

AFGHANISTAN

TECHNICAL ASSISTANCE PROJECT  
CASE HISTORY

CROP DEVELOPMENT  
306-AB-13-AD-5(c)

Initiated FY 1955  
Termination Date

PD-ARW-515  
115021  
A.I.D. INFORMATION  
STAFF LIBRARY

I. BACKGROUND SITUATION

- A. Through the years, the ravages of certain insects and diseases have hampered Afghan agriculture, but have gone unchecked. Only during the past decade have serious efforts been made to combat these pests. Although organized only slightly over ten years ago, the Plant Protection Section of the Ministry of Agriculture has rapidly expanded its activities, however, it has been greatly handicapped by a dearth of technicians, equipment, and supply shortages.
- B. This continuing project dates from February, 1955, when the Ministry of Agriculture requested assistance in the training of its personnel in the control of locusts and other major insect crop pests. A special agreement to provide such assistance was entered into in March, 1955, by the Regional Insect Control Project (RICP) of the U.S. Department of Agriculture and A.I.D. An Entomologist of the RICP made a general survey of the country's insect problems from June to December, 1955. Another RICP Entomologist was definitely assigned to this project for two years, beginning in October 1956. In the 1957 and 1958 seasons, control programs featuring demonstrations and training of the plant protection personnel of the Ministry were undertaken, first in the Kabul area, and later in the outlying provinces. The first full-time RICP Entomologist departed in October, 1958, at the end of his two-year tour. Because of recruitment difficulties, it was not until two years later, in October of 1960, that the present replacement arrived to continue the programs. In the interim, however, other RICP Entomologists spent brief TDY assignments on several occasions to assist with pressing control problems. The present RICP Entomologist has just recently returned from home leave and plans to continue the project for another two years.
- C. The FAO unit of the UN organization has maintained a program in Afghanistan, and for the past four years has had a Plant Pathologist assigned as an advisor to the Plant Protection Section. This advisor's program has consisted chiefly in developing a program for the control of Mildew, which is very detrimental to grapes in Afghanistan, and in pursuing the study from other countries of wheat varieties that are resistant to rust and other diseases. He has been training laboratory workers and a counterpart in this respect, and in learning to culture and isolate diseases in media. He has also advised and consulted in the control of plant pests in general.

FAO has also sponsored four participants for training in other countries. One Plant Protection agent was sent to Iran for nine months for Senn Pest study in wheat; one to Southwest Asia and African countries for nine months for locust control study; one to Mexico for one year for wheat variety and wheat rust studies; and one to Germany for two years for general Plant Protection training, and study. Another agent has just recently left for Mexico for one year's study of wheat varieties and wheat rust.

FAO has furnished several vehicles to the Plant Protection Section for temporary use in times of emergencies, especially during the past locust season.

Russia has helped the Ministry of Agriculture for a number of years under a joint country agreement; by furnishing aircrafts, ground power equipment, insecticides and technicians in a periodic Italian and Moroccan locust campaign every spring in the northern provinces. With this year's heavy desert locust season, the Russians furnished three duster aircrafts, twelve power dusters, 300 tons of BHC dust, and technicians for the control of these pests in the Herat area of western Afghanistan.

For the past two years a Russian entomologist has been stationed at Jalalabad for the biological study and control of Pink and Spiny bollworms of cotton. Another Russian specialist has been under contract with the Plant Protection Section the same length of time for the purpose of studying and formulating plant quarantine laws, programs, and border stations in Afghanistan. For the past nine months he has supervised all insect and diseasespray activities on the King's farm at Kariz-i-Mir.

Russia has sponsored three plant protection agents who have just recently left for Moscow for five years of study leading toward a college degree in plant protection. One agent has also just recently left for four years of the same aim and study in Czechoslovakia. Two agents spent three months of study in Russia on the control of the Senn Pest in wheat.

## II. OBJECTIVES

The general objectives were to assist the Plant Protection Section of the Royal Afghan Ministry of Agriculture in developing efficient and effective programs of control against the Desert Locust and plant pests of major importance that are detrimental to Afghan agriculture.

### A. Short range objectives:

1. Make large-scale demonstrations and encourage the use of new, cheaper, and more effective pesticides.
2. Demonstrate and instruct in the operation and maintenance of modern equipment for the application of pesticides.

### B. Long range objectives:

1. Develop an adequately organized, trained, and mobile plant protection department within the Ministry of Agriculture and in the provinces.
2. Train plant protection personnel in insect pest surveys, control methods, field organization, and logistical support.

3. Establish a mobile locust control center at Kabul which could service any part of the country.
4. Cooperate with extension and educational service in promoting plant protection so that individual farmers and/or farmer groups are capable of controlling local pest problems.
5. Advise R.C.A. agencies on entomological research.
6. Assist the Helmand Valley Authority's plant protection program and help coordinate it with the Ministry's program.

III. RESOURCES COMMITTED

A. For U.S. technicians committed to the project, see I B.

Key officials with which the U.S. technicians had contact and activities over the years have ranged from the Minister level down to village workers. Within the Plant Protection Unit proper, the key agents have varied from four to ten individuals.

Eight participants and agents have taken plant protection training abroad under A.I.D. sponsorship. Two have just recently returned from the American University of Beirut and two more have recently left for the U.S. for one year of special training and study in this field. Another official recently departed for two years of special study and work in plant protection activities in West Germany, rotating with one who has just completed the same program.

For resources, technicians, and training committed to Plant Protection from other countries and international organizations, see I C.

The Royal Afghan Ministry of Agriculture has purchased a nominal amount of insecticides and equipment, and has gradually increased its budget and personnel to meet expanding needs over the past eight years. It is estimated the Ministry has spent about \$552,500.00 for Plant Protection during this period.

B. U.S. Funds obligated

U.S. funds obligated since 1956 have been mostly used for commodity purchases of modern U.S. insecticides, equipment, and some laboratory and insect collection equipment.

	<u>Dollars</u>	<u>Local Currency</u> (U.S. owned or controlled)
Total thru 6/30/62	\$195,000.00	\$68,000.00
FY-63	66,000.00	---

Note: These figures include salaries, expenses, vehicle, etc. for RICP technicians, as well as participant costs, since 1955. All figures are estimated.

#### IV. FACTORS ACCELERATING OR INHIBITING PROGRESS

##### A. On Host Country side:

##### 1. Major difficulties encountered are:

There are not enough candidates with even a high school or grade school education who could qualify for training. The lack of adequately trained personnel in plant protection has hampered faster progress in the development of the Pest Control Dept. of the Ministry of Agriculture. Most of the key personnel have some degree of training but it is not enough. Several have left for additional training, and study abroad, and several are scheduled to go in the future. Until all of these key personnel have returned, there will continue to be a lag. This is unfortunate, and it will be several years yet before this is resolved. However, this training is absolutely necessary and the lag must be tolerated before the desired goal is reached. On-the-job training alone cannot solve the need of adequately trained leaders.

The farmers of Afghanistan have not yet realized the full potential of increased net income, over and above the cost of pesticides, that can be derived from high quality produce.

Russian entomologists in Afghanistan have hampered freedom of movement in this activity. The RGA has operated under an unwritten policy of "separation of Soviet and U.S. technicians." A geographical separation for areas of work have kept activities north of the Hindu Kush Mountains under U.S.S.R. assistance. The U.S. efforts have been south of this physical barrier.

Liaison and cooperation between all departments of the Ministry of Agriculture concerning pest control is lacking. Decentralization is needed and more authority should be delegated to subordinates. Many demonstrations of insect control could be conducted in the provinces by Extension workers with the technical support materials, and equipment furnished by Plant Protection.

There has been little cooperation between the Plant Protection Department and the Forest Service for control of forest and tree pests.

The Ministry has been reluctant to push ahead with more widespread demonstrations and activities in the outlying provinces in response to the pressure and request of officials and farmers; this being chiefly due to its inability to follow through because of its limited trained personnel, and lack of sufficient budget, equipment and material.

2. Factors accelerating progress are:

Heavy damage in certain fruit and vegetable crops and subsequent control demonstrations against them has undoubtedly convinced Ministry officials and farmers that a plant protection program is one of the quickest and most rewarding means of increasing agricultural output.

The economic insect pests of Afghanistan are those for which life cycles and control measures are already known. Time consuming research to devise new control methods is not necessary.

There is a balance of nature operating in many crop areas of the country so that biological control of insects by their natural enemies is occurring without chemical control. Thus, the newly organized, under-trained and under-equipped Plant Protection Department is not as besieged by emergencies and request for help from farmers to prevent crop losses as is usually the case; and they are better able to fill the pest control program development gap.

B. On the U.S. Side:

1. Specific devices or tactics facilitating progress.

Response on the part of the U.S. to request for assistance in locust control operations opened the door for assistance in other phases of plant protection. Also, operations like locust control with their connected crisis aspect tend to create and stimulate interest. Taking advantage of this interest to expand the program formed the basis of a good working relationship between U.S. and RGA technicians and programs.

Judicious use of commodities through the demonstration of new insecticides and control tools was helpful in keeping the program moving.

Project support and backstopping by the country team stimulated the program. The Afghans like to work with top officials and appreciate the sympathy these U.S. representatives have for their country's problems and programs.

2. How might performance have been improved.

Continuous placement of an entomologist from the start of the program would have helped. The lack of an American entomologist for a two year period allowed the program to lag.

The administrative program of the Plant Protection Department has needed improvement to break out of the antique methods now employed. The fast-action type of program required in a pest control campaign has not been possible.

## V. ACCOMPLISHMENTS

A sound start has been made, however, towards the development of an organized, trained, and mobile plant protection unit within the Ministry of Agriculture, and a new 15 room modern building now houses the laboratory and offices of the Plant Protection Section built mostly with PL-480 wheat funds.

On-the-job training was given to 75 extension trainees with the aid of the RICP Entomologist stationed in Afghanistan in 1956-1958. In 1957, fifteen demonstrations on 10 different species of insects on eleven crops, totaling 474 acres, were conducted throughout the country, during which much of the on-the-job training listed above was given. This training of 265 more people was continued in 1960 through 1962. Ministry personnel continued this activity during the interim. Training sessions consisting chiefly of lectures, in short courses, were given to extension workers, plant protection agents, university students, and farmers on fruit, cotton, and sugar beet insect control, and insect survey, collection, detection, and reporting. On-the-job training of spraying against fruit flies and weevils in melons and cucurbits, and of soil treatment of nursery stock was given to extension, village leaders, and plant protection agents. Methods of survey, detection, and collecting of insects were also shown to plant protection agents in the field. Some twenty American text and technical books on applied entomology and plant disease control were acquired and put into the Afghan Plant Protection Laboratory Library for reference use by the plant protection personnel and are available at all times. Also in 1957, R.I.C.P. aircraft and personnel demonstrated the feasibility of coordinated aerial spraying along with hand spraying for control of insects on 500,000 fruit and nut trees and, incidentally, saved these tree crops.

An intensive general survey of crop insect pests was made during the summer of 1961 in order to more definitely establish the presence and damage extents of the major crop insects that occur in Afghanistan. 302 lots of insect collections were submitted to the U.S. National Museum for positive identification. Returns have been received from most of these and a detailed report has been submitted to the Plant Protection Section. The Section has been encouraged to develop a national collection and museum in order to have representative specimens of insects occurring in Afghanistan. Equipment and materials have been ordered for this purpose and are now being awaited.

The Ministry of Agriculture has willingly assisted the Helmand Valley Authority, when requested to do so, with insect control, particularly locust eradication. Over the past years the

Ministry, upon request, has sent plant protection agents several times to advise and work on locust control. In May, 1960, the Ministry also donated four tons of insecticide and loaned equipment to the HVA. During 1962 large swarms of locusts descended in southwest Afghanistan. The Ministry donated forty tons of insecticides and equipment, and furnished five agents for locust control. The R.I.C.P has worked and advised on plant protection and locust activities in Kandahar province and the Helmand Valley Authority and given technical support to US AID agricultural technicians.

The introduction of U.S. manufactured pesticides and control equipment has opened a market for these products in Afghanistan which will expand annually.

With this year's heavy locust season in Kandahar province and the Helmand Valley, US AID furnished one large Air Force C-123 spray aircraft for one week and one Cessna 180 spray aircraft for one month, in the control of late hoppers and fledgling locusts over 15,000 acres of waste and crop lands. This activity was timely in stopping swarms from possibly destroying valuable crops in this area. US AID also purchased an additional 775 gallons of Aldrin insecticide to replace the Ministry stockpile which was depleted by the above activities. The Ministry assumed the freight cost on this insecticide which was airlifted into Afghanistan from India. The RICP Entomologist supervised the above operations with the help of several US AID agricultural technicians and Ministry officials. A special report on this program was prepared and submitted for general distribution.

#### VI. APPRAISAL BY REPORTING TECHNICAL DIVISION

- A. Actual rate of progress is not too far behind that expected under the program. It was recognized at the start of the program that qualified people would be limited and that most of the organization must be trained from the ground up. Thus, a relatively modest but attainable program was set-up and has followed the planned development. Loss of some of the earlier trained Afghans to other positions within the Ministry is not a complete loss since most of these people have gone into more responsible positions and have carried their interest and training with them.
  
- B. The plant protection program is an essential element in the over-all development of Afghan agriculture. The finding that the Ministry of Agriculture is reluctant to move the program into the action phase with farmers due to their believed lack of ability to service the program needs to be overcome. The demand for sulphur for the dusting of grapes is an example where lack of sulphur due to import and foreign currency limitations has caused considerable criticism against the RGA to the point where effort is being made to overcome these problems.

Planned testing and trial work on the control of commercial crop pests such as cutworms in cotton has been developed to the point where relative sound control measures are known and ready for application when expanded production of these crops brings on the inevitable pests.

Lack of foreign exchange and pre-procurement of insecticides by the RGA has and will continue to hamper the program and allow for the build up of crises such as happens with nearly every locust invasion. Findings further point out the necessity of attempting to secure better liaison between arms of the RGA so that programs are handled on a planned and not a crash basis.

- C. The relative success of this program points up the desirability of expanding technical assistance programs only at the rate the Host Country is able to make. It further points out the value to be received from placement of well-qualified technicians adequately back-stopped with commodities and a limited amount of local currency.

VII. MISSIONS DIRECTOR'S COMMENT

I agree with the above appraisal by the Division Chief.

VIII. SOURCE IDENTIFICATION

This case history was submitted in its original form by the USAID under TOAID A-1191 on February 25, 1963; it was revised by NESAW, AID/W on April, 1963.

## BALANCE SHEET

Appendix 1

Components	1952 Status	1962 Status
Department of Ministry	Just Organized	A fully operating department with adequate quarters built with PL480 funds.
Trained Personnel	None	Fourteen (14) trained outside of the country; Four (4) by FAO; Two (2) by USSR; Eight (8) by USAID.
Other Training	None	On-the-job training given to extension workers, local plant protection agents and village leaders.
National Catalogue and Museum	None	Being established with approximately 300 species of economic importance positively identified.
Mobile Units for Emergency Campaigns	None	Two, completely equipped with jeep mounted sprayer-dusters, knapsack sprayer and dusters and wheelbarrow sprayers.
Demonstrations of Modern Pest Control	None	Some demonstrations in nearly every major producing area of the country.
Supplies of Pesticides	None	Enough for educational and emergency programs. Lack of foreign exchange prevents stockpiling for general sale and distribution.

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