ceremony for NARC audio-visual center building, Islamabad

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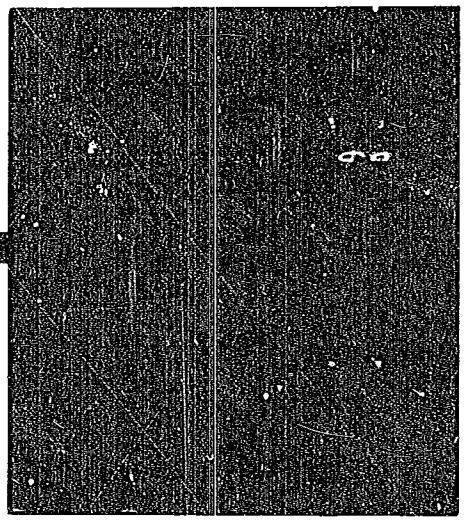

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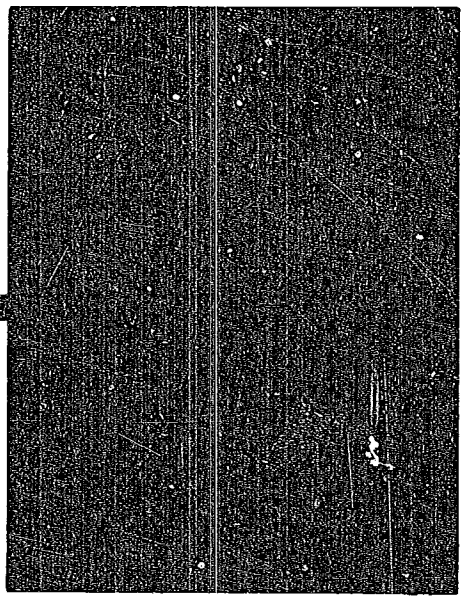

AGRICULTURE TRAINING CELL

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Public Sector Specialist
Ahmad Jameel

Private Sector Specialist
Mohammad Saeed Akhtar

Agricultural and Rural Development Accomplishments, 1982-1993

-- 5200 Pakistanis received short-term training;

-- 175 BS, MS and PhD candidates trained in agricultural-related fields;

-- $300 million provided for importation of 1.8 million metric tons of wheat during three wheat production shortfalls;

-- 694.3 thousand metric tons of di-ammonium phosphate (DAP) and triple super phosphate (TSP) fertilizers, valued at $163 million, imported in five tranches;

-- Policy reforms supported by AID include the replacement of interest-free farm loans with 8% loans; increase in fertilizer retail prices by 10%; increase in differential between wheat procurement and sales price; and elimination of import tariffs on animal feed ingredients and the ration shop system;

-- $77 million provided for importation of research, laboratory and heavy equipment to support USAID-financed projects; an additional $63 million in foreign exchange provided for private sector purchase of machinery and equipment;

-- Following a cotton production shortfall, imported 56.6 thousand bales of cotton at a cost of $24 million;

-- $309 million in PL-480 food imports (edible oil) provided;

-- 4,000 kilometers of irrigation canals, watercourses and drains rehabilitated and maintained throughout Pakistan;

-- $50 million in computers, vehicles, and heavy machinery provided to Provincial Irrigation Districts;

-- Eradication of poppy cultivation through development activities in Gadoon Amazai;

-- $30 million spent for road construction and water schemes initiated in remote rural areas;

-- $20 million Northwest Frontier Province Agricultural University construction project begun in January 1989;

-- Farming systems research programs established at Agricultural Universities and Provincial Research Institutes;

-- Forestry field work initiated in all four provinces, including establishment of 70 private tree nurseries and planting of 8000 acres of tree plantations.

Summary of Agriculture and Rural Development Sector Portfolio 1982-1993

Programs & Projects (Including Components & Amendments)	Actual & Planned Expenditures in Dollars (Millions) AID	GOP	Other	Life of Project
AGRICULTURAL COMMODITY & EQUIPMENT PROGRAM (ACE)	565.0	--	--	1982-1991
AGRICULTURAL SECTOR SUPPORT PROGRAM (ASSP)	600.0	--	--	1987-1993
Commodity Import Program	(270.0)			
Sector Assistance Program	(270.0)			
Training & Technical Assistance	(60.0)			
FOOD SECURITY MANAGEMENT PROJECT (FSM)	35.0	4.5	--	1984-1990
Economic Policy Analysis	(11.0)			
Post Harvest Management	(14.0)			
Agriculture Data Collection	(10.0)			
IRRIGATION SYSTEMS MANAGEMENT PROJECT (ISM)	205.0	74.0	174.5	1983-1991
Rehabilitation Works	(42.0)			
Gen. Institutional Improvement	(106.0)			
Water Management Research	(24.0)			
Command Water Management	(33.0)			
FORESTRY PLANNING AND DEVELOPMENT PROJECT (FPD)	42.0	14.5	--	1983-1991
MANAGEMENT OF AGRICULTURAL RESEARCH & TECHNOLOGY PROJECT (MART)	42.0	1.1	.75	1984-1993
Research, Management & Administration	(29.0)			
Wheat & Maize Coordinated Program	(6.0)			
Arid Zone Research	(7.0)			
TRANSFORMATION & INTEGRATION OF THE PROVINCIAL AGRICULTURAL NETWORK PROJECT (TIPAN)	55.5	27.5	--	1984-1992
TRIBAL AREAS DEVELOPMENT PROJECT (TADP)	66.0	--	--	1982-1992
TADP PHASE I	(24.0)			
TADP PHASE II	(42.0)			
NORTHWEST FRONTIER AREA DEVELOPMENT PROJECT (NWFADP)	83.0	--	--	1983-1993
Gadoon Amazai	(42.0)			
Kala Dhaka	(28.0)			
SDEP (Grant to UNFDAC)	(10.0)			
Drug Abuse Prevention Center	(3.0)			
BALUCHISTAN AREA DEVELOPMENT PROJECT (BALAD)	105.0	--	--	1984-1991
SARHAD RURAL SUPPORT CORP.	5.0	--	--	1989-1991
SUB-TOTAL	1803.5	121.6	175.25	
*PL 480-FOOD FOR PEACE PROGRAM	789.0	--	--	1982-1993
TOTAL	2592.5	121.6	175.25	

*Managed by Program Office

USAID Support for Agriculture Development in Pakistan

Agriculture is Pakistan's largest economic sector accounting for about half its GDP, 70% of its employment, and 60% of its exports. Pakistan's four major crops, wheat, cotton, rice and sugarcane account for half of the country's agricultural production; the remaining half is provided by livestock (31%), minor crops (16%) and forestry and fisheries (3%). Cotton and cotton textiles make up about half of Pakistan's exports and provide needed foreign exchange. Other major exports include basmati rice, hides and skins.

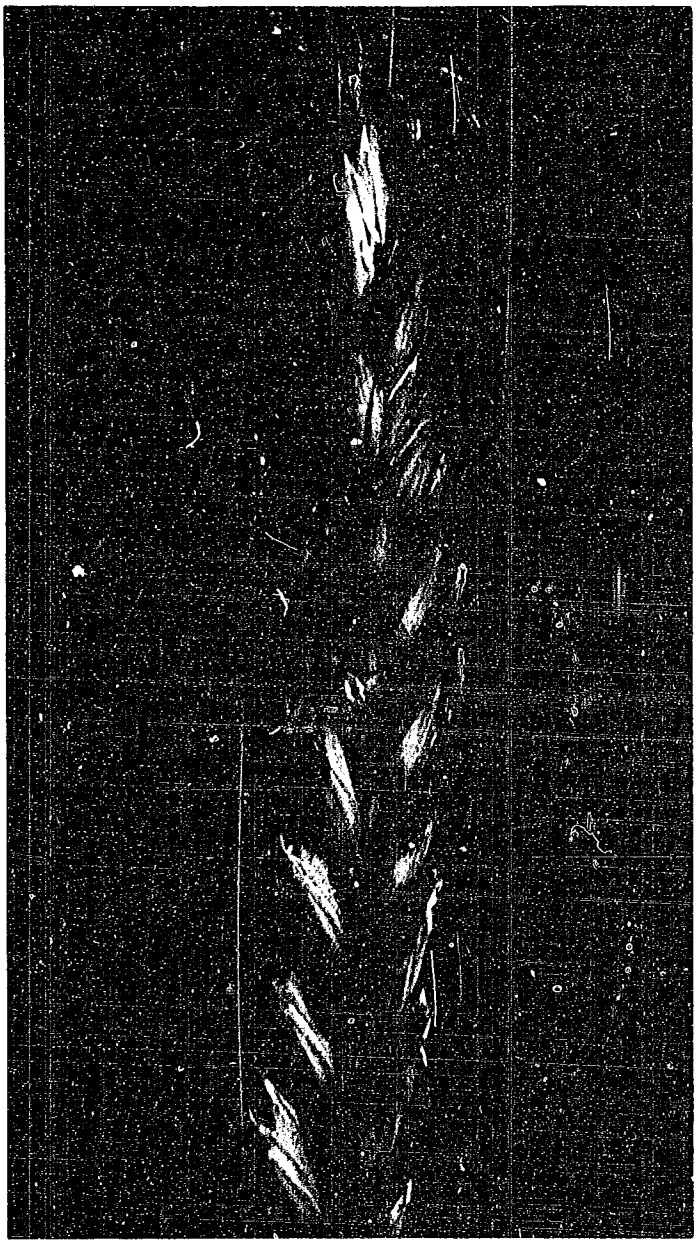
Pakistani industry is based mainly on the processing of agricultural products. Cotton textiles and food processing together represent over one-third of its manufacturing with the processing of all agricultural products accounting for nearly 55% of its total industry. Because the food and fiber industry involves several levels of processing and distribution, it has a high multiplier effect on the rest of the economy. In 1984 alone, one rupee of output from food and fiber manufacturing stimulated three rupees of output in the rest of the economy.

The GOP's agricultural strategy is based on expanding agricultural production by at least 3.1% annually to keep pace with the country's rapid population growth. USAID supports this goal through its planned investment of $1.1 billion in agriculture and rural development between 1988-1993. This represents approximately half of USAID's planned $2.3 billion in development support to Pakistan over this period. Between 1982 and 1987, another $730 million was provided in support of Pakistan's agricultural development.

Livestock health care coupled with improved nutrition practices leads to increased milk and meat production. MART Project research at AZRI in conjunction with ICARDA.

Proud Sind farmer with his vegetable crop. Multiple cropping of vegetables with sugarcane makes better use of water and land as well as providing supplementary income to farmers.

Agricultural and Rural Development (ARD) Strategy



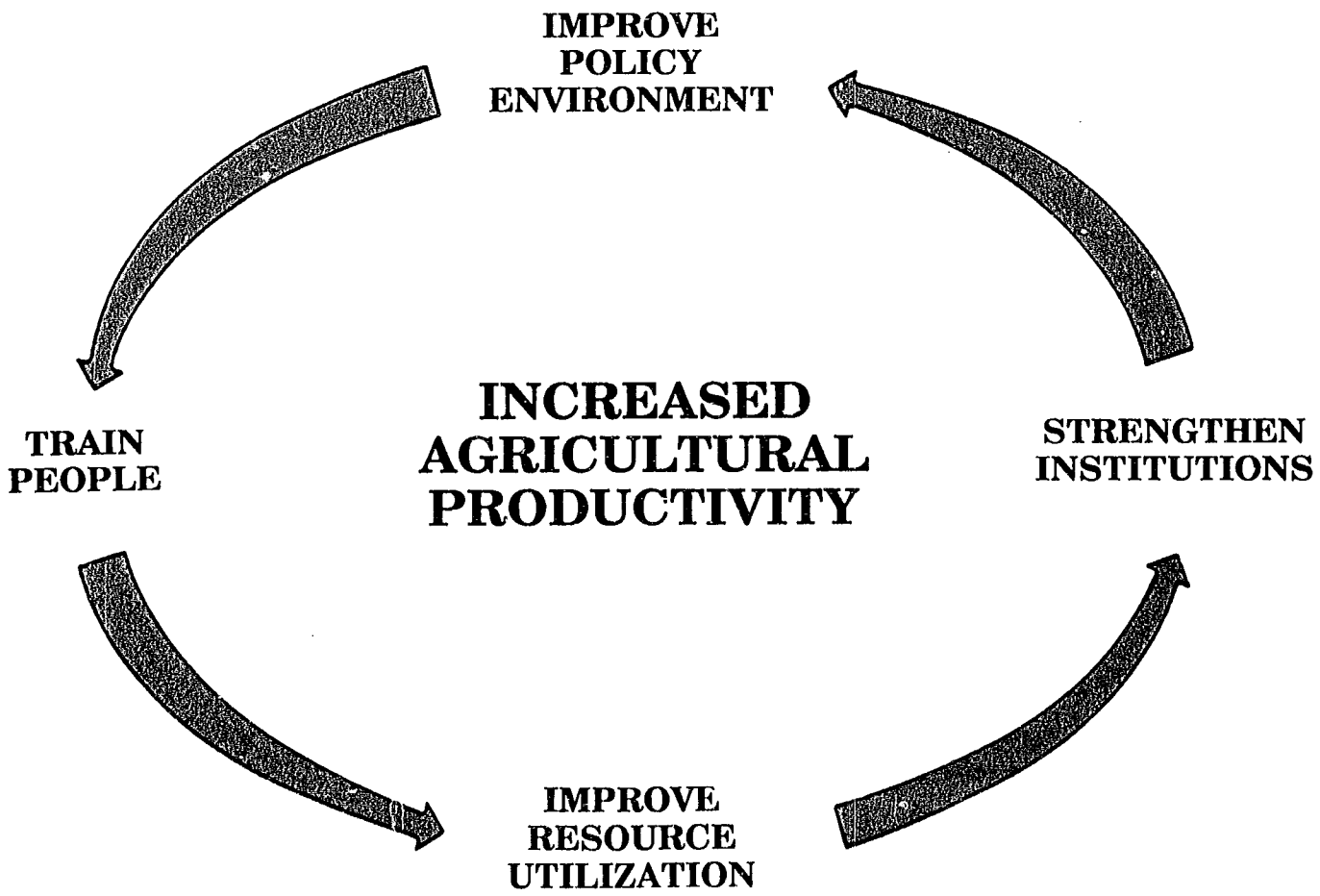
Pakistani wheat yields have increased as a result of high-yielding and disease resistant varieties developed through research

USAID support for Pakistan's agricultural goals is provided through ten projects plus the PL-480 Program. The overall goal is to increase agricultural productivity and economic growth. Major objectives include an improved policy environment, strengthened institutions, more efficient use of resources and a well trained work force. Ways in which these objectives are accomplished at a project level are discussed in the pages that follow.

No project can be successful unless the policy environment is right. Among other things, policy dialogue with the GOP is designed to encourage market oriented policy reform and expand private sector participation. ARD projects also help local institutions by supporting management improvements and the development of new technologies. Improving the use of irrigation, agricultural inputs, research, management and technology contributes to increased agricultural outputs. Long and short term training overseas and in Pakistan, is provided to improve the management, research, educational and technical capabilities of Pakistanis engaged in agriculture.

Finally, several area development projects are building roads and schools, improving irrigation facilities and providing employment in remote areas of the country, helping to further integrate area residents into the mainstream of the economy.

STRATEGY TO INCREASE AGRICULTURAL PRODUCTIVITY IN PAKISTAN



Policy Analysis and Reform--Resource Transfer

The Agricultural Commodities and Equipment (ACE), Agricultural Sector Support (ASSP) and PL 480-Food for Peace Programs address Pakistan's balance of payments situation by providing foreign exchange (dollars) to purchase needed commodities (fertilizer, seed, edible oil, grains), agricultural machinery and equipment. Local currency generated by the sales of these items goes into the Pakistan treasury and finances a variety of development projects. Sector grants provide dollars for debt repayment and other foreign exchange needs.

Rapid and equitable agricultural development requires economic policies which provide incentives to farmers, agriculture suppliers, distributors and exporters. USAID projects support the GOP's policy reform program in several areas, including efforts aimed at reducing agriculture subsidies, building coordinated and relevant programs in agricultural research and education, and expanding the private sector's role in exports, seed production, fertilizer distribution, and wheat storage, marketing and handling. Strengthening private agri-business is another important feature of the program.

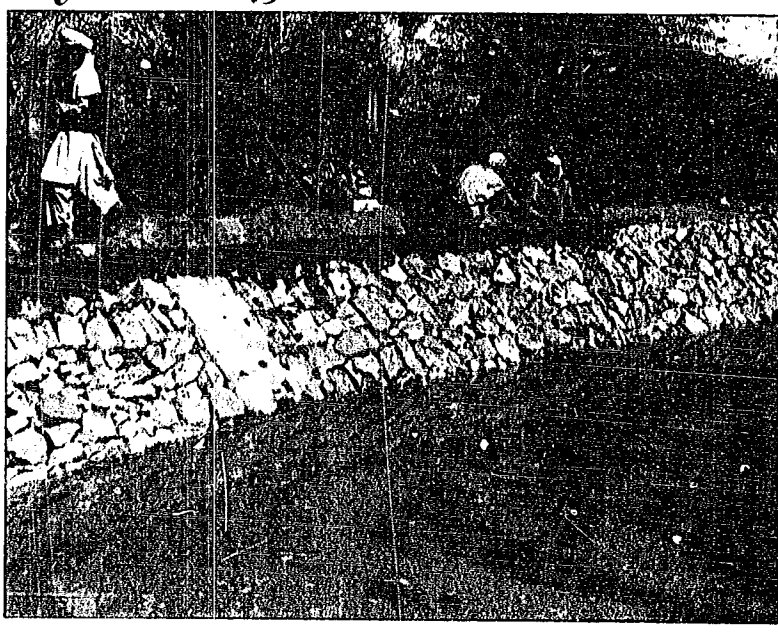
The Food Security Management Project (FSM) is helping the Ministry of Food and Agriculture improve its ability to analyze agriculture policy alternatives. One component of the project, the Economic Analysis Network (EAN), focuses on improved agriculture data collection, better assessment of agriculture policy alternatives and improved monitoring of the impact of policy on agricultural growth.

Studies completed through these programs have led to GOP agricultural reforms including the elimination of the ration shop system, replacement of interest-free loans with 8% loans, increasing the price differential between the purchase and sales price of wheat and increasing fertilizer retail prices by 10%.

Water and Forestry Management

The Irrigation Systems Management Project (ISM) and the Forestry Planning and Development Project (FPD) focus on improving the management of irrigation and forestry resources through civil works, technical assistance, and the provision of agricultural equipment, commodities and training.

Irrigation is the single most important contributor to agricultural productivity in Pakistan. Nearly 90% of the country's major crops are grown on irrigated land and Pakistan boasts the largest contiguous irrigation system in the world. USAID is devoting one-fifth of its resources in agriculture toward



Canal lining in the NWFP where stone is readily available; the crevices between the stones fill with silt, creating a smooth surface.

improving the delivery of water for crop production. Maintenance and the efficient operation of the country's network of 67,000 kilometers of canals and 500,000 kilometers of publicly owned watercourses is vital if Pakistan is going to be able to continue to feed its growing population.

The AID-financed On-Farm Water Management Project, completed in June 1986, improved over 1,300 watercourses; levelled 75,000 acres of land for improving irrigation efficiency; and established demonstration farms and training centers in all four provinces. Regarded as an innovative and successful program, its concept of forming water-user associations and teaching farmers to improve and collectively maintain water courses is being repeatedly demonstrated and widely adopted throughout Pakistan. The GOP, World Bank and Asian Development Bank are presently implementing irrigation activities using this concept.

To ensure a more efficient irrigation system, USAID is moving in several directions. It is helping the Government of Pakistan finance the lining of over 1,700 water courses for a total of 160 kilometers at an estimated cost of $14 million. Additionally, 900 kilometers of canals and 2,400 kilometers of drains have been rehabilitated and maintained, costing $13.7 million. Phase II projections include rehabilitation and maintenance of 1,900 kilometers of canals and 1,300 kilometers of drains, costing approximately $27.6 million. Technical assistance as well as earthmoving and other equipment to repair, operate and maintain irrigation systems is also being provided.

The program is helping to improve overall water management skills at both the federal and provincial levels. Officials receive management training while information systems are being established to monitor performance and generate information needed to make decisions.

Technical and financial assistance is being provided to local institutions to encourage research in water management. The focus of these research efforts is to refine and develop improved water management practices suitable to agro-climatic conditions in Pakistan and to develop ways to combat waterlogging and salinity problems at the farm level. The program also encourages the formation of water-user associations as a way of increasing farmers' decision-making in the management, maintenance and repair of their irrigation systems.

Forestry and fuelwood production are important components of USAID's development strategy. Wood plays a significant role in Pakistan's economy; it supplies about half of Pakistan's domestic cooking and heating needs, as well as providing fruit, timber and fodder. Trees are also important in preventing soil and water erosion and rejuvenating soils.

The Forestry Planning & Development Project (FPD) provides technical assistance and training to promote fuelwood production and strengthen the management of forestry institutions. The project encourages the planting of small stands of trees on farms as a secondary crop to increase farm production and incomes, increase the availability of firewood and wood products, and to prevent soil and water erosion. Farmers are shown the economic advantages of growing trees, taught to plant and manage trees and are provided free seedlings. Farmers benefit by selling the wood as a cash crop or using its products and by-products for domestic purposes.

The project will be expanded to improve the planning and management capability of natural resources in Pakistan and to include the irrigated areas of the Punjab and Sind.

Agricultural Research and Education

Model photo of the newly designed NWFP Agricultural University's main entrance and outreach center in Peshawar, funded by TIPAN.

USAID, primarily through the Management of Agricultural Research and Technology (MART) and Transformation and Integration of the Provincial Agriculture Network (TIPAN) Projects, supports Pakistan's federal and provincial agricultural research and training institutes such as the Arid Zone Research Institute (AZRI) in Quetta, as well as the agricultural universities at Peshawar (NWFP), Faisalabad (Punjab) and Tandojam (Sind). Both projects address institutional constraints to agricultural research, with emphasis on improved management and coordinated research, improved scientific capability and more relevant research activities, including improved seed varieties and improved farming practices.

MART and TIPAN provide technical assistance, training, and field and laboratory equipment--helping the research and educational institutes to develop, adapt and extend new agricultural technologies to Pakistani farmers and agribusinesses. In Peshawar, for example, a modern integrated agricultural education, research and outreach system--oriented toward solving regional farming problems--is being developed through the TIPAN Project.

The MART Project is a follow-on activity to the Strengthening of Agricultural Research Project. This highly successful AID project, completed in 1985, built and equipped the National Agricultural Research Center (NARC) in Islamabad and trained many of its scientists. An evaluation of the project recommended strengthening provincial agricultural research and improving overall management of the research system throughout Pakistan. These are objectives of the MART Project.

Pakistan's need for a central agricultural research organization was realized in development of the Pakistan Agricultural Research Council (PARC) and construction of NARC. NARC is the primary national research and training arm of PARC and also provides support to provincial and national research centers, disseminates information to individual scientists and provincial institutions, and provides scientists with facilities and equipment to conduct research not covered by provincial systems. Training and equipment are also provided to agricultural research and educational organizations through the Agricultural Commodities and Equipment and Agricultural Sector Support Programs.

Rural Development

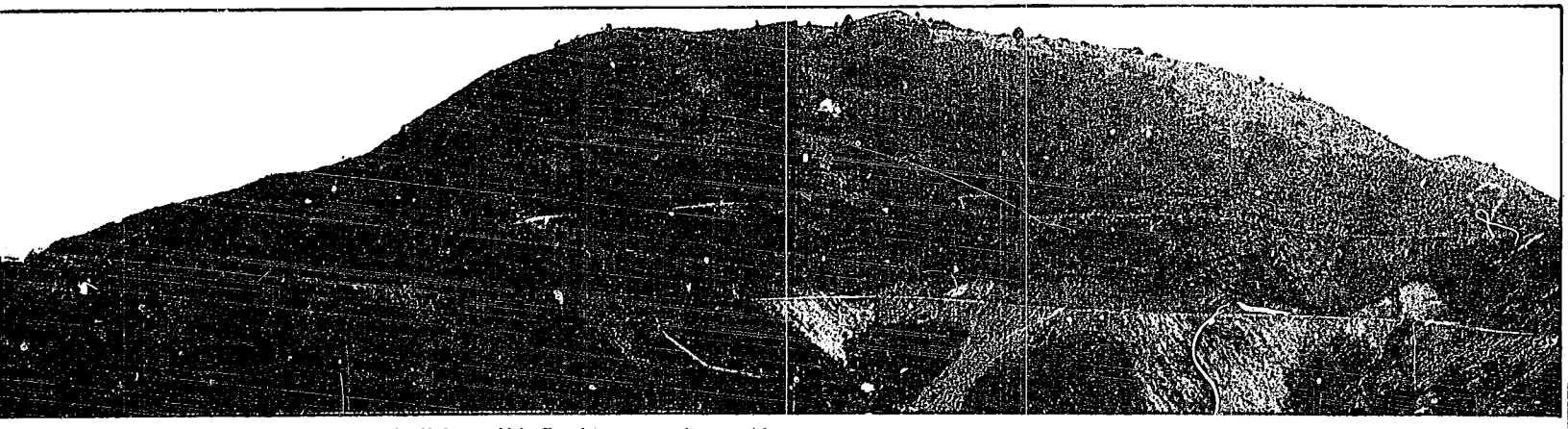
The Agriculture and Rural Development Office (ARD), through its Rural Development Division, is providing resources and infrastructure to increase rural incomes, employment and economic opportunities for families living in the Northwest Frontier and Baluchistan Provinces. The goal of the projects is to improve social and economic conditions and better integrate residents into the mainstream of Pakistan's economy. In some cases, these activities also aim at supporting Pakistan's narcotics control efforts by offering alternatives to poppy cultivation.

Through the Northwest Frontier Area Development (NWFADP), Tribal Areas Development (TADP), and Baluchistan Area Development (BALAD) Projects alternative on and off-farm income-generating activities are promoted. Additionally, basic infrastructure including roads, clinics, schools, veterinary dispensaries, village electrification, potable water supply and irrigation systems are constructed as a means of improving the socio-economic status of farmers in the largely dryland areas of the NWFP and Baluchistan.

Program activities to promote employment and training include establishment of an industrial estate in Topi through the NWFADP and development of a special overseas scholarship program through BALAD which trains competitively selected students in health, auto mechanics and computers. The NWFADP has already successfully provided employment for 1,500 persons, TADP has trained over 60 government officials, and 48 Makran students are receiving technical training in the United States through BALAD.

Construction of rural roads is increasing access to isolated areas, thereby increasing the flow of goods and services to area residents. Other infrastructure projects are aimed at improving the standard of living of area residents by focusing upon health, education and agriculture. Small irrigation systems are constructed to provide alternatives to poppy production and to increase productivity of existing crops. Fruit trees are being introduced as alternative new crops in project areas and diversification into other crops is being encouraged, where feasible.

The success of the rural development projects has led to the planning of follow-on activities, including the Kala Dhaka subcomponent of NWFADP and a new Sarhad Rural Support Corporation Project still to be designed. New geographic areas are being targetted and funding levels are being increased to a total of $250 million for the period 1988-1993.



New roads such as the Kabgani Ulla Road in a rugged area of Swat Kohistan are increasing access to isolated villages in the NWFP.

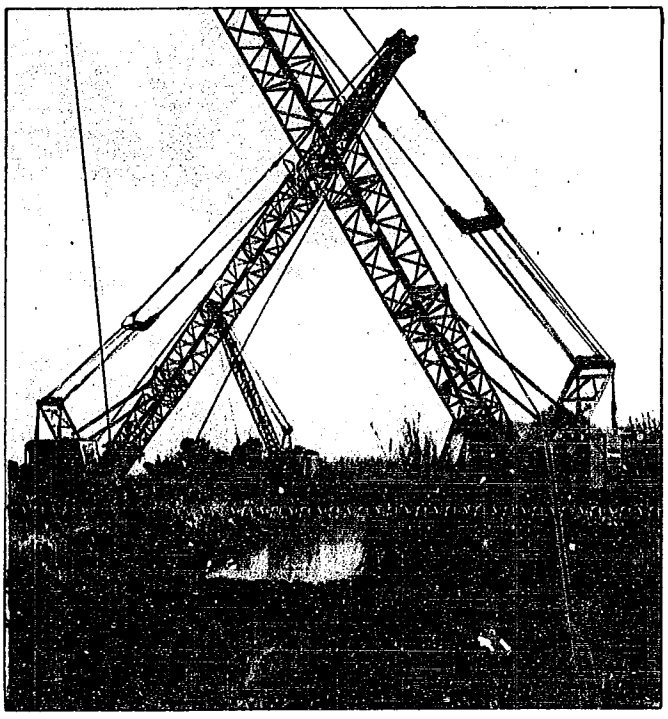
Policy Analysis and Reform--Resource Transfer Projects and Programs

Agricultural Commodities and Equipment Program (ACE) (391-0468) FY 82--FY91

Total AID Project Cost $565 Million

AID Contact Person: Abdul Wasay

Funds are used for balance of payments support and to support the ongoing policy dialogue aimed at increasing agricultural productivity. Main implementing agencies include the Ministry of Food, Agriculture and Cooperatives; Ministry of Finance and Economic Affairs; and the Ministry of Water and Power. There is also a private sector component administered by the Agriculture Development Bank of Pakistan, Habib Bank, United Bank Ltd., Bank of America, Chase Manhattan, Citibank and American Express. Local currency generated through the sale of imported commodities and equipment provides financing for development projects. The project ends in 1991 with many activities continued in the follow-on Agricultural Sector Support Program (ASSP).



AID-financed equipment is being used to clear irrigation drains.

PROJECT ACCOMPLISHMENTS

- 694.3 thousand metric tons of di-ammonium phosphate (DAP) and triple super phosphate (TSP) fertilizers imported at a total cost of $163 million in five tranches;
- Following a cotton production shortfall, imported 56.6 thousand bales of cotton at a cost of $24 million;
- Responding to two wheat production shortfalls, imported 566 thousand metric tons of wheat in 1985 and about one million metric tons in 1988, totalling $239 million;
- $77 million of earthmoving and research equipment imported to support USAID-sponsored projects;
- $63 million provided in foreign exchange for imports of machinery and equipment by the private sector.

Agricultural Sector Support Program (ASSP) (391-0492) FY 87--FY 93

Current AID Project Cost $300 Million

Additional Planned AID Funding $300 Million

AID Contact Person: Thomas M. Olson

The ASSP provides balance of payments support to the Government of Pakistan through resource transfers consisting of commodity imports and sector assistance (cash), while laying the groundwork for sustained agricultural growth through policy reform. Policy dialogue aims at encouraging rational input and output prices, increasing private sector participation and reducing subsidies. Local currency generated by resource transfers is being programmed by the GOP, in cooperation with AID, to support policy and institutional reforms and to support agricultural development budgets. The ASSP builds upon the successful experience of the Food Security Management Project and the ACE Program, both of which will be phased out over the first three years of the ASSP.

Training and technical assistance is provided to strengthen the GOP's long-term ability to manage a market-based agriculture sector and to assist in agricultural policy analysis. A policy information and management program is being continued to expand data collection, policy analysis and institution-building, initiated under the FSM Project. Additionally, $60 million will be provided for training of Pakistanis in private and public sector agri-business and agriculture-related fields.

PROJECT ACCOMPLISHMENTS

- -- $50 million provided for sectoral assistance in 1988;
- -- 285,000 metric tons of wheat, valued at $60 million, imported in 1988-1989 to meet unexpected wheat shortfalls;
- -- 19 private sector and 23 public sector participants trained; 32 participants presently in training;
- -- GOP policy changes supported by AID include increases in retail prices of fertilizer by 10%, elimination of import tariffs on animal feed ingredients, and increases in the differential between wheat procurement and sale prices.

Food Security Management Project (FSM) (391-0491) FY 84--FY 90

Total Project Cost $39.5 Million

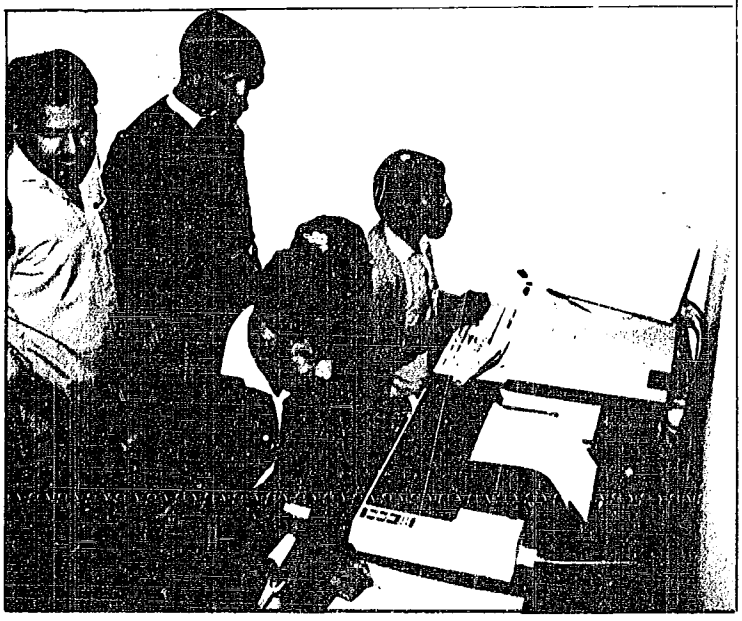
AID $35 Million GOP $4.5 Million

AID Contact Persons: Zakir Hussain & Jalil Ahmed

The Food Security Management Project is helping the Ministry of Food, Agriculture and Cooperatives, Provincial Agriculture and Food Departments, PARC, and the Federal Bureau of Statistics modernize their data collection system, establish improved data processing centers and improve overall GOP ability to achieve food security.

An Economic Analysis Network (EAN) has been set up to improve economic analysis within the Ministry of Food and Agriculture and to help establish a network of agricultural economists to conduct analyses and train economists and computer specialists.

The project is assisting the provincial grain storage network in design, maintenance and repair of grain storage facilities. It is also focusing on improved management, better pest control and modern storage technology to reduce post-harvest losses which limit agricultural productivity.



Improved data collection and analysis through the use of computers strengthens the GOP's ability to achieve food security.

Contractors for the project include the US Department of Agriculture's Statistical Reporting Service, Denver Wildlife Research Center, Kansas State University, Chemonics, International Food Policy Research Institute (IFPRI), and Experience, Inc.

PROJECT ACCOMPLISHMENTS

- -- 400 people trained in computer and applied economics in-country; 45 participants received short-term and 10 received long-term overseas training;
- -- Replacement of interest-free farm loans with 8% loans, as result of Agricultural Credit Study;
- -- Studies on wheat pricing resulted in GOP increasing the gap (spread) between its purchase and sales (release) price of wheat;
- -- Elimination of ration shop system as result of Household Food Security Study by IFPRI;
- -- Area sample frames for improved data collection completed and tested for seven areas.

PL 480-Food for Peace Program
FY 82--FY 93

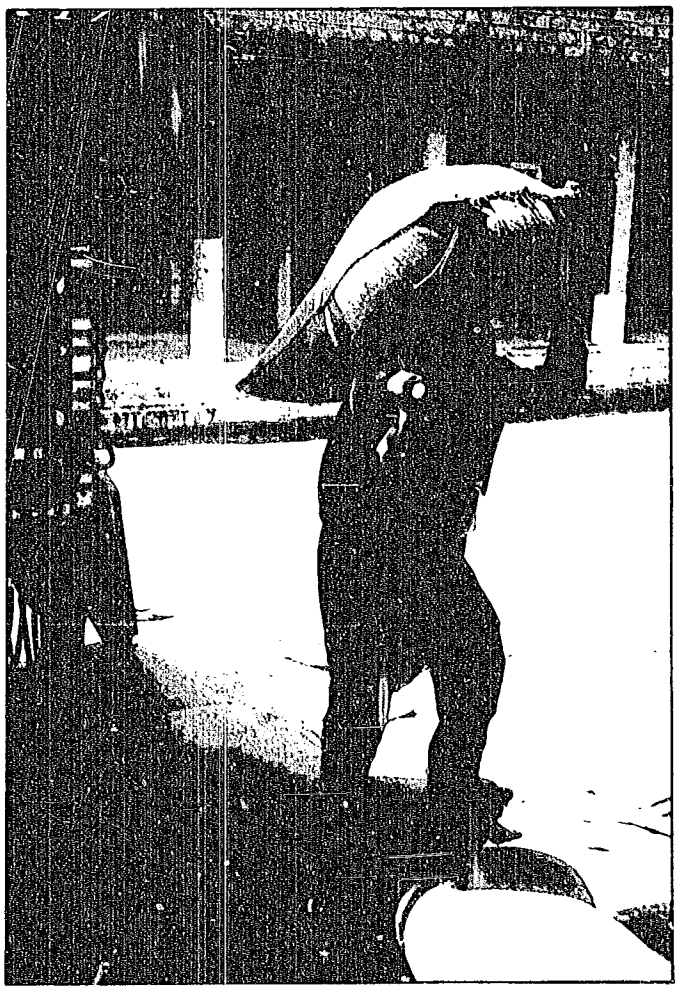
Total Planned AID Program Cost $789 Million

AID Contact Persons:
Abdul Wasay (ARD Office) Abid M. Hussain (Program Office)

The Food for Peace Program is a United States Department of Agriculture-funded program that is managed by the USAID Program Office with ARD collaboration. The program funds imports of soybean oil (an essential ingredient for the manufacture of vegetable ghee--a Pakistani staple), provides balance of payments support and helps to meet the nutritional requirements of Pakistan's population. Commodity sales generate rupees which finance components of the annual GOP development plan.

Policy objectives related to the program include eliminating price controls on edible oil products and promotion of the private sector in the edible oil industry.

Between 1982-1987, $309 million was provided to Pakistan for edible oil imports. The projected budget for the 1988-1993 period is $480 million--an increase of more than 50% over the previous five-year period.



Unloading wheat at Peshawar warehouse, NWFP

Water and Natural Resource Management Projects

Irrigation Systems Management (ISM) (391-0467) FY 83--FY 91

Total Project Cost $453.5 Million
AID $205.0 Million GOP $74.0 Million Other Donors $174.5 Million

AID Contact Persons--Institutional Development and Civil Works: Jan Emmert, Muzamill H. Qureshi, M.K. Chaudry, Asif Mahmood, M. Asif Bhatee and Mohammad Naseem;

Irrigation Systems Management Research: Jalil-U-Ahmed and Javed Qureshi

Command Water Management: John H. Foster, Zahid Saeed Khan and Tariq Mahmood

The ISM Project represents a major USAID initiative in the water sector and aims at improving management and research, developing effective water-user associations and rehabilitating canals and ditches. A project amendment signed in February 1989 reinforces earlier efforts to strengthen Provincial Irrigation Departments' (PIDs) design and operational capabilities. Principal participants include the Ministry of Water and Power, the Water and Power Development Authority (WAPDA), and the PIDs.

In cooperation with the World Bank, 14,000 kilometers of surface canals and 3,500 kilometers of surface drains have so far been

The provision of five dredges by USAID, such as the one shown here, has provided irrigation departments with the capability of dredging silted canals without draining the water.

repaired or improved. Technical assistance in the design, planning and maintenance of irrigation systems is also being provided along with the provision of equipment and management training to coordinate water policies and storage supplies. PIDs are also being assisted by the University of Idaho in developing policies, planning future irrigation projects and improving research capabilities.

Co-financed with the World Bank and as a follow-on activity to the On-Farm Water Management Project, a Command Water Management component of the ISM Project is being pilot tested on 500,000 acres in seven areas, in all four provinces of Pakistan. A major goal is to increase farmer participation in the planning and management of irrigation systems by encouraging the formation of water user associations. Additional activities include delivering water according to crop requirements, coordinating delivery of non-water inputs and services to project areas, reducing inequities, increasing reliability of actual water deliveries and developing replicable water management techniques for subsequent application in other parts of the country. Associates in Rural Development is providing technical assistance to complete these activities.

USAID PROJECT ACCOMPLISHMENTS

- 900 kilometers of irrigation canals and 2,400 kilometers of drains rehabilitated and maintained costing approximately $13.7 million;
- $9.5 million provided for lining of 960 kilometers of watercourses;
- $50 million in heavy machinery, equipment and computers provided to Provincial Irrigation Departments;
- 3,100 participants received short-term training;
- 50 MS and PhD candidates sent for long-term overseas training;
- Command Water Management offices established at seven centers in four provinces;
- Irrigation workshops upgraded and equipped in Bhalwal, Moghalpura, Multan, Jamshoro, Quetta, and Peshawar.

The traditional hand rammer method of compaction is being used in the Nehranwala District, Punjab water scheme as a means of maintaining earthen canal banks

Forestry Planning & Development Project (FPD) (391-0481) FY 83--FY 91

Current Project Cost $39.3 Million
AID $25 Million GOP $14.3 Million
Additional Planned AID Funding $17 Million

AID Contact Person: Hameed Ullah

The Forestry Planning and Development Project emphasizes increasing overall agricultural productivity and farm income through the introduction of integrated tree farming as a secondary activity on farms. Objectives include encouraging villagers to grow trees, meeting forest product needs of the rural population, providing additional labor opportunities (especially to landless agricultural workers), and providing a secondary source of income to farmers.

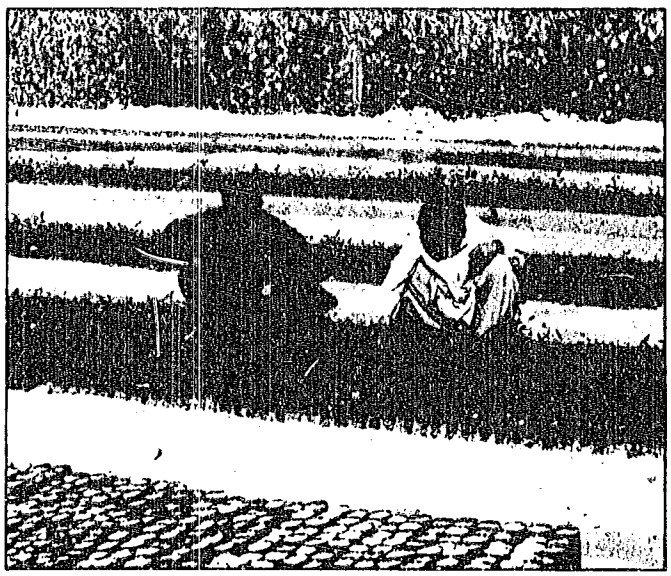
Project activities include improved afforestation and fuelwood policies, strengthened research capability, better tree crop management techniques, provision of free seedlings, and promotion of private tree nurseries.

Research activities are coordinated through the Pakistan Forest Institute (PFI) along with PARC, agricultural universities and NARC. Testing and selection of seeds for fast-growing tree species is underway, along with development of a farm forestry curriculum for the Pakistan Forest Institute.

Implementing agencies include the Ministry of Food, Agriculture and Cooperatives; Inspector General of Forests; Pakistan Forest Institute; Provincial Forest Departments; and other government offices responsible for natural resource management. Winrock International is providing technical assistance.

PROJECT ACCOMPLISHMENTS

- 70 Private tree nurseries established and over 8000 acres of trees planted;
- $3 million in machinery and heavy equipment provided to provincial forestry organizations;
- 42 MS and BS students (including six women--the first in the history of Pakistan) recruited to attend the Pakistan Forest Institute;
- By planting trees, 2 million workdays of employment provided to Tarbela Watershed residents;
- $300,000 in research equipment and computers provided to Forestry Departments;
- 10 Pakistanis enrolled in MS degree programs in the U.S.; 40 participants received short-term training.



70 private tree nurseries such as this one have been established through the Forestry Planning and Development Project

Agricultural Education and Research Projects

Management of Agricultural Research and Technology Project (MART) (391-0489) FY 84--FY93

Current Project Cost $31.9 Million
AID $30 Million GOP $1.1 Million Other Donor $0.75 Million
Additional Planned AID Funding $12 Million

AID Contact Person: Curtis Nissly

The Pakistan Agricultural Research Council (PARC), in conjunction with provincial research institutions and agricultural universities, is managing the project to strengthen and expand human, physical and technological resources available within the national agricultural research network and to improve management of the system at both the federal and provincial levels.

Management reviews of National Coordinated Programs, NARC and selected provincial institutes are being conducted and revised; policies and procedures are being adopted to improve research systems. Winrock International is providing technical assistance and has developed a Farming Systems Research (FSR) program using a multi-disciplinary approach and farmer cooperation. This method is proving effective in identifying and disseminating improved production technology. The national research network is being strengthened through a combination of academic training; short technical courses abroad, conferences, seminars and workshops.

Packaging of agriculture technologies, to make them better understood, and the dissemination of those packages to farmers is being accomplished through the project-financed multi-media production studio at NARC. The studio is equipped to create documentaries, training modules and other methods of transfering technologies to farmers.

In order to produce technologies designed to increase agricultural productivity in non-irrigated areas of the country, the International Center for Agricultural Research in Dry Areas (ICARDA) in Aleppo, Syria is providing technical assistance to the Arid Zone Research Institute (AZRI), located in Quetta, Baluchistan. Training and research equipment is also provided to support range management and farmer-oriented research programs.

The International Wheat and Maize Improvement Center (CIMMYT), based in Mexico City is providing on-farm demonstrations of higher-yielding and disease-resistant wheat and maize varieties, pest control practices and improved management practices such as minimum tillage. Farmers are encouraged to adapt new technologies through project support of nationally coordinated wheat and maize programs. Through the introduction of high-yielding varieties of wheat and maize, Pakistan has moved from a wheat importing country to a country capable of being self-sufficient in wheat production seven years out of ten.

Experimental trials in range management are being conducted by AZRI, in Quetta, to reduce the problem of overgrazing -- MART Project

PROJECT ACCOMPLISHMENTS

-- Farming systems research programs established at agricultural universities and provincial research institutes;

-- Over 60 PhD and MSc degree candidates attend training in the US;

-- 150 participants received short-term overseas training;

-- Master Research Plan for NARC developed to guide research activities throughout the country;

-- Financed collaborative research between International Agricultural Research Centers and PARC, resulting in the provision of new germplasm to enable Pakistani scientists to research high-yielding, disease-resistant plant varieties;

-- $4 million in research, laboratory and field equipment provided to provincial agricultural research institutes and universities;

-- Strategic Plan for the Arid Zone Research Institute (AZRI) in Quetta developed;

-- AZRI capability to conduct research greatly improved through provision of technical assistance, in-service training and upgrading of research laboratories;

-- NARC training institute expanded and audio-visual studio under construction.

Transformation and Integration of the Provincial Agricultural Network (TIPAN) (391-0488) FY 84--FY 92

Current Project Cost $63 Million
AID $35.5 Million GOP $27.5 Million
Additional Planned AID Funding $20 Million

AID Contact Person: Harry Dickherber

Improvements at the Northwest Frontier Provincial Agricultural University (AU) in Peshawar are underway, with the aim of developing it into a modern agricultural institute. The integration of education, research and outreach will ensure that appropriate technologies are efficiently developed and communicated to farmers.

University curriculum is being upgraded along with reorganization of faculty and administration to improve teaching, research and outreach activities. The Universities of Illinois and Southern Illinois are providing technical assistance in these areas. Campus construction is being designed and supervised by Skidmore, Owings and Merrill.

Crop and livestock research of the NWFP Department of Agriculture has been merged with the Agricultural University for better coordination of research and development of technology packages to be extended to farmers. A farmer-oriented outreach program, linking the Agricultural University and its merged research capability with NWFP's agriculture extension system, has been designed to strengthen operational linkages, train outreach personnel and develop media programs for extending knowledge to extension personnel and farmers. Training of 140 PhD participants as well as 65 short-term participants will be provided through the project.

PROJECT ACCOMPLISHMENTS

- -- $20 million university construction contract awarded for new library, plant science computer lab, outreach offices and student hostels; construction begun January 1989;
- -- $2 million of farm, scientific equipment and books provided to the NWFP Agricultural University;
- -- Outreach programs involving nearly 400 farmers conducted;
- -- 64 professionals enrolled in advanced degree agriculture-related programs;
- -- 43 teachers and researchers received short-term overseas training;
- -- Computer lab established for provincial research stations and training provided for 108 staff members.

Rural Development Projects

Tribal Areas Development Project (TADP) (391-0471) FY 82--FY 92

Current Project Cost $24 Million
Additional Planned AID Funding $42 Million

AID Contact Person: Tariq Durrani

This project was the first attempt by any donor to promote development in the Tribal Areas, demonstrating that development projects can be successful despite harsh, difficult and isolated environments. Programs to improve the standard of living of area residents are being implemented by the Ministry of States and Frontier Regions, Federally Administered Tribal Areas Development Corporation, NWFP Planning and Development Department, Communication and Works Department, and Local Government and Rural Development Departments.

In order to encourage local participation in development activities, the project established a supplementary development fund to support small regional infrastructure projects including road construction and repair, irrigation and water schemes, school and clinic construction, agricultural demonstration plots and identification of new sources of groundwater for tubewell construction. The fund provides a mechanism for approving and disbursing funds for projects which have been designed jointly by the Local Government and Rural Development Department and USAID.

PROJECT ACCOMPLISHMENTS

-- $9 million Sadda-Marghan Road partially completed;

-- $750,000 of road machinery provided;

-- 15 rural development schemes completed including schools, health facilities and demonstration agriculture plots; 11 schemes underway;

-- 60 Pakistanis received technical and computer training;

-- 27 computers provided to Government agencies costing nearly $.5 million;

-- Water projects costing over $.75 million completed including 8 tubewells, 5 water courses, Go Go Wam and Marghan irrigation schemes.

An open air school in the Tribal Areas; Schools, Roads, Clinics & Irrigation Schemes are being constructed by TADP.

Northwest Frontier Area Development (NWFADP) (391-0485) FY 83--FY 93

Current Project Cost $63 Million
Additional Planned AID Funding $20 Million

AID Contact Person: Sohail M. Malik

Transformer installation in Utla, NWFP, is one of the many activities of rural development projects--NWFAD Project

The Northwest Frontier Area Development Project serves as USAID's umbrella project for supporting Pakistan's narcotics reduction and crop substitution goals. It is managed by the Special Development Unit of the NWFP Planning and Development Department and various provincial and federal government line agencies.

The Gadoon-Amazai component of the project, consisting of 450 sub-projects--of which 143 are completed--has demonstrated considerable success in eradicating poppy production and in constructing roads, water supply systems, schools, clinics, and electrifying six villages. Alternative income and off-farm employment activities have resulted in the employment of 1,500 persons and the establishment of approximately 20 non-formal female education centers in major villages. Centers are supervised by an educator, combining literacy education with religious, child care, personal hygiene and handicraft training.

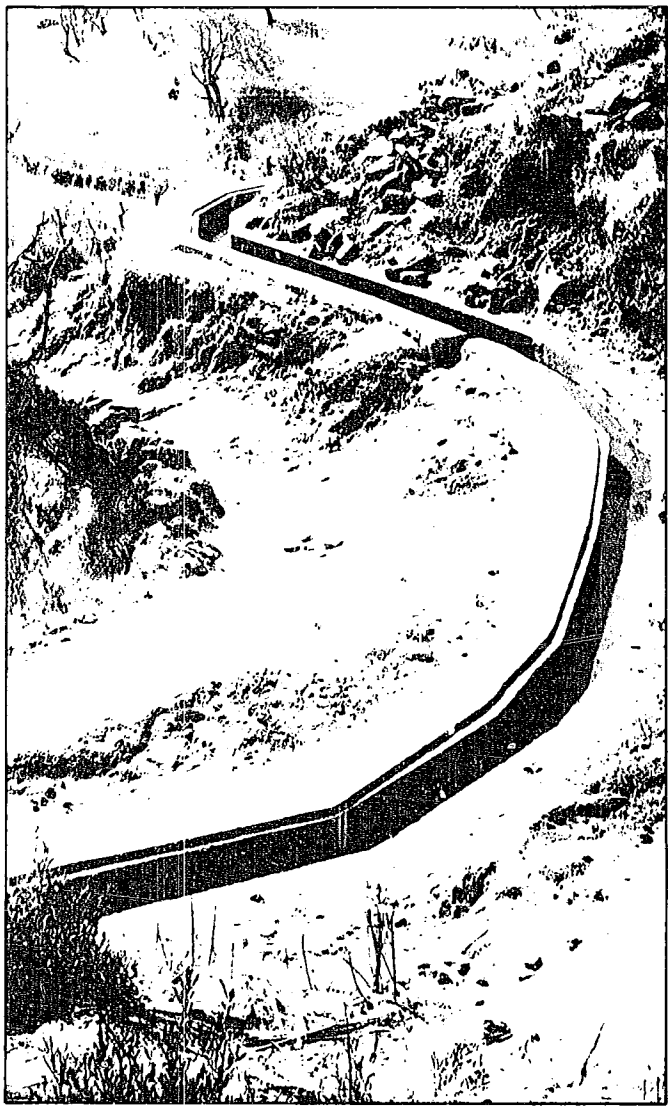
Irrigation resources are being developed by improving and drilling wells, constructing irrigation channels, and lining watercourses. Barren land is converted into productive acreage, fruit and fuelwood trees are being planted and livestock is being improved through the construction of veterinary dispensaries which provide extension and medical services.

Project activities were recently expanded to the adjacent Kala Dhaka area and, with USAID funding, the United Nations Fund for Drug Abuse Control (UNFDAC) is implementing a similar project in Dir. All of these activities offer local farmers alternatives to poppy production as the government seeks to enforce its poppy ban.

Project funds are supporting establishment of a National Drug Abuse Prevention Resource Center in Islamabad by the Pakistan Narcotics Control Board (PNCB). The Center serves as a drug information clearinghouse, conducts drug prevention training courses and funds national drug media campaigns aimed at publicizing a growing heroin addiction in Pakistan and stemming its spread.

PROJECT ACCOMPLISHMENTS

- -- $4.5 million road construction project underway;
- -- 6 villages electrified and 21 village electrification projects planned at estimated cost of $450,000;
- -- 28 schools constructed costing $.5 million; 54 others underway at estimated cost of $.75 million;
- -- 1,500 residents trained in a variety of marketable skills;
- -- $1 million provided for construction of 65 potable water systems in Gadoon-Amazai; 29 completed and 36 under construction;
- -- 146 water supply schemes initiated under Dir project component;
- -- 43 irrigation systems constructed costing $275,000; 86 systems underway at estimated cost of $675,000;
- -- 400 model fruit orchards established;
- -- Over 370,000 forest trees planted in 350 agro-forestry plots.



Irrigation channels are being constructed and improved through the NWFAD Project.

Baluchistan Area Development Project (BALAD) (391-0479) FY 84--FY 91

Current AID Cost $45 Million
Additional Planned AID Funding $60 Million

AID Contact Person: Karim Nayani

BALAD was initiated in 1984 to improve the quality of life and accelerate the integration of the Makran Division into the socio-economic mainstream of Pakistan.The project builds and improves roads, water systems and helps the Government of Baluchistan (GOB) with its planning and monitoring of development projects.

Water infrastructure activities are undertaken including construction of delay action dams, watercourse improvements, and karez (long horizontal underground water channels) repairs and boring. In the case of the latter three activities, the availability of more water has been immediate and in some cases dramatic. With a view toward maximizing the impact of increased water availability on agricultural production and to improve agricultural marketing in the project area, studies are being completed and the possibility of placing an irrigation agronomist in Turbat to initiate on-farm water management activities is being explored. Demonstration farms will be developed as well as the introduction of new crops and improved agricultural practices with the aim of increasing agricultural output.

Mand Road low water crossing under construction, Baluchistan -- BALAD project

The Bela-Awaran Road, seen as a critical development need of the area, and the Kech River Bridge and access road outside Turbat, are being constructed with project funds. Other roads in the area are being improved and maintained.

Makrani students are receiving technical training in the U.S. On-the-job training is being provided to local staff and contractors in road maintenance and repair, computer science and mangement.

The Government of Baluchistan, Department of Planning and Development, and the Communication and Works Department are implementing the project. Louis Berger, Inc. and STV Lyon/ACE are the major AID contractors.

A follow-on project is being considered which would focus on agriculture and

appropriate irrigation technologies, water development schemes, income-generation activities, and rural roads in Makran or adjacent divisions.

PROJECT ACCOMPLISHMENTS

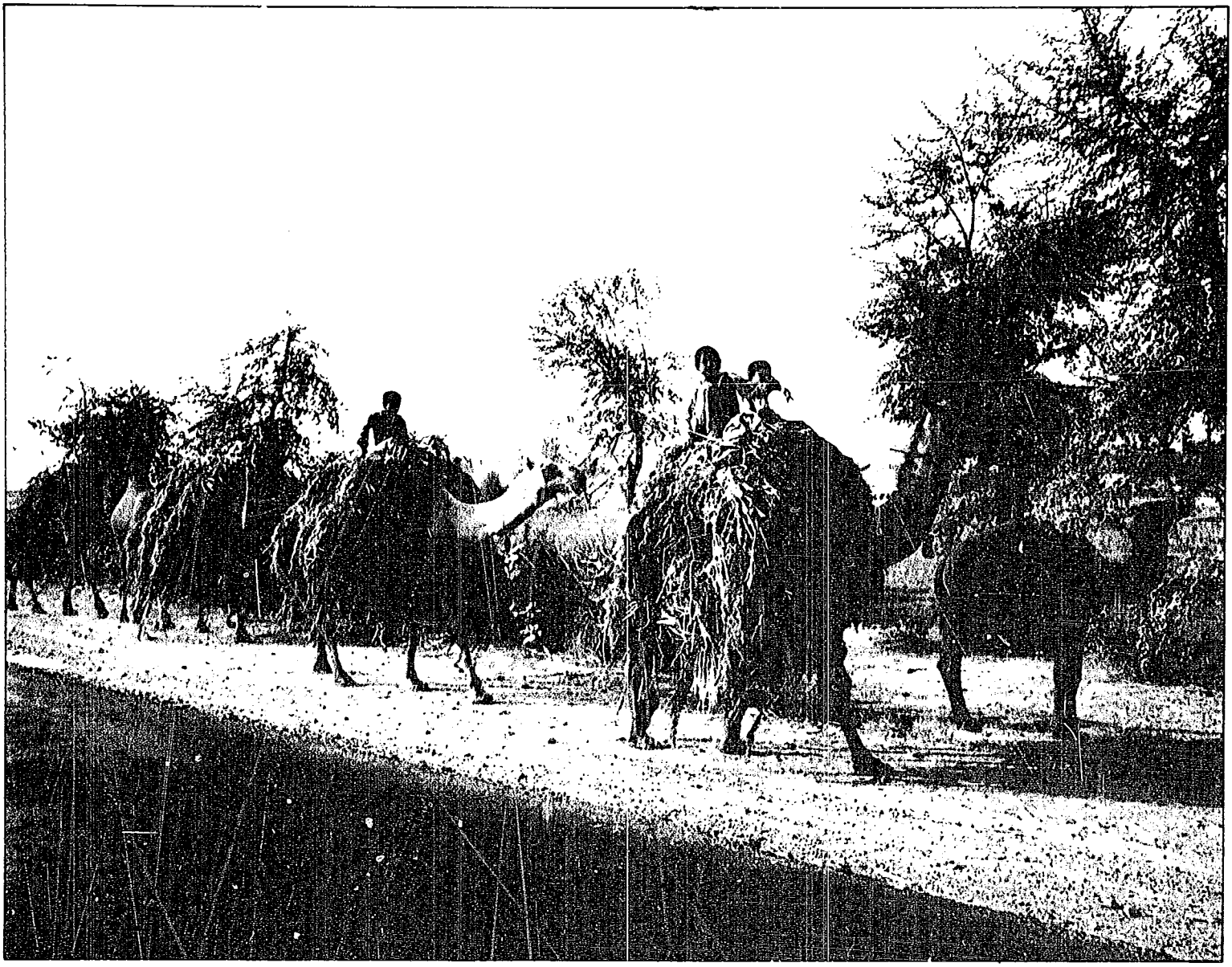
-- $17 million Bela-Awaran Road construction initiated; an additional 1,400 kilometers of roads maintained and rehabilitated;

-- Kech River Bridge and approach road initiated, costing $5 million.

-- 24 primary schools constructed in Makran Division; contracts awarded for 26 others;

-- 48 Makrani students undergoing technical training in the US;

-- 33 karezes drilled/rehabilitated, 20 siphones completed, and 6 delay action dams constructed.



Pakistani boys transporting fodder, an important crop to the livestock sector.