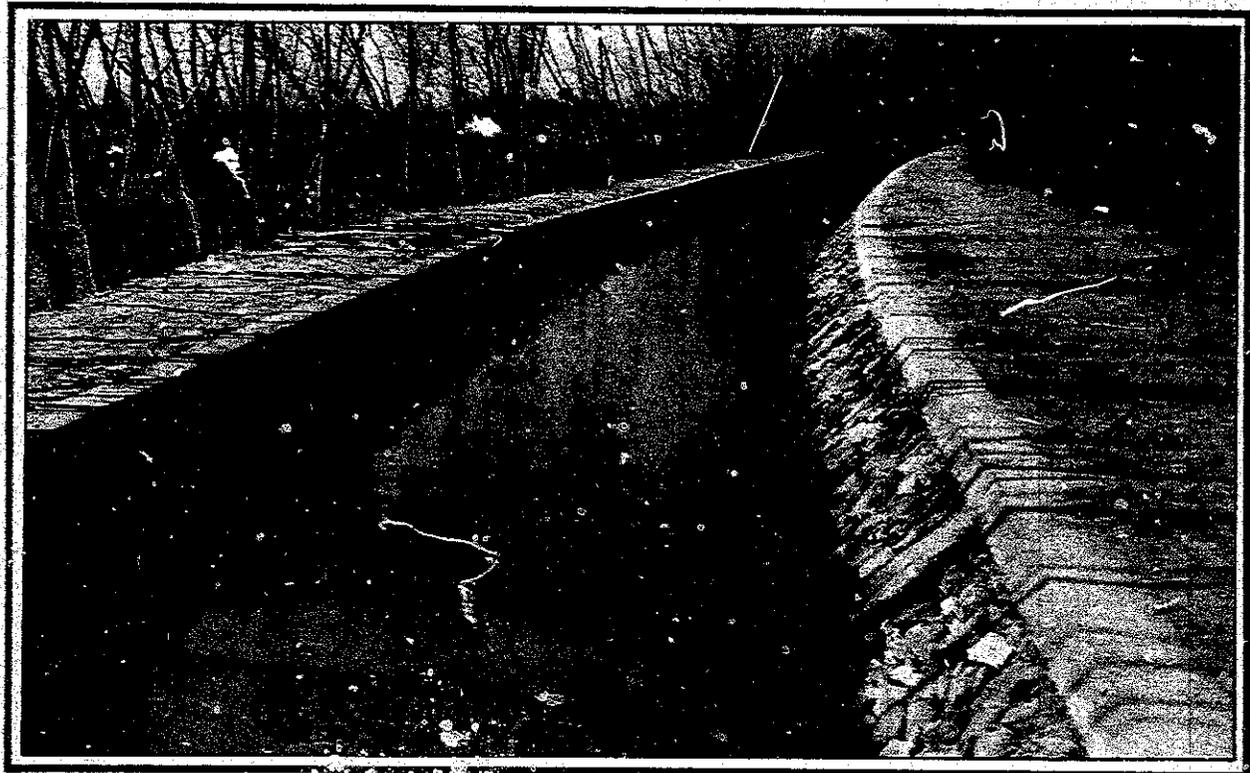


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73931

# USAID IN PAKISTAN:

## NWFP



PM-AGJ-534

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# NWFP

**Title:**

**Completed canal rehabilitation at Subhan-Khwar, northwest of Peshawar, financed under the Irrigation Systems Management project.**

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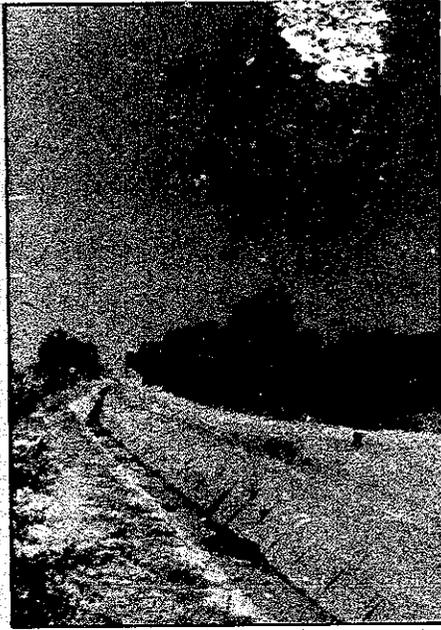
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## INTRODUCTION

This booklet is one of a four-part series highlighting United States Government support for economic development in Pakistan. Since 1951 the United States, through its Agency for International Development (USAID), has channelled nearly \$7 billion in support of Pakistan's development efforts. From 1982 to 1987, U.S. economic assistance totalled \$1.6 billion.

The pages which follow mainly describe USAID-supported development activities in the Northwest Frontier Province (NWFP) during the 1982 to 1988 period. These activities show how USAID projects, while national in scope, advance economic and social development at the provincial level. USAID is working with national and provincial governments to stimulate dynamic, self-sustaining growth throughout Pakistan.

USAID funding of development programs reflects Pakistan's long-term development priorities and emphasizes activities in agriculture, energy, health, and training. Rural development is a top priority with nearly one-half of the program directed at increasing agricultural productivity.



*Gambila lift canal near Bannu lined with US assistance under ISM.*

## AGRICULTURE

Lack of level terrain, top soil, and water resources restricts the area for cultivation in the Northwest Frontier. Between 1973 and 1984 the province's cultivated area increased by about three percent. During the period 1972-1982 the number of farms increased by 12 percent, reducing per capita land holdings. If families are to achieve higher agricultural yields on smaller farms, improved agricultural practices and better use of inputs and water resources are needed.

USAID is supporting efforts by the national and provincial governments to increase agricultural productivity in the Northwest Frontier through:

- Assistance to national and provincial agricultural research institutes and
- Improvements in the efficiency of the irrigation system and the management of water resources.

### Research and Education

Sustained agricultural growth requires relevant research, appropriate technology, and effective extension services. USAID is contributing \$ 35.5 million to expand and upgrade the NWFP Agricultural University in Peshawar. The basic purpose and mission of the University has been broadened with greater emphasis on outreach activities, continuing education programs, and student and faculty research. One of the most important and innovative aspects of the project is the integration of the university with research facilities throughout the province.

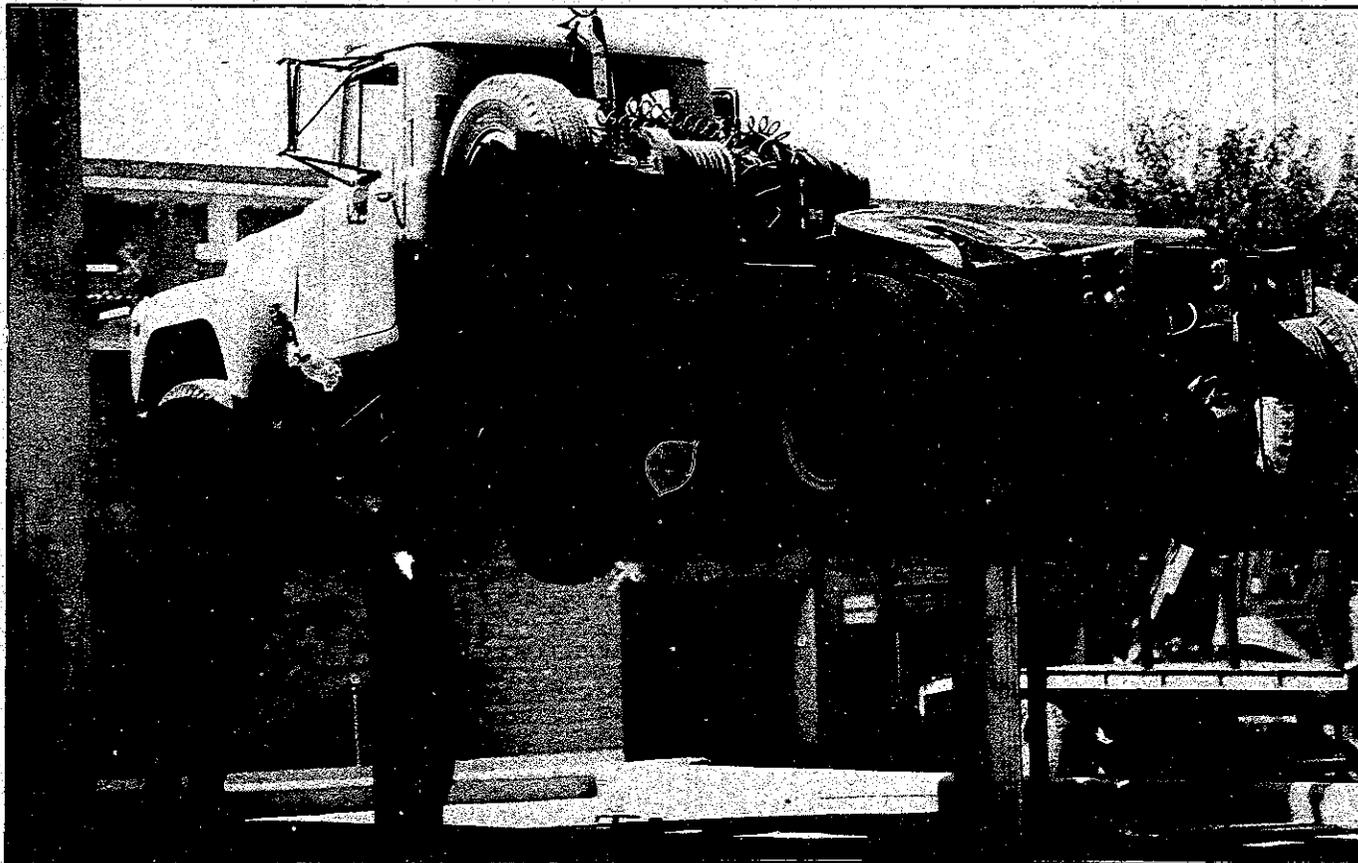
For the University to become a problem-solving, farmer-oriented center of learning and research, significant changes in curriculum

were required. USAID provided technical assistance, through the University of Illinois and Southern Illinois University, for curriculum revision. The new curriculum includes academic studies along with practical applications. For instance, graduate students from NWFP Agricultural University are working with extension workers in the Mansehra area to determine the varieties of wheat, maize, and apple seeds that are best suited for climatic conditions in rainfed areas.

Over the next ten years student enrollment at NWFP Agricultural University is expected to double. To prepare for this increase, USAID is financing training programs for University staff. The first three faculty members sent for training have completed their postgraduate studies. Twenty-five faculty members and research scientists have received short-term overseas training in specialized, non-degree programs. Forty are now enrolled at American universities in advanced degree programs in such fields as agronomy, agricultural economics, animal science, and agricultural education.

Through faculty training and curriculum improvement, the Agricultural University's academic program is being strengthened. USAID has provided textbooks, reference materials for the library,

*Under the Irrigation Systems Management project the Provincial Irrigation Department's equipment maintenance workshops are being upgraded. This includes supply of heavy equipment such as this hydraulic lift installed at the PID Workshop, Peshawar.*



and over 50 computers for the computer laboratory and research stations.

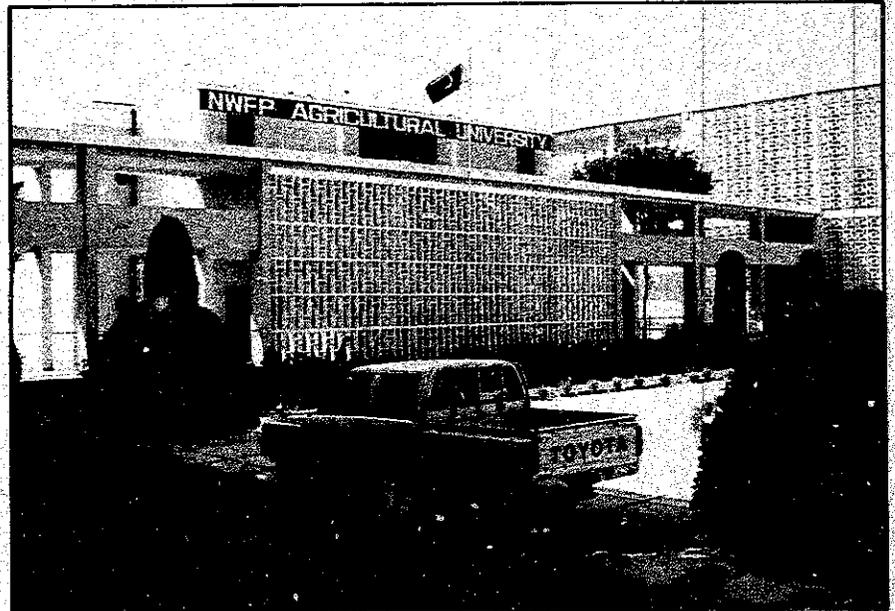
With most of the academic changes now in place and staff training in process, the University is ready to proceed with the renovation and expansion of its facilities. Design work for the expansion, funded by USAID, was completed in 1986. The first phase of construction, to be carried out over a period of three years, began in Jan. 1989.

### **Irrigation**

Approximately 40 percent of the total area cultivated in the NWFP is irrigated. The Northwest Frontier Province must harness and protect its irrigation water resources if agricultural yields are to increase. An efficient irrigation system requires continual canal and watercourse rehabilitation, timely maintenance, detailed planning, and farmer support.

Under the Irrigation Systems Management Project, USAID has helped to improve the NWFP's irrigation system through canal and drain rehabilitation, technical assistance, and the provision of irrigation and earthmoving equipment. Nine rehabilitation schemes have been completed, including Island Canal, Samkana Canal, and Surzai Drain. These schemes cover 87 kilometers. Eleven more schemes, covering 200 kilometers, are planned or underway.

Institutional support and development is another important component of USAID-assisted irrigation activities. For example, USAID provided technical assistance and equipment to the On-Farm Water Management Training Institute in Dera Ismail Khan. The Institute teaches water management techniques and



*NWFP Agricultural University, Peshawar is the focal point of the TIPAN project which is designed to integrate agricultural research and extension services network in the province.*

innovative agricultural practices to agricultural and engineering professionals, extension workers, and farmers.

The renovation of the Provincial Irrigation Department's equipment maintenance workshop in Peshawar is further demonstration of USAID support. In addition, USAID is providing the Department with computers and management and technical training. The computers will aid in the designing and monitoring of water resource delivery and maintenance systems.

Over the next few years some of USAID's irrigation activities in the NWFP will be near Peshawar in the command area served by the Warsak Lift Canal. This is one of seven pilot areas in the country to receive USAID and World Bank assistance for "Command Water Management" activities.

These activities aim at ensuring more reliable and equitable water distribution and use through improved water management and community participation. USAID's involvement includes support for the formation of Water Users Associations, rehabilitation of watercourses, and the provision of scientific equipment and technical assistance to the Command Water Management Office at Peshawar.

Command Water Management builds in part on the On-Farm Water Management (OFWM) project which officially concluded in June 1987. OFWM is regarded by the Government of Pakistan and the donor community as an innovative and successful program with impact far beyond the \$ 18.4 million contributed by the United States in the 1970s and early 1980s.

Main features of the program, which covered all four provinces of Pakistan, involved training, watercourse improvement, precision land levelling, and institutional development. The success of the On-Farm Water Management concept in providing for more efficient water delivery and use has been repeatedly demonstrated and is now widely adopted by other institutions both in Pakistan and abroad.



Water users Associations such as this one working in Mashukhel village near Peshawar, played an important role in the success of On-Farm Water Management Project in improving the efficiency of the irrigation system throughout Pakistan. Water Users Associations are now an integral part of Command Water Management activities under ISM.



The Warsak Lift Canal near Peshawar is the center of Command Water Management activities in the NWFP.

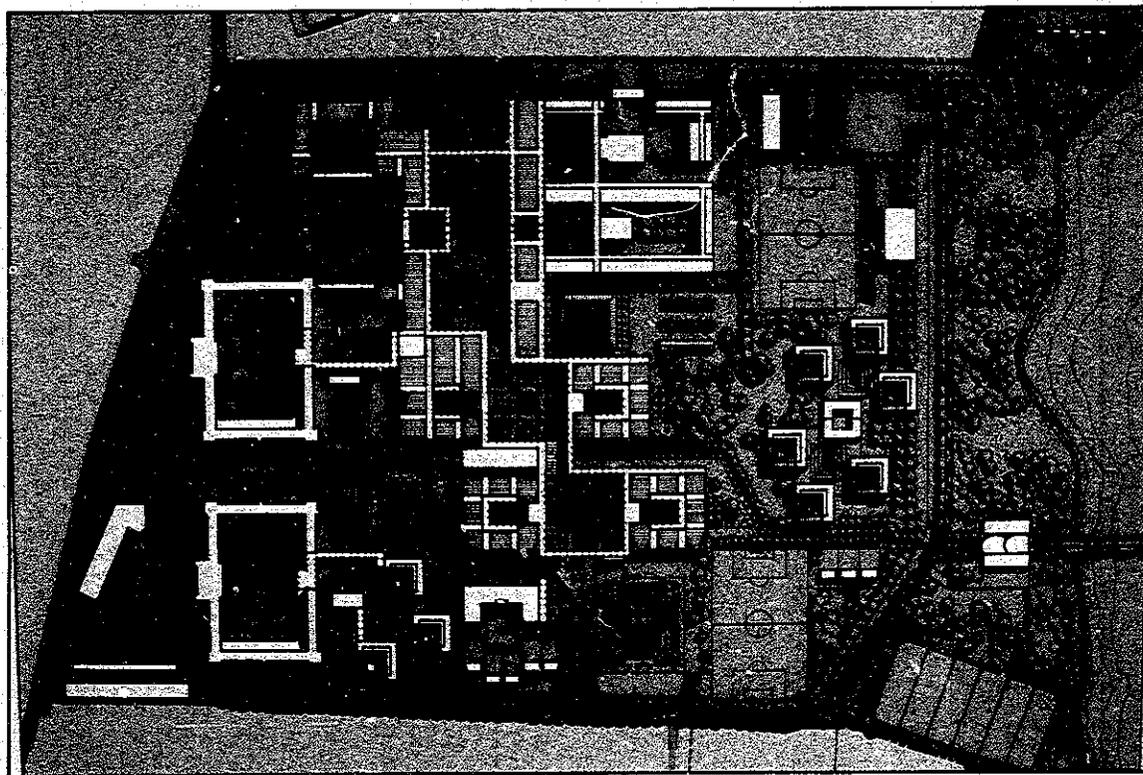
## TRANSFORMATION AND INTEGRATION OF NWFP'S PROVINCIAL AGRICULTURAL NETWORK



*Expansion of the NWFP Agricultural University, Peshawar is a major component of the TIPAN project. USAID is financing construction of class rooms and teaching laboratories, male hostels, and experimental farm centers. Above: Illustration of interior court, Faculty building. Below: Master Plan of the Academic Campus.*

Over the next three years USAID will be contributing around \$20 million for the renovation and physical expansion of NWFP Agricultural University. USAID will be financing the construction of classrooms, research and teaching laboratories, male hostels, and resource, outreach and experimental farm centers. Over \$3 million will be expended by USAID for commodities to modernize research and instruction at the university campus and 11 research stations. The Government of Pakistan will be funding construction of faculty housing and a female student hostel.

The expansion program will not only increase the size of the University but will improve the quality and technological sophistication of its facilities. The University will be better equipped to serve provincial research institutes, transfer agricultural technology to farmers, and support agricultural development in the NWFP.



## **HIGHLIGHTS OF USAID SUPPORTED AGRICULTURAL ACTIVITIES IN THE NORTHWEST FRONTIER PROVINCE**

**Institutional Development** (includes training, technical assistance, commodities, equipment)

Agricultural Research Institute, Peshawar  
Cereal Crop Research Institute, Nowshera  
NWFP Agricultural University, Peshawar  
On-Farm Water Management Training Institute, D.I.Khan  
Provincial Irrigation Department, Peshawar  
Veterinary Research Institute, Peshawar

### **Research, Education, and Training**

Wheat, maize, and livestock studies  
Farm trials, irrigation demonstration farm  
Long and short-term training at overseas institutions  
In-country training in statistics, computers, management, planning, and technical fields

### **Equipment and Commodities**

Earthmoving and irrigation equipment  
Computer hardware and software  
Research equipment  
Vehicles  
Fertilizer  
Library resources

### **Water Resources**

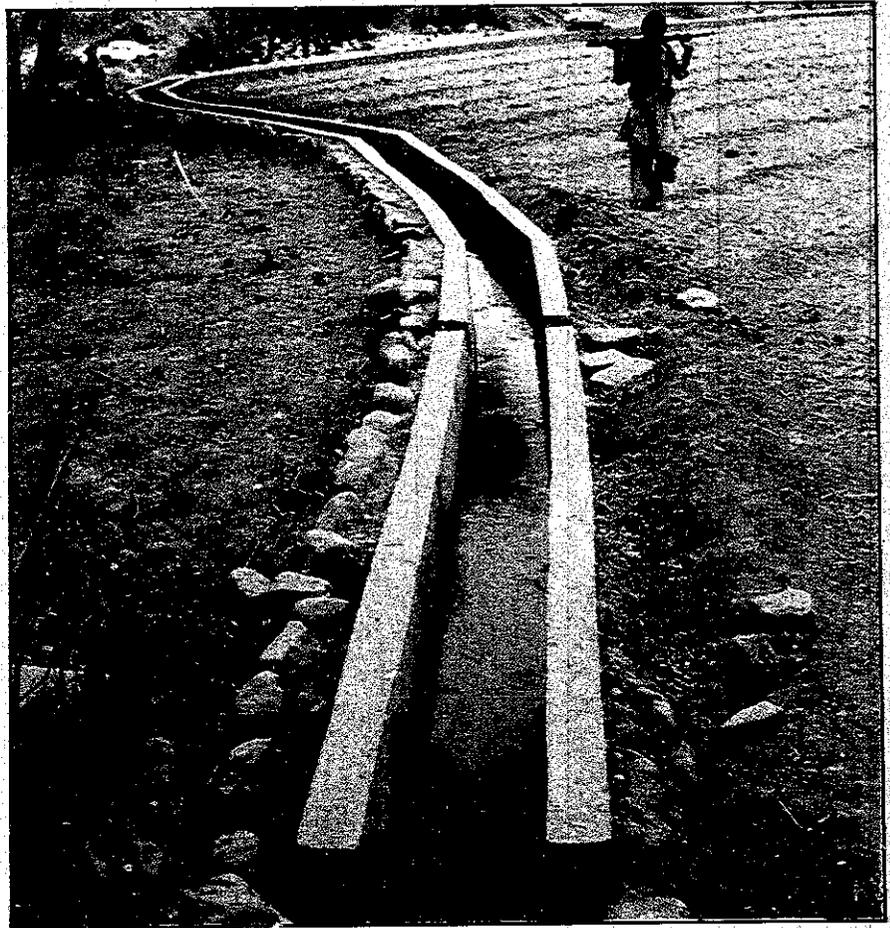
Rehabilitation of 87 kilometers of canals and drains  
Provision of tools and machinery for Provincial Irrigation Department maintenance workshop  
Establishment of an office for Warsak Lift Canal command area, approval of civil works for 25 watercourses, and formation of 40 Water Users' Associations.



*Roads such as this one in Gadoon, being constructed under the NWF Area Development Project are helping improve access to isolated villages in the Province.*

## AREA DEVELOPMENT

During the 1981 aid negotiations, representatives of the Government of Pakistan requested that part of the United States' economic assistance program be directed specifically toward rural development in some of the least developed regions of Pakistan. Two of these "area development" projects are in the Northwest Frontier Province, one in the Tribal Areas and the other in Gadoon-Amazai.



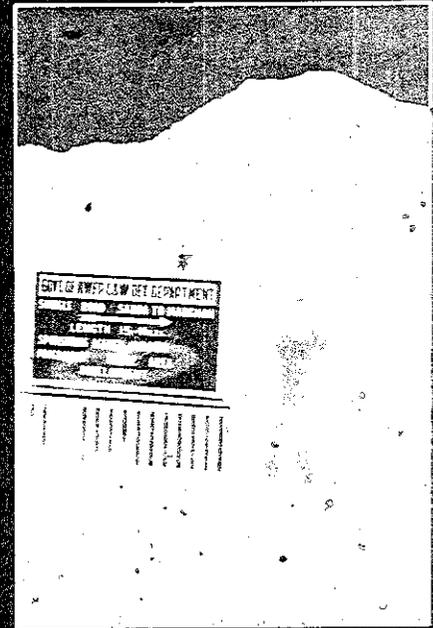
*A section of the Spina Tangi irrigation channel constructed under TADP.*

## Tribal Areas

The Tribal Areas cover approximately 10,000 square miles of mostly arid valleys, hills, and mountains. Six of the seven agencies in the Tribal Areas border Afghanistan. At the time of partition, economic development in these agencies lagged behind development in the NWFP's settled districts. The area's remoteness and weak initial infrastructure base have continued to hinder progress.

In support of the Government of Pakistan's efforts to increase the pace of rural development in the Tribal Areas, USAID is contributing \$24 million for road construction, irrigation improvements, training, and institutional development. Nearly one-half of the funds for the Tribal Areas Development Project (TADP) are for the design and construction of roads.

The first major road completed under the project was the 25 kilometer Sadda Murghan Road in Kurram Agency. Over 100 kilometers of additional roads are currently under construction or design in North and South Waziristan. Design and survey work for the 75-kilometer Thal-Parachinar Road in Kurram Agency has been completed.



*The 25 KM Sadda-Murghan road completed in 1986.*

*This school building in Khyber Agency was constructed under Tribal Area Development Project.*





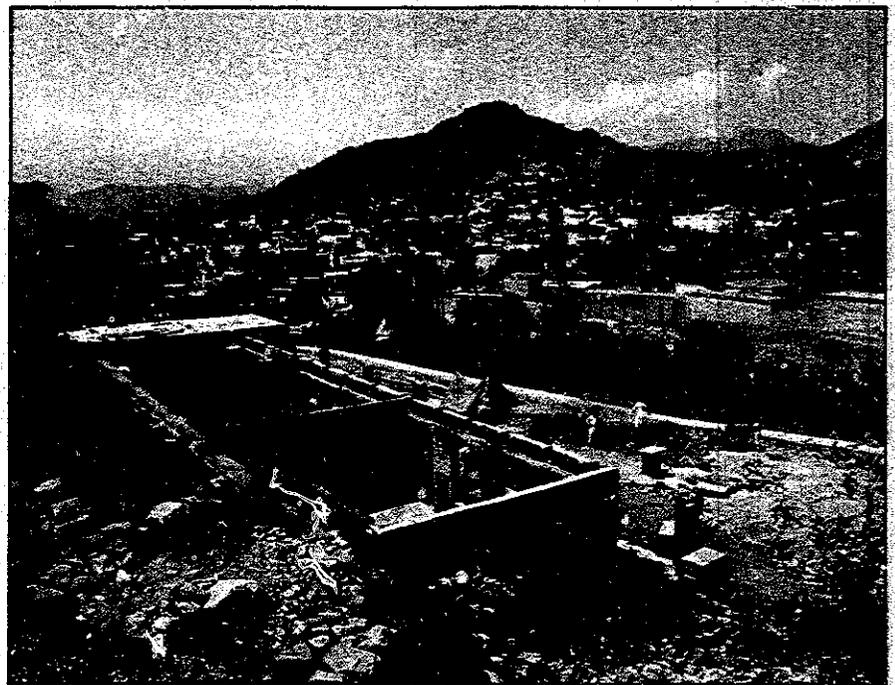
*A computer center has been established and fully equipped with US assistance for the implementing agencies in Peshawar.*

Improved roads will benefit farmers, giving them better access to goods, services, and markets. Farmers will also benefit from water resource improvement activities. Given the area's uncertain rainfall and limited surface water sources, optimal use of water resources is critical.

Under the Tribal Areas Development Project, irrigation systems are being constructed and rehabilitated, tubewells installed, and groundwater sources developed. Thirty six water schemes have been initiated or completed. One such scheme in Spina Tangi in FR Bannu will add about 3,000 acres of irrigated farmland, serving around 4,000 people.

In addition to water schemes, USAID is funding 40 small rural development activities. These activities include the construction of 18 primary schools, two high schools, six teacher residences, and two dispensaries.

The various components of TADP are being implemented by different Government of Pakistan agencies. The provincial Department of Communications and Works is responsible for road construction and the Federally Administered Tribal Areas Development Corporation (FATA-DC) for irrigation projects. USAID is supplying FATA-DC with computers and equipment valued at almost \$800,000. FATA-DC's groundwater investigation team is presently using hydrological equipment furnished by USAID. A \$800,000 USAID-funded drilling rig is likely to be transferred to FATA-DC soon.



*Building of a girls' middle school under construction at Gandaf in Gadoon.*

The 28 computers ordered for the implementing agencies, have all been installed. The computers will aid in project design, planning, and monitoring. In addition to computers and equipment, USAID is providing technical assistance and scholarships. Fourteen individuals have received short-term training overseas. All of these forms of assistance are aimed at strengthening the institutions responsible for advancing development in the Tribal Areas.

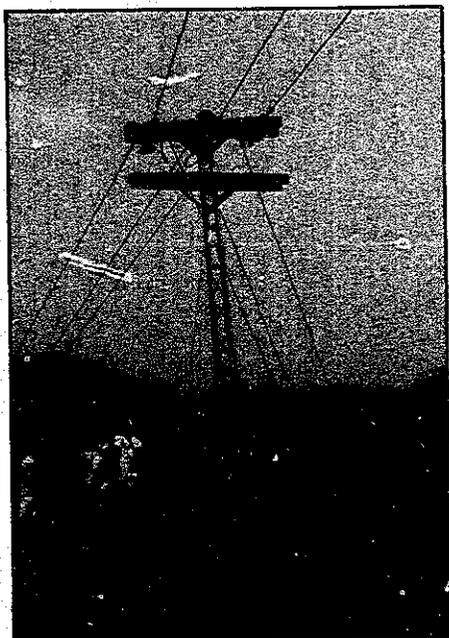
Future Activities under consideration include the construction of the Thal-Parachinar Road at an estimated cost of \$21 million.

### **Gadoon-Amazai**

As in the case of the Tribal Areas, improved infrastructure and increased agricultural productivity are development goals in Gadoon-Amazai. Gadoon-Amazai is a 215 square mile area, immediately to the northwest of Tarbela Lake. The area is hilly

*Introducing alternative crops to poppy is an important activity under the NWF Area Development Project. A group of Gadoon farmers examining the crops during a crop demonstration day put on by the project personnel. A project-wide network of demonstration plots was established utilizing land and labor provided by local farmers.*



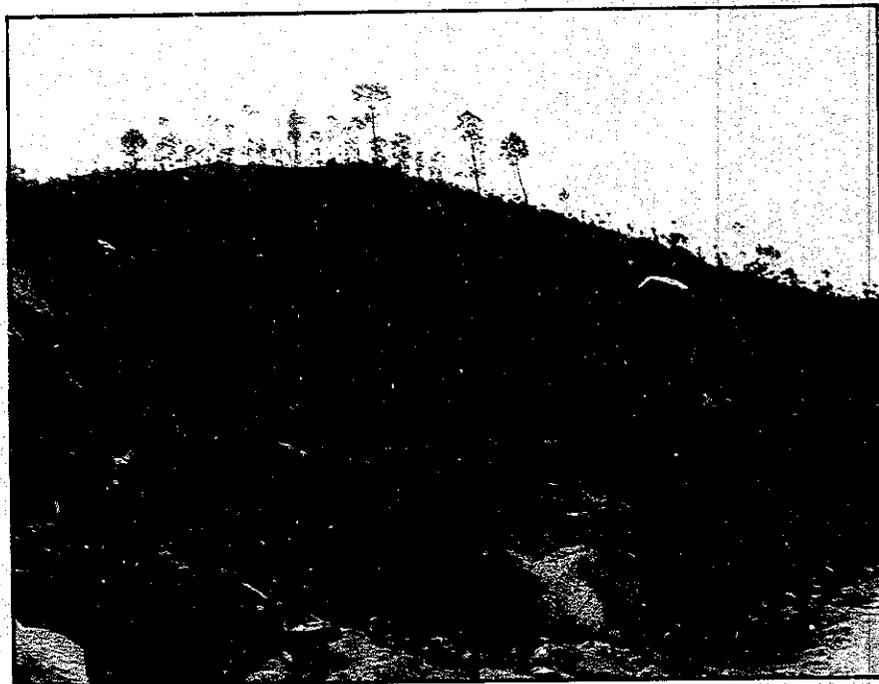


*The integrated development approach under area specific projects includes electrification of villages.*

and rocky with few roads or irrigated water resources. During the last few decades, Gadoon-Amazai has been one of Pakistan's main poppy-producing areas.

The Government of Pakistan, the Provincial Government of NWFP, and its line agencies are making a concerted effort to eradicate poppy growing in the Northwest Frontier Province. USAID is supporting this effort by providing a \$21 million grant for development activities in Gadoon-Amazai, an area characterized by poverty, isolation, and hardship. This includes \$1 million for the construction of infrastructure in an industrial estate near Gandaf in the project area. A Gadoon Phase II Project Authorization Amendment for \$ 32 million will lead to a continuation of area development activities through 1993 extending the area of coverage to the adjacent Kaladhaka area.

These activities are providing Gadoon-Amazai with an opportunity for change. Change entails substituting other crops for poppy, improving agricultural practices, and learning skills for off-farm employment. USAID is helping to develop a rural infrastructure that will stimulate economic development in the area. Rural infrastructure activities include road building, school construction, improved irrigation, and better water supply. In addition to these programs in Gadoon-Amazai, USAID has provided \$ 10 million to the United Nations Fund for Drug Abuse Control (UNFDAC) for poppy-substitution activities in Dir and operational support of the Special Development Unit in Peshawar.



*A reforestation program has recently been started in Gadoon-Amazai. Picture shows new plantations near Utla on Kabgani-Utla road.*

## **HIGHLIGHTS OF DEVELOPMENT ACTIVITIES IN GADOON-AMAZAI**

### **Agriculture**

#### *Irrigation*

6 irrigation channels serving 100 acres constructed; 66 channels under construction  
5 testwells in process of being converted into tubewells

#### *Agro-Forestry*

Around 250 orchards established; plans for 600 more  
Over 250 of the 350 agro-forestry plots established

#### *Extension Services*

Maize, mung bean, and onion production/demonstration plots on 2,260 acres  
Crop rotation and inter-cropping demonstration

#### *Animal Husbandry*

Livestock and poultry breeding, fodder production, and veterinary extension services

### **Education**

17 schools constructed or repaired; 44 under construction  
19 non-formal female education centers established with over 500 receiving training in literacy, religion, handicrafts, child care and health education  
Over 1,500 people completed or are enrolled in training programs at trade schools and technical institutions

### **Roads**

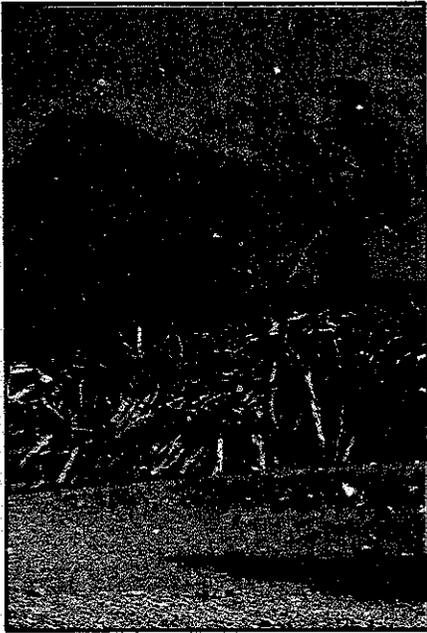
100 kilometers of roads built or under construction, 13 additional kilometers planned

### **Electrification**

6 villages electrified; plans for 25 additional villages

### **Other Activities**

3 basic health units and 2 rural health centers under construction  
56 drinking water storage and supply schemes built, repaired, or under construction  
Industrial estate outside Gandaf under design



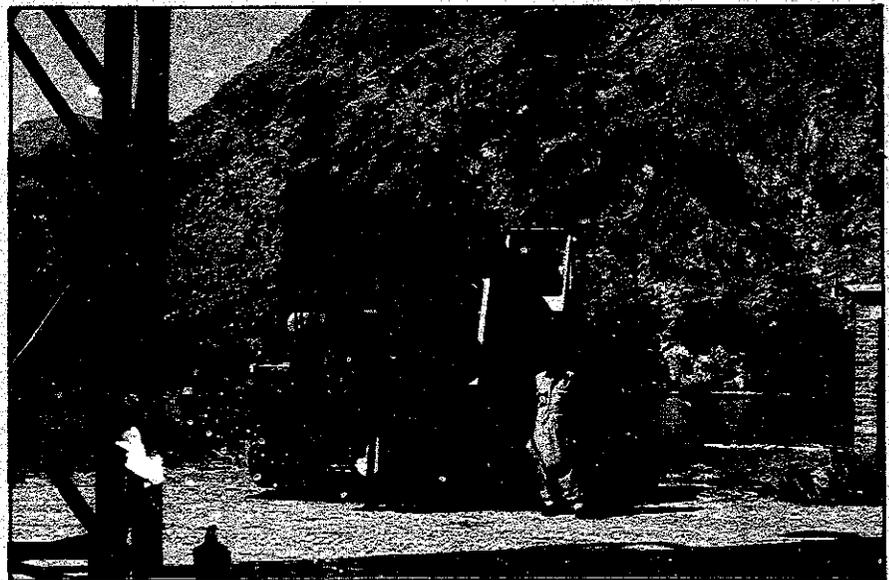
*Firewood is the most commonly used domestic fuel in NWFP as in other parts of Pakistan.*

## ENERGY

In the 1970s the United States, as the single largest contributor to the construction of Tarbela Dam, played a leading role in the development of Pakistan's energy base. This role has continued in the 1980s.

NWFP and the other provinces benefit from efforts by the Government of Pakistan and USAID to improve energy planning, develop indigenous energy resources, and expand energy production. When completed, the thermal power plant at Guddu (Sind) will increase the nation's electrical-generating capacity by eight percent.

USAID is supplying equipment that will reduce energy losses in WAPDA's distribution system. In addition USAID is providing over \$6 million of grant funds to WAPDA's Power Distribution Wing



*Two 40-ton cranes supplied under the Energy Commodities and Equipment program are installed at Warsak Hydro-Electric Station.*

for the procurement of computers and related equipment. Of this amount, about \$800,000 is for the purchase of mainframes and microcomputers for the Peshawar Area Electricity Board. These will be used for various applications. Immediate improvements are expected in the billing, construction work orders, stores inventory, and accounting systems.

Other provincial energy activities include provision of two 40-ton cranes for the Warsak Hydro Electric Station. The cranes, valued at \$500,000, are being used to clean the water sluice gates. Several thousand WAPDA employees in the NWFP have received safety, technical, and management training. As part of the National Energy Conservation Program, various private industries in the Northwest Frontier are participating in a detailed energy audit to determine ways of conserving energy and reducing energy costs.

Fuelwood production is another USAID-supported energy activity in the NWFP. Approximately three-quarters of the households in the province use firewood as their primary cooking fuel. Under a USAID forestry project, seedlings are being provided to farm families for tree planting on private farmlands in the rainfed districts of Kohat, Karak, and D.I. Khan. USAID is also supplying tractors, field tools, nursery equipment, and other commodities.

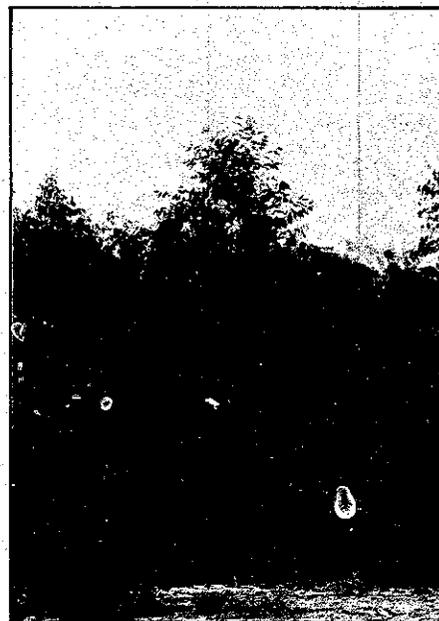
During the first year of the project, five private seedling nurseries were established. Around 300 families planted trees on marginal, unproductive land. In time these fast-growing trees will provide fodder, fuel, and perhaps income if planted as a cash crop. Moreover, ready availability of firewood will allow animal waste to be used as fertilizer rather than fuel.

As with most USAID projects, institutional development is an important component. This includes training, research, curriculum development, and construction. During 1986 and 1987 fourteen individuals from NWFP forestry institutes received overseas training in such fields as planning, management, and agro-forestry systems. Recently, Peshawar University approved a farm and energy curriculum that was developed with USAID technical assistance. Construction, financed by USAID, started in 1987 on a hostel for the Pakistan Forest Institute, located in Peshawar.

Over the next few years USAID will continue to support fuelwood production as well as forestry activities by other donors. USAID will help to conserve the Tarbela watershed by providing funds for tree-planting activities under a World Food Program-assisted project. Increased attention will be given to other renewable energy sources such as small hydro, wind, and solar power.



*Under a USAID forestry project, private seedling nurseries such as this one in Kohat are becoming popular with farmers. The nurseries also serve as an additional source of income for the family.*



*A block plantation on the marginal, unproductive land by a farmer in a village near Dera Ismail Khan.*



*From 1982 to 1987 USAID supplied the NWFP with over \$5 million of insecticides and spraying equipment, preventing over one million cases of malaria annually.*

## SOCIAL SECTORS

Social sectors form an integral part of overall planning for economic development. Improving the quality of health services as well as expanding health coverage to all sections of population both rural and urban, keeping population increase within manageable limits and strengthening the human resource base through training are vital for achieving and sustaining growth rates necessary for the economic development of the community. USAID provides assistance in support of major initiatives of the Government of Pakistan for the development of these important sectors.

### Health

USAID is supporting health activities aimed at reducing infant and child mortality, combating preventable diseases, and improving basic health services, particularly in rural areas.

In Pakistan more than 170,000 children under the age of two die each year from diseases that could be prevented simply by immunization. The Government of Pakistan's Expanded Program of Immunization has dramatically increased immunization coverage in the Northwest Frontier Province against six preventable diseases from under 5 percent in 1982 to 75 percent in 1987.

To improve rural coverage, USAID has supplied the NWFP Health Department with 21 vans and jeeps, 500 bicycles, and 100 motorcycles for mobile and outreach teams. USAID is also supporting the immunization program by providing syringes, needles, vaccine carriers, and other supplies.

The majority of childhood deaths in Pakistan are a result of diarrhea. An estimated 200,000 Pakistani children die each year from dehydration and diarrhea-related diseases. USAID is assisting in developing a communications and educational campaign to increase public awareness of oral rehydration therapy (ORT) as

a simple and effective treatment for dehydration from diarrhea.

The extension of health services requires motivated, trained health workers and well-managed rural health centers. USAID is assisting the NWFP Government develop comprehensive primary health care training for medical officers assigned to rural health facilities.

A new health monitoring system has been introduced in rural health centers in Jamalabad and Khairabad and later will be computerized and introduced at other sites. The system monitors services provided in six primary areas: diarrhea, tuberculosis, malaria, immunization, acute respiratory infections, and nutrition.

Another USAID-supported health program is malaria control, an ongoing activity since the 1960s. From 1982 to 1987 USAID supplied the NWFP with over \$5 million of insecticides and spraying equipment, preventing over one million cases of malaria annually. Other support includes in-service and overseas training as well as a health education campaign.

### **Population**

Family planning affects the health of a woman and the welfare of her family and community. Pakistan's high population growth rate taxes the country's ability to provide jobs and social services.

*A group of students from the Health Technicians Training School, Dera Ismail Khan, discussing the importance of home cleanliness and personal hygiene. This family in a village near Dera Ismail Khan is among those regularly visited by groups of HT students and rural health workers under the Primary Health Care Program.*



At the request of the Government of Pakistan, USAID is working with the Population Welfare Division to strengthen family planning services in all four provinces. USAID is procuring contraceptives and equipment for the public and private sectors, supporting voluntary organizations involved in family planning, and providing technical assistance in social marketing and the distribution of contraceptives. A variety of population welfare programs have been supported in this way, including six centers operated by the TB Association in Peshawar.

### **Training**

The primary objective of USAID training programs is to upgrade the management and technical expertise of those involved in the implementation of priority development programs. From 1983 through 1987 over 400 individuals from the Northwest Frontier Province received short or long-term training in the United States or third countries. Almost one-half of the training programs were initiated in 1987 in such fields as agronomy, engineering, forestry, computer science, electrification systems, public administration, and business management. USAID also supported numerous in-country seminars and workshops on public and private sector management and development-related topics.

Another aspect of USAID's human resources development program is assistance to training institutions. This assistance has included overseas and in-country training for staff members of the National Institute of Public Administration and the Pakistan Academy for Rural Development, both located in Peshawar. USAID also provided the Pakistan American Cultural Center, another Peshawar training institution, with materials and equipment for English language instruction.

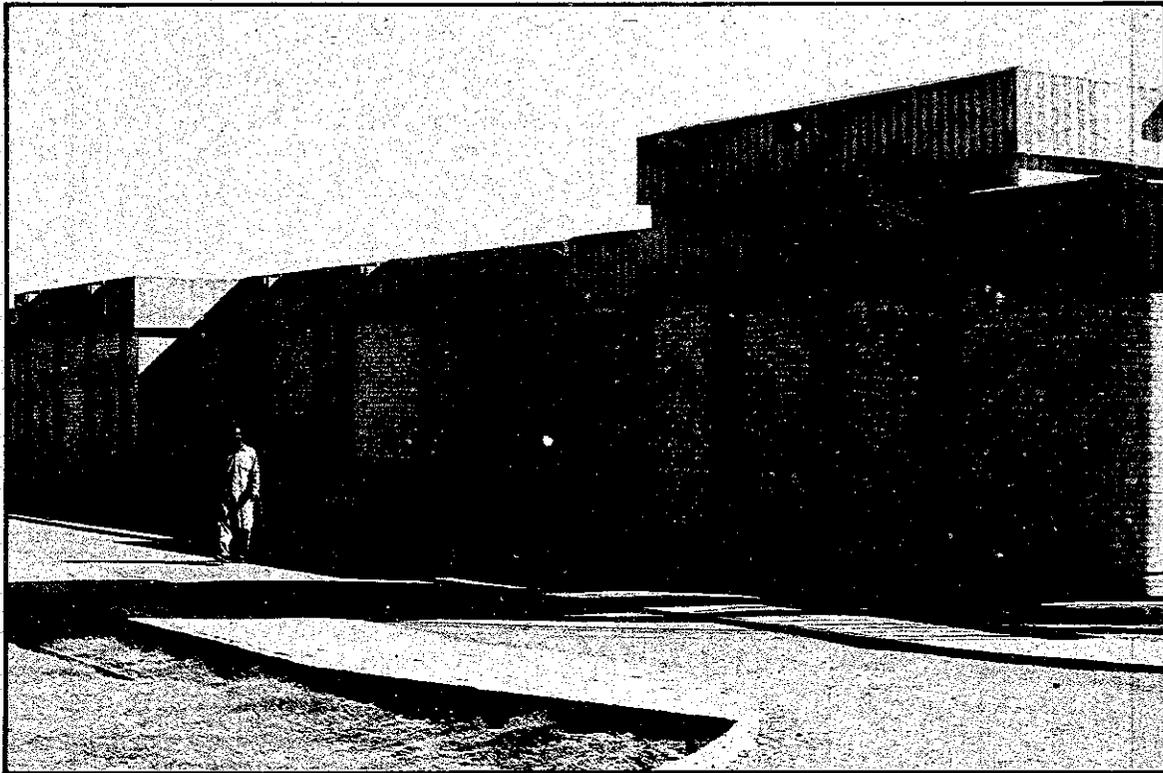


*Computer training is part of USAID human resources development program.*

## HEALTH TECHNICIANS SCHOOL COMPLEXES IN NWFP

In rural health centers, health technicians' responsibilities include communicable disease control, immunization, maternal and child health, environmental sanitation, and first aid. Since 1982 over 800 men and women have been trained in the NWFP as health technicians. The number of female students increased from 8 in 1982 to 59 in 1987. USAID provided technical assistance to revise the curriculum used in training health technicians, placing greater emphasis on community health and preventive care.

Presently health technicians receive 18 months of training in crowded rooms in a public health school or civil hospital. Health technician training will improve with the USAID-financed construction and furnishing of health technician school complexes in Abbottabad, Peshawar, and D.I. Khan. The complexes include classrooms, libraries, laboratories, auditoriums, tutor residences, and separate hostels for male and female students.



*Health Technicians' Training School complexes being constructed and equipped with US assistance in NWFP include this one recently completed in Peshawar*

## FUTURE DIRECTIONS

The United States remains committed to economic and human resources development at all levels, national as well as regional. The Government of Pakistan's efforts to ensure that the benefits of national development be distributed to all citizens and all regions will continue to receive USAID support.

Under the new aid package, the United States anticipates providing \$1.8 billion in economic grant assistance to Pakistan over the next six years (1988-1993). An additional \$480 million in economic assistance is expected to help finance the import of essential food commodities such as edible oils under the PL-480 program.

Most of the USAID-funded development activities described in this booklet will continue under the new program. Greater access to water, agricultural inputs, energy supplies, social services, and training opportunities will be provided, along with possible new initiatives in important areas such as primary education.



*A proud Gadoon farmer showing off his potato demonstration crop*