

PROJECT APPRAISAL REPORT (PAR)

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 PD-ABC-986-6
 14p

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1. PROJECT NO. 931-11-190-930	2. PAR FOR PERIOD AUG 74 10 DEC 75	3. COUNTRY TAB	4. PAR SERIAL NO. 14p
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5. PROJECT TITLE (73)

Pest Management and Related Environmental Protection

6. PROJECT DURATION: Begs FY 71 Ends FY 77	7. DATE LATEST PROF	8. DATE LATEST PIP	9. DATE PRIOR PAR Mar 74
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10. U.S. FUNDING	a. Cumulative Obligations Through Prior FY: \$ 1127	b. Current FY Estimated Budget: \$ 310	c. Estimated Budget to completion After Current FY: \$
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11. KEY ACTION AGENCIES (Coordinator, Participating Agency or Voluntary Agency)		12. CONTRACT, PASA OR VILL. NO.
Ray F. Smith - Project Director		University of California AID/TA-C-1195

13. RE ACTIONS PROPOSED AND REQUESTED AS A RESULT OF THIS EVALUATION

A. ACTION CATEGORY	B. LIST OF ACTIONS	C. PROPOSED ACTION COMPLETION DATE
AA AID/TA OTHER		
X	1. Provide short term technical assistance in crop protection and environmental monitoring to requesting USAID Missions and LDCs.	Continue to end of project
X	2. Monitor pest/disease control activities in LDCs and strengthen linkages with EPA.	Continue to end of project.
X	3. Prepare project paper outlining goals, purpose, outputs and inputs of project extensions.	FY 1977

29349
 Dr. Risi

REVISION OF FORM	<input checked="" type="checkbox"/> New	<input type="checkbox"/> Add	<input type="checkbox"/> Amend	<input type="checkbox"/> Delete	<input type="checkbox"/> Other	E. DATE OF MISSION REVIEW
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PROJECT MANAGER (Typed Name, Initials and Date)	MISSION DIRECTOR (Typed Name, Signature)
Edward J. Hogg	Leon F. Hesser, Director, TA/ACK

[Handwritten Signature]
 2/27/77

INTRODUCTION.

During prior years of this project (71-74) the contractor organized an on-campus backstopping capability, including project management, programming, analytical competence, and informational services. During this period the contractor also conducted worldwide surveys to identify priority problems and develop a comprehensive strategy for U. S. assistance in research, extension, and training in pest management for the LDCs in selected countries of each major geographical region whose food crops or health were adversely affected by pests. By FY 1975 the project had accomplished these objectives. Today the contractor has the best worldwide capabilities in pest management of any organization.

Starting in 1975 the project was to initiate a series of pest management workshops/seminars designed to upgrade the capacity of LDC personnel in pest management. Previously the contractor had conducted two such seminars in LDCs, one in 1973 and the second in 1974. In 1975 the contractor made energetic efforts to schedule three seminar/workshops at overseas missions. One workshop was delayed until 1976. Four workshops will be held in 1976.

III. Standard Key Questions

A. Project Inputs.

1. Are key inputs being supplied according to plan?

Yes -- most key inputs by the contractor have been supplied according to plan; TA/AGR has provided technical reviews and continuous evaluation of contract operations.

Key inputs by the contractor include:

- a. A seminar/workshop was held in El Salvador to develop interdisciplinary pesticide management teams, utilizing the Agromedical approach, to insure the flow of technical information. The seminar was followed by special intensive training of in-country chemists.
 - b. A seminar/workshop was held in Indonesia with nearly 300 participants from the Departments of Health, Agriculture, and Manpower.
 - c. A pesticide management seminar/workshop was held in the Philippines with over 300 people in attendance from more than 30 agencies.
2. Are assumptions regarding the supply of inputs still valid?

Yes -- requests from developing countries continue to increase. The contractor is enlarging his group of professionals who are available to visit missions or conduct workshops and seminars. TA/AGR continues to provide budget support and project monitoring. Foundations and international centers are stepping up their cooperative efforts.

3. Rate performance of action agency against plan:

Excellent -- the contractor has at his command a large and efficient staff dedicated to providing effective services.

B. Transformation of Inputs into Outputs

1. Will resources applied produce predetermined outputs by target dates?

Yes, in most cases. With additional emphasis on the following, the outputs should be produced: additional training of crop protection and pest management specialists in LDCs, further education efforts at keeping farmers informed about crop protection integrated control methods, more time and effort devoted to establishing the skilled personnel required to establish in-country pesticide management training programs, and greater attention to LDCs establishing and enforcing regulations on application and handling of pesticides.

2. Is original project design and methodology appropriate?

Yes -- contractor and AID believe original project design is still most appropriate. This consists of: assembling highly qualified teams, utilizing this expertise to address LDC problems carrying out adaptive research programs, serving as a center of information, providing training in integrated pest control and pesticide safety, and utilizing the personnel and experience of other U. S. cooperating universities.

C. Project Outputs

1. Output indicators, planned targets, and performance achieved.

a. Was actual performance less than planned target?

No -- outputs have been well ahead of planned targets which were to: prepare reports on selected countries identifying problems and priorities and recommending actions; prepare manuals and publications on pesticide use and procurement policies; provide technical assistance and advice to LDCs on priority local pest problems; establish linkages with LDC institutions and international research centers; establish LDC capacity to analyze and manage many of their pest problems; and train and establish environmental teams in the developing countries. The number of seminar/workshops will be increased to 3 or 4 a year.

b. What changes needed in outputs, indicators, target dates, and assumptions?

No changes required in outputs, indicators, and assumptions. There are some changes required for target dates. Areas in which targets probably will not be met by project termination include:

Crop losses and production costs reduced in a large number of LDCs.

Small farmers will have acquired an improved socioeconomic status.

Institutional capacity will have been established in a large number of LDCs to implement health and crop improvement programs.

A large number of LDCs will enforce regulations on application and handling of pesticides.

- c. Do reports provide adequate data for monitoring and analysis?

Yes -- contractor prepares excellent reports and submits them on schedule. Reports are supplemented by an excellent communication system between TA/AGR and the contractor. This system is composed of on-campus visits by TA/AGR, AID/W visits by contractor, meetings of Ad Hoc advisory committee, conferences, cooperation in conducting workshops and seminars, and trip reports.

D. Project Purpose

1. Statement of purpose as currently conceived.

Purpose of this project is to instill within selected LDCs crop production concepts which are ecologically and economically sound. This will permit the country response to pest problems to have a viable, scientific and economic basis and result in the maximum benefit for the country, with the least adverse environmental impact.

- a. Is it same as in PROP?

Yes.

- b. Same or consistent with contract?

Yes. In addition to above purpose, contract further states: The contractor shall make available the required personnel to provide assistance to developing countries for developing rational response capacity to meet present and future needs in solving crop pest problems.

2. Conditions which will exist when above purpose achieved:

- LDCs will have improved capability to analyze and manage many of their pest problems.
- Environmental monitoring teams trained and functioning.
- LDCs aware of necessity for integrated pest management systems.
- Multidisciplinary teams trained for pesticide management, residue analysis, etc.
- Economic, biological, environmental, and social aspects of LDC crop protection problems determined.
- Adoption of pesticide management practices to insure safe and effective use of pesticides.
- Pest control technology integrated into the total crop production system.
- Local institutions prepared and capable to conduct research and provide needed training.
- LDCs enforcing regulations on handling, application, packaging and storage of pesticides.

3. Are critical assumptions for achieving purpose still valid?

Yes -- the LDCs will provide political and economic support for sound pest management programs, they will promulgate the necessary decrees or regulations to enforce pest management control programs, LDC farmers will accept the governmental regulations on the uses of pesticides, they will maintain adequate records to permit the evaluation of the results of this project and that AID/W and the LDCs will continue to give priority and support to develop effective crop protection programs.

4. Is hypothesis of achievement of project purpose still valid?

Yes -- provided project places greater emphasis on developing integrated systems of control and greater understanding of the magnitude of the problems and responsibilities associated with

expeditious pesticide use, choice and handling of pesticides, and training of in-country specialists to plan, implement and maintain the programs.

E. Program Goal

1. Statement of programming goal.

The general overall requirement is for the University of California to assemble a multitalented team of highly competent experts in the area of crop protection and pesticide management to address relevant environmental problems in the less developed countries. In general, individual team members or the team as a whole will perform services for AID/W, the AID Missions, and/or local countries or institutions as follows:

- (1) To backstop and provide research and technical assistance in the evaluation, procurement, and use of pesticides. The LDCs will be given assistance to develop safeguards and regulatory procedures for the importation, manufacture, formulation, distribution, and use of pesticides. Particular attention will be given to environmental concerns and development of regulatory and pesticide residue monitoring capability.
- (2) To develop country and international based, integrated pest management and environmental protection systems and relate these to an international cooperative research and technical assistance network. Adaptive research activities will be promulgated as country and mission participation develops.
- (3) To train competent LDC personnel to develop necessary scientific skills, and pest management expertise.
- (4) To help AID develop networks on pest management and environmental problems in LDCs.

a. Is it the same as in PROP?

Yes.

2. Does achievement of purpose still have same priority and significance in contributing to programming goal?

Yes -- project purpose remains valid and has same priority in contributing to program goal. Increased food production both in quantity and quality -- remains as one of the key problem areas for global concentration by AID. This project provides technical assistance in the field of pesticide management to maximize food production in the LDCs, consistent with environmental and ecological considerations. Productivity cannot be increased until major pests are recognized, studied, and brought under scientific management

3. Are assumptions for achieving and measuring goal still valid

Yes -- LDCs will possess sufficient foreign exchange to purchase foreign made pesticides and application equipment, LDCs will enforce regulations on application and handling of pesticides, the LDCs will utilize the technical assistance and recommendations provided by the contractor to develop ecologically and economically sound pest and pesticide management systems, there will be increased requests to AID/W and the contractor for technical assistance and training, LDCs will continue to support seminars and workshops, and cultural factors within each country will not preclude the implementation of recommendations.

a. Are needed changes reflected in attached matrix?

Yes.

4. Project interactions

In this document see III, Standard Key Questions, items A.1 through E.3a.

Organized on-campus backstopping capability, including project management, analytical competence, names added to list of available specialists and information services.

Responded to emergency requests for assistance to LDCs involving pesticide management problems.

Intensified agromedical approach to pesticide safety.

IV. Issues narrative

Issues considered have been listed on the face sheet with proposed lists of actions and action completion dates.

Issue 1 -- Contractor will follow through on training this fiscal year by conducting training courses in pest management at three sites. During FY 1975 three courses were conducted in LDCs.

Issue 2 -- Contractor is developing a quality control program to assist LDCs in upgrading pesticide residue monitoring skills in 12 laboratories in 5 countries. The objectives are to a) provide assessment of accuracy and precision of analytical procedures, b) detect specific training needs and train these technicians, c) upgrade performance of laboratories, and d) facilitate exchange of technical information between laboratories and concerned organizations such as the Environmental Protection Agency.

Additional Issues Narrative:

Modern cultural practices contribute substantially to susceptibility to pest attack. These include (1) fertilization which produces larger and more succulent plants that are more conducive to pest build-up. (2) Irrigation and soil manipulations are factors which may encourage infestations as compared to no tillage or limited tillage situations. (3) Double and triple cropping promotes rapid and prolific increases in pest populations.

There is mounting evidence indicating that pest and disease problems in the developing countries are becoming more severe. Indeed in some cases devastating, as modern practices are introduced. Unless bold measures are taken to protect the food crop of developing nations against the ravages of pests and diseases, the production gains realized recently could vanish and hope for the future could be lost. Along with the introduction of new production technology, the introducers and the recipient developing nations must assure the development of an adequate crop protection response capability in order to protect the food production gains. This must involve significant effort in the training and retraining of crop protection and pest management specialists, the organization of new types of programs for research at the adaptive and implementation levels, and the education of the general public and farmers as to significance of crop protection to their welfare.

Concurrent with the use of pesticide chemicals is the hazard to the quality of the environment and danger to the users of pesticides when these materials are improperly used. AID as an exporter of agrochemicals has a responsibility to assist in strengthening and

coordinating internal programs for integrated pest control and the reduction of the harmful effects of pesticides. This requires a broad ecological approach to the problem and therefore the need for collective expertise at a high level to guide AID's policies and programs in the developing countries.

Attachment A - Publications List

Attachment B - Activity List

**PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK**

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

Project Title & Number: Pest Management and Related Environmental Protection

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program or Sector Goal: The broader objective to which this project contributes: To increase the quality and quantity of food for the rural poor in LDCs by reducing the loss caused by disease and insects.</p>	<p>Measures of Goal Achievement: Integrated pest management programs being initiated in LDCs which reduce crop loss.</p>	<p>1. Mission and LDC on-site inspection reports. 2. Contractor's reports.</p>	<p>Assumptions for achieving goal targets: LDCs give priority to food crop production.</p>
<p>Project Purpose: Analyze LDC pest management conditions to determine needs and to assess the feasibility of supplying assistance. Provide limited technical assistance in solving local pest management and environmental safety and monitoring problems. Present workshops and seminars for training in pest and pesticide management.</p>	<p>Conditions that will indicate purpose has been achieved: End of project status. LDCs have capability to analyze and manage many pest problems but still require some technical assistance. Environmental monitoring teams trained and functioning. LDCs aware of necessity for integrated management systems. Multidisciplinary teams trained for pesticide management, residue analysis, etc.</p>	<p>1. Publications and reports by LDCs. 2. International organization reports. 3. Contractor's reports.</p>	<p>Assumptions for achieving purpose: 1. Need for improved pest mgmt. & disease control recognized. 2. Requests for assistance will increase. LDCs will utilize assistance & recommendations provided to fullest extent possible. Progress to date: 1. Panel on pesticide published 2 manuals to guide LDCs in safe use of pesticides. 2. Plans developed for training of personnel in safety matters and for environmental monitoring. 3. Proposed statements for needed research projects.</p>
<p>Outputs: 1. Reports on selected countries identifying problems and priorities, and recommending action for AID, LDCs and other agencies. 2. Manuals on pesticide use and procurement policies. 3. Training seminars and workshops. 4. Technical advice and assistance to LDCs on priority local pest problems. 5. Linkages with LDCs scientists and institutions. 6. Upgrade quality control.</p>	<p>Magnitude of Outputs: 1. Unquantified - depends on mission & LDC request. 2. Same as No. 1. 3. 1 or more workshops/year and 2 training sessions. 4. Same as No. 1. 5. Maintain high level of present linkage. 6. Upgrade 15 or more laboratories/year.</p>	<p>1. Contractor's reports. 2. Contractor's reports. 3. Contractor's reports. 4. Mission and AID/W reports. 5. AID/W records and contacts with international organizations. 6. Contractor's records.</p>	<p>Assumptions for achieving outputs: Problems defined & priority as estimated. 2. AID funding will implement recommendations. 3. Multilateral organizations will maintain effective liaison & support & utilize contract outputs. Progress to date: 1. Reports of teams completed and given wide distribution. 2. Recommendations of Pesticide Panel put to use in procurement procedures. 3. Two pesticide manuals published and distribution to LDCs being made. 4. Multidisciplinary teams trained.</p>
<p>Inputs: 1. AID/W provides budget support & project monitoring including participation in planning, evaluation. 2. Contractor provides qualified staff. 3. USAID Missions provide local support arrangements and technical information and data. 4. LDCs provide data, technical information and assistance. 5. FAO, Ford & Rockefeller Foundations and Int'l research institutes provide cooperation on information and limited technical support.</p>	<p>Implementation on Target (Type and Quantity) 1. AID Funding FY 75 FY 76 FY 77 263 310 310 2. Unquantified - most work performed by consultants.</p>	<p>1. AID/W records. 2. Universities' reports and on-site inspections. 3. Mission reports. 4. Contractor's reports 5. Contractor's reports and on-site inspections.</p>	<p>Assumptions for providing inputs: 1. Approval and availability of funds. 2. Missions make requests for services. 3. LDCs interested in continued program activities.</p>

UC/AID PEST MANAGEMENT
AND
RELATED ENVIRONMENTAL PROTECTION PROJECT PUBLICATIONS

- Anonymous, 1974. Management of Pesticides and Protection of the Environment. A Report on a Seminar held at San Salvador, El Salvador, December 3-7, 1973. Sponsored jointly by US/AID/PM; Ministries of Agriculture and Livestock; Public Health and Social Welfare: USAID Mission; and the Pan American Health Organization.
- Anonymous, 1974. A Report on a Seminar, Workshop and Training in Pesticide Management. Proceedings of these activities held at Jakarta, Indonesia, July 8 - August 3, 1974. Sponsored jointly by US/AID/PM; Departments of Health, Agriculture, and Manpower, Indonesia; FAO; WHO and the local pesticide industry.
- Anonymous, 1975. A Report on Seminar and Workshop in Pesticide Management held in Manila, Philippines, February 10-15, 1975. Sponsored jointly by UC/AID/PM; USAID/Manila; the Bureau of Plant Industry, Philippines; and the local pesticide industry.
- Apple, J. Lawrence and Ray F. Smith, 1972. A Preliminary Study of Crop Protection Problems in Selected Latin American Countries. UC/AID/PM Preliminary Report.
- Barr, Barbara A., Carlton S. Koehler and Ray F. Smith, 1975. Crop Losses - Rice: Field Losses to Insects, Diseases, Weeds, and Other Pests. UC/AID/PM Special Report.
- Calcamone, L. E., et al., 1972. The Crop Protection Situation in Guatemala, Honduras, Nicaragua, Costa Rica, Panama and Guyana. UC/AID/PM Multidisciplinary Study Team Report.
- Cavin, George, E., et al., 1972. Crop Protection in the Mediterranean Basin. UC/AID/PM Multidisciplinary Study Team Report.
- Davies, John et al, 1972. International Survey on Pesticide Use. UC/AID/PM Panel on Pesticides.
- Day, Boysie E., 1974. Pest Management and the Efficient Use and Safe Handling of Pesticides in South Vietnam. UC/AID/PM Special Report.
- Echandi, Eddie et al., 1972. Crop Protection in Brazil, Uruguay, Bolivia, Ecuador, and Dominican Republic. UC/AID/PM Multidisciplinary Study Team Report.
- Glass, Edward H., et al, 1971. Plant Protection Problems in Southeast Asia. UC/AID/PM Multidisciplinary Study Team Report.
- Koehler, C. S., et al, 1972. Plant Protection in Turkey, Iran, Afghanistan and Pakistan. UC/AID/PM Multidisciplinary Study Team Report.
- Sasser, J. N., et al, 1972. Crop Protection in Senegal, Niger, Mali, Ghana, Nigeria, Kenya, Tanzania and Ethiopia. UC/AID/PM Multidisciplinary Study Team Report.

- Smith, Ray F. ed., 1974. Report of the Sahel Crop Pest Management Conference. Proceedings of an AID-sponsored conference held in Washington, D. C. Dec 11-12, 1974.
- Yates, W. E., et al., 1974. Analysis of Pesticide Use in Pakistan. UC/AID/PM Multi-disciplinary Study Team Report.
- Zimdahl, R. L., ed., 1973. Weed Science in the Developing Countries of the World. UC/AID/PM Summary Report.

University of California/AID Pest Management and Related Environmental
Protection Activities - August 1974 to December 1975

August, 1974	Seven-man team conducted pest management workshop in Indonesia.
August, 1974	One-man team to Bahama Livestock Project to appraise insect problems of forages.
August, 1974	One-man team to attend meetings with CIMMYT in Mexico.
October, 1974	One-man to El Salvador for followup of pest management workshop and set up quality control pesticide residue laboratory.
October, 1974	One-man to CENTO Seminar in Iran to present paper on integrated pest control.
November, 1974	One-man to Kenya for Seminar on Safe and Effective Use of Pesticides in Africa.
December, 1974	One-man to El Salvador for followup to pest management workshop.
January, 1975	Two-man team to Kenya to participate in ICIPE workshop on <u>Spodoptera</u> .
February, 1975	Four-man team to Indonesia as followup to pest management workshop and then to Philippines to conduct seminar/workshop on pest management and one-man to Rome for consultation with FAO on crop protection.
March, 1975	One-man to Australia and Pacific region to participate in Australian applied entomological research conference.
April, 1975	Two-man team to Rome to attend FAO Ad Hoc Consultation on Pesticides in Agriculture and Public Health.
May, 1975	One-man to Beltsville for seminar of the Federal Working Group on Pest Management.
September, 1975	One-man to attend FAO Technical Consultation on Impact Monitoring of Residues due to Agricultural Pesticides in LDCs, in Rome. A paper was requested summarizing USAID's activities in the field of pesticide monitoring. FAO used the UC/AID Manila pest management workshop as a model approach to the problem.

October, 1975

Six-man team to participate in a mission/host country request to conduct a Pest Management Colloquium in Egypt, concluding in a system's approach taken by the GOUAR for their cotton pest problems.

October, 1975

Three-man team to Karachi to serve as U. S. delegation to the FAO/UNEP Consultation on Pest Management Systems for the control of cotton pests.

The meeting was intended to propose and examine co-operative programs in the development of integrated pest control and to single out specific projects in this area. The objectives of the meeting were to design multinational programs on environmentally sound pest management systems, to disseminate existing knowledge concerning ecologically-oriented pest control, to propose multinational programs and make arrangements for the coordination implementation and to identify pilot projects in new pest management systems. There will be translation for English, Spanish, and French.

The UC/AID project has been very influential in the development of this program and should continue to be involved.

October, 1975

Four-man team to Bangladesh to conduct a plant protection study at the request and funding of USAID/Dacca and the GOB.

The overall objective of this special mission was the evaluation of the total plant protection situation in Bangladesh including an assessment of in-country plant protection capabilities. On the basis of this evaluation, the mission will make recommendations as to ways that plant protection can be improved. The mission should consider both internal distribution of resources and new potential inputs from external sources. Although pesticides are only one tactic in plant protection, they have become almost the only one in Bangladesh. Hence the mission must devote a major effort to the many complicated facets of pesticide use.