PD-ABA-182

AGENCY FOR INTERNATIONAL DEVELOPMENT
ROCAP

ROCAP/GUATEMALA CITY or APO MIAMI 34024
c/o American Embassy Guatemala City, Guatemala C.A.

Telephones: 321739
66352 / 53
66373 - 66309
Cable: ROCAP/Guatemala

September 30, 1989

Panamerican Agricultural School
(EAP -ZAMORANO)
P.O. Box 93
Tegucigalpa, Honduras

SUBJECT: Cooperative Agreement 596-0150-A-00-9781-00

Gentlemen,

Pursuant to the authority contained in the Foreign Assistance Act of 1961, as amended, the Agency for International Development (hereinafter known as AID or ROCAP) hereby grants to the Panamerican Agricultural School (hereinafter known as Recipient or EAP) the sum of four million US dollars ($4,000,000) to provide support over the life of the Agreement for the development and dissemination of sustainable, integrated pest management technologies and the attainment of the regional plant protection objectives of RENARM, as more fully described in Attachment No. 1 entitled Schedule and Attachment No. 2 entitled Program Description. Notwithstanding the amount indicated above, the Recipient acknowledges that the U.S. dollar amount that is presently obligated for this Cooperative Agreement is shown in Paragraph C.2 of Attachment No. 1 hereof. Until such time as the obligation is increased by amendment to this Agreemente or by US-AID Mission buy-ins as described in Paragraph C.3 of the Schedule, the AID obligation is limited to the amount provided for in the Attachment No. 1 paragraph cited above.

This Agreement is effective and obligation is made as of the date of this letter and shall apply to commitments made by the Recipient in furtherance of program objectives during the period beginning with the effective date and ending September 30, 1995. Notwithstanding the foregoing, it is agreed that the funds obligated by this Agreement are anticipated to be sufficient for program activities through the period indicated in Paragraph C.2 of Attachment No. 1. This Agreement is made to EAP on the condition that the funds will be administered in accordance with the terms and conditions set forth in Attachment No. 1 entitled the Schedule, Attachment No. 2 entitled Program Description and Attachment No. 3 entitled Standard Provisions for Non US Nongovernmental Grantees which have been agreed to by your organization.

Please sign the original and five (5) copies of the letter to acknowledge your receipt of this Grant and return the original and four (4) copies to the USAID/Guatemala, Attention Regional Contracts Office.

Sincerely,

John P. McAvoy
Regional Agreement Officer

ACKNOWLEDGED:

By: _____

Title: Director, EAP

Date: Sept. 25, 1989

ATTACHMENTS:

1. Schedule
2. Program Description
3. Standard Provisions, Non US, Nongovernmental Grantees

FISCAL DATA

Appropriation No.:	72-1191021
Budget Plan Code:	LDSA-89-25596-KG13
PIO/T No.:	596-0150-3-90088
Total Estimated ROCAP Amount:	$2,943,000
Allowance for USAID Buy-Ins:	$1,057,000
Total Agreement Amount:	$4,000,000
Total Obligated Amount:	$2,877,000

EAP COOPERATIVE AGREEMENT SCHEDULE

A. Purpose of Agreement

The purpose of this Cooperative Agreement with the Panamerican Agricultural School (Escuela Agricola Panamerican) or "EAP" at Zamorano, Honduras is for EAP to implement a portion of the Regional Plant Protection (RPP) activity of the Regional Environmental and Natural Resources Management Project (RENARM) as described in Attachment No. 2 entitled Program Description.

B. Period of Agreement

The effective date of this Agreement is October 1, 1989. The expiration date is September 30, 1995.

C. Amount of Agreement and Payment

1. The total estimated amount of this Agreement for the period shown in B above is US$4,000,000, ($2,943,000 from ROCAP and up to $1,057,000 from USAID Mission buy-ins), subject to the availability of funds and the mutual agreement of the parties at the time to proceed.

2. AID hereby obligates the amount of $2,877,000 and it is anticipated that such amount will be sufficient for program expenditures through December 31, 1994.

3. ROCAP anticipates adding additional funds to this Agreement in amounts not to exceed $66,000 for a total ROCAP contribution of $2,943,000. Other USAID Missions may add to the obligated amount in increments which may total up to $1,057,000, for a total maximum agreement amount of $4,000,000. In both cases, any increment is subject to the availability of funds and mutual agreement of the parties at the time to proceed. Until such time as the obligation is increased by amendment to this Agreement, AID's total obligation is limited to the amount shown in the previous paragraph (No. 2).

4. Payment shall be made to the Recipient in accordance with procedures set forth in Attachment 3 Optional Standard Provision No. 1 entitled "Payment - Periodic Advance."

D. Financial Plan

1. The ROCAP Budget and EAP Counterpart inputs are presented in Exhibits A and B respectively. The budget for the present obligation is presented in Exhibit C. Revisions shall be made in accordance with the Standard Provisions.

2. The Budget presented is illustrative in nature. More detailed budgets will be defined and approved in the bi-annual work plans.

E. Special Provisions

1. EAP agrees that A.I.D. funds provided pursuant to this agreement shall not be committed, disbursed or otherwise utilized in areas where the provision of such funds would contravene any provision of the Foreign Assistance Act of 1961, as amended. ROCAP shall advise EAP in writing from time to time of such areas.

2. EAP agrees to sign a Memorandum of Understanding (MOU) with CATIE, describing the arrangements which the two institutions will employ to assure proper coordination of regional plant protection activities and mutual participation in work plan reviews. The MOU should specify the relationship between the EAP team leader and the CATIE Plant Protection Coordinator.

3. Within 60 days after the signing of this Agreement, EAP will submit to ROCAP a Work Plan and Budget for the activities to be carried out the first two years of the Agreement. Once this plan has been approved by ROCAP, EAP may request an advance of funds not to exceed three months of projected expenditures.

4. EAP will implement and monitor the performance under this Agreement to ensure that the work is progressing as planned and the targets are being met.

F. Authorized Geographic Code

The Authorized Geographic Code for procurement of goods and services shall be in accordance with Optional Standard Provision No. 5.

G. Agreement Officer's Technical Representative (AOTR)

1. The Agreement Officer's Technical Representative (AOTR) for the performance of this Cooperative Agreement is the ROCAP Director, or his/her designee. The AOTR shall be named in writing and the Recipient will be notified in writing should the AOTR change. This individual shall have the following authority:

a) Certification of work performed on all vouchers submitted.

b) Necessary clarifications of, or minor, non-cost related adjustments to, the program description in Attachment II.

c) Approval of all reports, plans, timetables or other such technical submissions required under the Project Description.

H. Establishment of Overhead Rate

1.Pursuant to the General Provision of this contract entitled "Negotiated Indirect Cost Rates - Provisional" a rate or rates shall be established for each of the Recipient's accounting periods during the term of this Agreement. Pending establishment of final overhead rates for the initial period, provisional payments on account of allowable indirect costs shall be made on the basis of the following provisional rate applied to the base which is set forth below.

Type of Rate	RATE(s)	Base	Period
Overhead:	13.5%	Total Direct Cost	Effective date of Agreement until amended

I. Reporting and Evaluation

Reporting and evaluation requirements are specified in Section VII.D of Attachment No. 2 of this Agreement. All reports shall be delivered in three (3) copies, in either English or Spanish, to the Agreement Officer's Technical Representative (AOTR).

J. Exhibits A, B and C with financial tables are attached.

End of Schedule

(3780a:KK:lg:)

ATTACHMENT I

EXHIBIT A
ESTIMATED LOP BUDGET

ROCAP INPUTS TO EAP-ZAMORANO
PLANT PROTECTION ACTIVITIES

Line Item	
Personnel	1,330,460
Training/Research Grants	343,200
Travel/Per diem	70,800
Equipment	110,150
Materials and Supplies	509,790
Overhead	317,138
Evaluations	18,512
SUB-TOTAL	$2,700,000
Contingency	243,000
ROCAP TOTAL	$2,943,000
ALLOWANCE FOR USAID BUY-INS	$1,057,000
TOTAL	$4,000,000

The Budget presented is illustrative in nature. More detailed budgets will be defined in the bi-annual work plans.

Note: It is also anticipated that USAID Missions in the Region will participate in the Project through buy-in mechanisms and make substantial financial contributions.

EXHIBIT B
ESTIMATED LOP COUNTERPART

FOR ROCAP - ZAMORANO
PLANT PROTECTION ACTIVITIES

Line Item	EAP
Personnel	1,000,000
Training	0
Travel/Per Diem	20,000
Research	0
Infraestructure and Equipment	50,000
Materials and Supplies	20,000
Other (room, board, staff support)	130,000
TOTAL	$1,220,000

3773a

ATTACHMENT I

EXHIBIT C

BUDGET FOR PRESENT (FY 89) OBLIGATION
ROCAP INPUTS TO EAP-ZAMORANO
PLANT PROTECTION ACTIVITIES

Line Item	
Personnel	1,330,460
Training	343,200
Travel/Per diem	70,800
Equipment	110,100
Materials and Supplies	509,790
Overhead	317,138
Evaluations	18,512
SUB-TOTAL	$2,700,000
Contingencies	177,000
TOTAL	$2,877,000

The Budget presented is illustrative in nature. More detailed budgets will be defined in the bi-annual work plans.

Note: It is also anticipated that USAID Missions in the Region will participate in the Project through buy-in mechanisms and make substantial financial contributions.

3773a/kk

ATTACHMENT NO. 2
PROGRAM DESCRIPTION

Panamerican Agricultural School (EAP) ZAMORANO Participation in the ROCAP Regional Environmental and Natural Resources Management Project RENARM

Component 3: Sustainable Agriculture and Forestry
Activity: Regional Plant Protection (RPP)

I. Introduction

The LAC Environmental and Natural Resource Management Strategy for Assistance in Central America synthesizes several years of analysis and field experiences at both regional and national levels. ROCAP's primary responsibility under the strategy is to support bilateral programs with a combination of regional initiatives and expert advisory support. ROCAP's interventions are organized under the Regional Environmental and Natural Resources Management Project (RENARM). The Project intends to work in close collaboration with the bilateral USAIDs to open the way for new kinds of action, rechannelled investments, and reversal and arrest of environmental destruction.

The RENARM Project has four principal components: 1) Natural Resource Policy Initiatives and Technical Support; 2) Environmental Education and Biodiversity Conservation; 3) Sustainable Agriculture and Forestry; and 4) Institutional Development. A principal activity under the Sustainable Agriculture and Forestry Component is Regional Plant Protection (RPP).

Agricultural pests continue to inflict heavy damages to Central American crops. Losses often exceed 25% of the potential production. On the other hand, the expanding

population demands increasingly more from the agricultural sector. With little opportunity to increase production through expanded acreage without further damaging the environment, there must be a significant increase in productivity to meet the increasing demands.

Low productivity caused by pest problems, added to the social and economic costs associated with increasing dependence on pesticides, contributes to the unsustainability of agriculture and hinders economic development within the Central American region.

Solutions to these problems must be based on environmentally and economically sound practices, which maintain or increase pest control efficacy, reduce pesticide dependence and health/environmental impacts, and increases economic returns to crop production. This requires the use of multiple tactics which can be integrated into planned, pest management programs. Many of these tactics are available for some crops and currently used by farmers, while many others have not been explored or developed for the economically important crops of the region.

The Regional Plant Protection (RPP) activity of the RENARM Project will address these problems by implementing a three pronged approach of formal degree training, pest management research, and outreach. This approach depends on a holistic synergism between these three interventions and between the two implementing institutions, CATIE and EAP. It emphasizes the medium to long term objective of strengthening the region's existing institutional and human capacity in plant protection, which in turn will help achieve agricultural sustainability. At the same time, this activity will have the capacity to respond to the more immediate and pressing pest and pesticide management problems in the region.

The following Program description is not to be construed as a rigid blueprint for implementation. To the contrary, its success will depend upon the ability of EAP and ROCAP to collaborate with others in order to constantly monitor and evaluate progress towards the final impacts desired and to take corrective actions in a timely manner. While the present description is based upon past experience and evaluations, the parties must remain flexible and responsive in order to assure that the resources provided are consistently channelled towards the most fruitful alternatives for action.

Rather than focussing on easily attainable numeric outputs (such as numbers of studies or persons trained), the parties will concentrate on the impacts of these activities and guide implementation to get the maximum benefit in terms of the Project's Goal, Purpose and the long-term objectives of the Central American Environmental and Natural Resource Strategy (See the "End of Project Status" in Section IV). Indeed, the parties will be held accountable in this regard and must participate fully in the monitoring and evaluation process described in Section VII of this Attachment.

II. Summary

The overall goal of the EAP program to be supported by ROCAP is the adoption of sound plant protection and pesticide management policies and techniques by farmers, extensionists, private sector entities and governments in Central America.

The RENARM Regional Plant Protection (RPP) activity is divided into two parts for the purposes of implementation. One part will be executed under a separate project agreement with CATIE. Under the CATIE portion ROCAP will support M.S. degree training, information center services, data base development and regional outreach activities such as diagnostic services, responsive research and technical assistance.

This Cooperative Agreement with EAP focuses on the portions of the RPP Activity for which EAP has predominant capability, facilities and expertise (hereinafter known as the EAP Program or simply the program).

The EAP program includes B.S. degree training, development of teaching materials, manipulation of indigenous natural pest enemies, introduction of exotic natural enemies, mass-rearing of natural enemies and a series of research, diagnostic and outreach actions associated with these areas of technical specialization.

CATIE and EAP will maintain constant communication to assure proper coordination of RPP activities. Each institution will be represented in working sessions when the other entity's RPP work plans are prepared. Activities will also be differentiated by areas of specialization. Throughout the duration of the program, EAP and CATIE must make a concerted effort to work in a well-coordinated, complementary manner.

ROCAP will support activities to validate improved plant protection practices and extension activities to redress short-term problems such as reducing the negative environmental and health impacts related with pesticide misuse and dependency, as well as developing longer term strategies directed at managing resistance and evaluating the potential for sustainable organic (non-chemical) production. EAP's role in the RPP activity is described in detail in the following sections.

III. Goal and Purpose

The goal of the Regional Environmental and Natural Resources Management Project is, **to produce, with the citizens of Central American countries, the conditions for sustained exploitation of natural resources in a manner that minimizes damage to the environment, protects bio-diversity, and provides the means for equitable and sustainable economic growth.**

The purpose of the RENARM Project is to **create the conditions for public and private institutions to generate, transfer, and apply the information and technology essential for the sustained use of natural resources.**

The specific objective of the EAP program is to improve the economic well-being and health of the men, women and children living in the Central American region by: helping reduce human exposure to the harmful effects of pesticides; reducing pesticide load in selected Central American environments; helping farmers increase crop productivity and economic returns; and contributing to the production of cheaper, pesticide residue-free produce to national consumers and for export. The EAP program goals include the following:

- Improving human resource capabilities to manage pests and pesticides in an economical, environmentally sound and sustainable way.
- Improving institutional problem solving capabilities in pest and pesticide management.
- Improving the economic well-being of the region's small and medium sized farmers.
- Decreasing environmental contamination from pesticides.
- Decreasing human exposure to toxic chemicals.
- Decreasing toxic residues on domestic and export crops.
- Providing long-term, environmentally sound and sustainable solutions to pest problems.

IV End of Project Status

The EAP program will develop and disseminate sustainable production technologies for plant protection that are appropriate to different classes of producers and will strengthen national and regional institutions for professional training and extension in related fields.

The Program with EAP should contribute in a direct manner toward the attainment of the long-term RPP goals whereby pesticides will be selected and used by producers at environmentally sound and economic levels, resulting in reductions in pesticide residue levels in produce and in human intoxication from pesticide misuse. Likewise, systems should exist to allow improved plant protection technologies to continue to be disseminated by participating regional institutions and local NGOs using non-ROCAP sources of support.

After the six year project period, the following products and impacts are expected to be produced as a direct result of the EAP program:

-At least 50 students, about 40 of whom are from the ROCAP region, obtain B.S. degrees in IPM at EAP and a majority of them either work in IPM or continue advanced studies in plant protection.

-Through collaborative arrangements with other donors and US Universities, approximately 10 students from the ROCAP region receive post-graduate degrees in plant protection.

-Sustainable, multi-discipline and multi-pest plant protection programs for 4 crops are developed and validated and included in national IPM programs.

-Exotic natural enemies are imported and released for control of at least 6 agricultural pests resulting in at least 2 successes (i.e. they provide economic benefits to farmers and/or reduce pesticide use).

-Manipulation of indigenous natural enemies is shown to be a cost-effective and feasible procedure in at least two crops. At least 10% of farmers in work areas adopt at least one technique for manipulation.

-On the job training provided to over 20 plant protection workers to increase skills in specific topics (e.g. biological controls, university teaching, pesticide management, etc.)

-Twenty workshops presented for approximately 200 participants. Workshops will emphasize development of self-sustaining networks of serious professionals on priority IPM issues.

-At least 30 teaching modules produced with a majority of the materials being used in over 10 agricultural schools and universities in the ROCAP region. Teachers trained in proper use and application of modules.

-Computerized pest inventory data base is established at EAP with a complementary reference collection. Inventories completed for at least 5 key crops.

-A computerized natural enemy inventory and reference collection is established at EAP; surveys and quantification of natural enemy impacts available for at least 8 key pests.

-Mass reared natural enemies are shown to be cost effective alternatives for control of at least 2 major pests and at least one country uses mass reared natural enemies.

V. Program Description - EAP

The Program with EAP involves three principal interventions: 1) B.S. degree training, 2) research and 3) outreach activities. Each is described in detail below.

1. Degree Training

The EAP IPM teaching program will continue to produce technically competent male and female graduates to fill NGO and public sector positions. The program will produce graduates who can work as independent pest management consultants, pest management specialists employed by public sector and growers' organizations, extensionists, and research assistants.

The B.S. (Ing. Agronomo) program in integrated pest management at the EAP will be supported through work-study scholarships granted to qualified graduates of the three year program.

Undergraduate training at EAP will continue to emphasize its basic five courses plus advanced plant protection, crop pest management, biological control, pesticide management, insect identification, diagnostics, social sciences, production courses, research techniques, and computer skills. Specialists will be invited to assist in improving selected courses. In the future the curriculum will consider gender issues in agriculture.

Each student will conduct thesis research as part of an interdisciplinary IPM research team focussing on one crop. Over half the students will conduct research in an on-farm setting. A non-research option involving a supervised, fully documented IPM internship will be offered to selected male and female students, especially those who will return to production or teaching positions.

During the life of the RENARM supported program, approximately 60 students will graduate from the B.S. Program in IPM at EAP, about 24 of whom will be financed directly by ROCAP. It is anticipated that many of the best qualified Central American students will be channeled after graduation into CATIE's M.S. program in plant protection.

Students moving from EAP to CATIE will be encouraged to conduct consecutive theses on the same or similar subject; this will contribute to the continuity of regional research activities and to the increased productivity of the CATIE team.

The effectiveness of the teaching program will be evaluated periodically by recognized international experts in IPM training and through student-faculty retreats. Appropriate adjustments in curriculum and methods will be made in response to these assessments.

This part of the program is directly related to the development of teaching materials and modules which is described in more detail in section 3(c) below.

2. RESEARCH

Under this component of the EAP program the following three research activities will be undertaken: a) Sustainable Pest Management, b) Indigenous Natural Enemies and c) Introduction of Exotic Natural Enemies.

2(a) Sustainable Pest Management Research

Sustainable pest management research activities will develop economically and environmentally appropriate pest management tactics, which emphasize nonchemical pest control alternatives. The entire EAP technical staff and most B.S. students will become involved, to some degree, in crop-specific IPM research activities. Research objectives are outlined below:

- Diagnostics, bioecology and multi-tactic management of pests of selected commodities;
- No chemical alternatives to manage selected pests;
- Development of decision tools to rationalize pesticide use and optimize production;
- Validation of participative research methodologies which are designed to facilitate the generation of workable IPM programs; and
- Studies of effects of soil conservation and tillage programs on pests and natural enemy abundance and damage.

Another research objective will stress the development of pest control decision-making criteria or action thresholds. Such pest-specific action thresholds will be designed to help farmers confronted with a pest problem decide whether or not to apply control measures, usually pesticides.

In addition, the effectiveness of other nonchemical, cultural practices in reducing pest damage will be investigated. These includes resistant plant varieties, row spacing, intercropping, planting dates, crop rotation, crop-free periods, cropping systems, and the effects of combined practices.

2(b) Indigenous Natural enemies

The effects of cover crops, tillage systems, conservation tillage, live fence rows, and other cultural practices on natural enemy abundance and effectiveness will be investigated. Such studies are especially relevant to the development of agricultural sustainability and will be given high priority in: (a) crops grown by resource scarce, small scale producers, which include the highest percentage of Central American women and indigenous groups involved in agriculture and (b) nontraditional export crops with chronic pest problems caused by ecological inbalance. Special emphasis will be placed on natural enemy conservation through sound pesticide management.

2(c) Introduction of Exotic Pest Enemies

Quarantine facilities at EAP will permit biological control specialists to import foreign natural enemies into the Central American region, rear them over several generations to guarantee that no contaminants are inadvertently introduced, and test their host specificity. Targets include major pests of basic grains, vegetables, and fruits, as well as widespread terrestrial and aquatic weeds. Appropriate releases involving national collaborators will help extend economic benefits rapidly throughout the region.

2(d) Responsive Research

This intervention will support research activities responding to specific requests from within the region. It does not include traditional experimental research, but rather supports short-term, demand driven, research and technology transfer. It will include the following efforts:

-diagnosis of pest and pesticide management problems;
-development and implementation of rapid, stopgap solutions for specific plant protection problems;
-development of pest/pesticide management recommendations for selected crops; and
-development of research programs for other institutions (public and private).

It is expected that the CATIE outreach coordinator will support this service by making referrals to EAP specialists whenever appropriate.

3. Outreach

The EAP outreach activities will facilitate interactions among collaborating entities and respond selectively to regional needs in its areas of expertise. The outreach activities are as follows: (a) in-service training; (b) workshops; (c) training materials development; (d) diagnostics services and networking; (e) technical assistance and (f) mass rearing of beneficial insects.

3(a) In-Service Training

Male and female technicians will receive 1 - 6 month long specialized in-service training in plant protection areas in which EAP specializes. This program is designed to provide trainees with special skills which will enable them to become better crop protectionists. Training will include the following topics: (a) pesticide management; (b) IPM for university instructors; (c) socioeconomic aspects of IPM; (d) diagnosis of pest problems; (e) plant protection disciplines (e.g. entomology, weed science); (f) IPM tactics and techniques (e.g. biological control, cultural control, action thresholds); (g) IPM research skills. In most cases, sponsoring institutions and projects will cover salary of in-service trainees.

3 (b) Workshops

Virtually all EAP activities will involve periodic workshops and seminars to share and discuss results with other technicians in the field and to facilitate coordination and complementation of activities. Support will also be provided for those workshops needed to: (a) provide specialized training in plant protection to key policy makers and technical personnel in MAGs, NGOs, and PVOs and (b) obtain essential feedback from collaborators, necessary to enhance plant protection productivity. EAP staff will be the primary organizers and trainers. When necessary, other specialists will be contracted, preferably from within the region. Workshops will be held at EAP and in collaborating countries.

3 (c) Training Materials Development

Central American plant protection instructors do not have access to comprehensive, up-to-date, regionally relevant teaching materials and information. EAP will

assist agricultural training institutions upgrade their plant protection curricula by providing them with applied ecology and IPM teaching materials, including textbooks, laboratory guides, audiovisuals, and computer aided instructional programs. The IPM undergraduate curriculum at EAP will continue to be used as an experimental setting in which training materials and techniques - both for classroom and in-field teaching - are developed and validated on a continuing basis.

This activity will also generate training programs designed to address the serious pesticide misuse problems existing in the region. Building on basic teaching materials already available or in development, EAP's technical and communications staff, in cooperation with CATIE's pesticide specialist, will develop advanced modularized, multimedia pesticide user safety programs. The pesticide management activity will also produce a comprehensive guidebook for safe and efficacious handling of pesticides. Target audiences will include policy makers, technicians, capital-intensive producers, and resource scarce producers. The programs will include audiovisuals, students' study guides, instructors' guides, guides for in-field exercises and test questions.

Existing linkages with the University of Florida and other teaching, research and extension centers will be maintained. A small sub-contract with the University of Florida is expected to be used to assist in the preparation of some of the teaching materials.

Throughout the life of RENARM, validated materials and teaching techniques will be made available to a network of representative agricultural schools, universities, and other relevant training agencies throughout the region. Network collaborators will assist EAP and UFLA evaluate such teaching materials and methods. The network will help assure that materials produced are widely utilized and that collaborating instructors actively participate in the development of new materials. Due to their widespread utilization it is expected that each year hundreds of new graduates will be benefited by the teaching materials and enter the job market with the conceptual base and technological capacity to manage pests rationally.

3(d) Diagnostic Services

EAP will help strengthen regional and national capabilities in pest identification and diagnostics. In this part of the program, EAP will coordinate closely with CATIE to help execute the following activities: (a) identification, improvement, and standardization of diagnostic procedures and techniques; (b) rapid diagnostic services; (c) agroecological inventories; (d) live and museum, collections of pests and beneficial organisms; (e) development of field and laboratory keys, fact sheets, guidebooks and other diagnostic tools; (f) short courses and in-service training and (g) efforts to obtain additional financing to support network activities.

At EAP, special emphasis will be given to the inventory of indigenous natural enemies (predators, parasites, and pathogenic organisms) in crops of particular importance to the region. Host associations, seasonality, and geographical distributions will be investigated. EAP personnel will identify the major natural enemies of 20 key pests of priority crops. Natural enemy effectiveness will be studied to provide information vital to the implementation of IPM and biological control programs.

The outputs of this part of the program include the development of complete pest inventories for approximately 6 priority crops, and the complementary inventory of natural enemies and their impacts on about 10 key pests. All these data will be organized in computerized data banks.

Extra-regional institutions, especially the United States National Museum, USDA, and the British Museum will be encouraged to support agroecological inventory efforts. Graduate students, foreign specialists on sabbaticals and short term consultants will help build the reference collections.

3(e) Technical Assistance

EAP will respond to requests for specialized plant protection technical assistance from counterpart institutions and practitioners throughout the region. EAP will provide these services selectively (as determined by the location and type of problem, availability of expertise, and time considerations) and in close coordination with

CATIE, to help solve problems of an immediate nature. Whenever the required expertise is not found among EAP staff, EAP and/or CATIE will assist in identifying suitable candidates.

Examples of EAP technical assistance missions include: diagnosis of pest problems and pest/pesticide management recommendations; development of IPM technology generation and/or transfer programs; development and implementation of biological control programs, including manipulation of natural enemies, techniques for mass rearing and release of natural enemies, and support to the development of insectaries.

EAP will make efforts to identify other sources of funding to supplement the TA services. The CATIE RPP outreach coordinator is expected to support EAP's efforts in this undertaking.

3(f) Mass Rearing of Natural Enemies

Mass rearing of selected natural enemies for inoculative releases in support of biological control programs will be undertaken at EAP. These beneficial insects will be distributed rapidly throughout the region via airline services. Their introduction into collaborating countries will be facilitated through the Regional Diagnostic Network and the national agencies responsible for quarantine and biological control activities. Efforts will also be made to stimulate the development of both public and private sector insectaries.

4. Target Crops

The RPP/RENARM activity will limit its activities to crops grown by small farmers selected on the basis of criteria of economic importance to the region, present or anticipated pesticide problems, national programs' needs, institutional mandates, and value in degree training programs. Crop priorities will be evaluated throughout the life of the project and modified as deemed necessary.

VI. Project Inputs

A. ROCAP

ROCAP inputs to the program are estimated in Exhibit A Summary Budget for the life of the Program. Exhibit B presents EAP's estimated counterpart contributions. Exhibit C presents the budget for the initial obligation of funds.

1. Personnel

The Project will partially finance the following Technical Personnel (estimated effort of approximately 360 person months): an Anthropologist, an Entomologist/Bio-control Specialist, a Plant Pathologist/Training Coordinator, a Weed Scientist, a Diagnostics Specialist, a Communications Specialist, three junior personnel, and other specialists which may become necessary during Program execution. In addition, the project will help finance approximately 610 person months of Support Personnel: two secretaries, a laborer and field assistant, a field worker, three laborers, two illustrators and a laboratory technician.

Short-term technical assistance will be contracted using ROCAP funds to assist in the areas of bio-control, short courses and teaching materials development.

2. Training

Funding will be provided for approximately 24 B.S. Scholarships as well as outreach activities which will include in-service training, workshops and seminars.

3. Travel and Per Diem

The project will finance the travel and per diem costs of all personnel whenever they are involved in carrying out Project activities.

4. Equipment

Funds will be provided for the purchase of special equipment (such as laboratory equipment); necessary vehicles; microcomputers; and office equipment.

5. Materials and Supplies

The project will finance maintenance of equipment; vehicles operation; office supplies; communications; and other authorized expenses such as publications, construction of a multi-use plant protection building, field supplies and laboratory supplies and operations.

6. Evaluations and Audits

Funds are budgeted for on-going assessments and project audits during the life of the project. The ROCAP Mission Controller's Office will conduct annual financial reviews either under an IQC mechanism or utilizing Controller's in-house financial analyst personnel.

A major program evaluation will be conducted in year five using separate, ROCAP funds to determine alternatives for future funding beyond current life of project.

Monitoring and Evaluation responsibilities are detailed in Section VII.D of this Attachment.

7. Administrative Support (Overhead)

A provisional overhead rate of approximately 13% was used for budget purposes. This rate will be audited to assure that ROCAP and other donors share a reasonable portion of the indirect cost pool.

The provisional overhead rate was computed using the Project Direct Cost Base without considering capital costs such as special equipment, vehicles, computers, office equipment; and scholarships.

B. EAP Counterpart

Counterpart support to the Plant Protection Project is estimated in Exhibit B.

Salaries and benefits. The full salary and all benefits of the Project Coordinator will be provided by the EAP. A smaller proportion of the salaries of other senior staff members will also be paid by the school

Counterpart staff. A PhD entomologist, an M.S. level entomologist, an M.S. level pesticide specialist and several other staff positions which directly complement this project and RENARM RPP objectives will be paid entirely by the EAP.

Facilities. Use of guest accommodations, library, herbarium, class rooms, field plots, laboratories, offices, vehicles and other existing facilities are provided by EAP.

Administrative, design and logistical support. EAP will provide general administrative support through its existing central administration, accounting, personnel, purchasing, materials/supplies and legal departments. ROCAP will only pay the reasonable share of overhead expenses which are directly related to its project inputs. Design expenses for the new office/laboratory/short course center will be underwritten by the EAP.

C. Other Donors

In addition, it is expected that other donors will contribute considerable complementary financing towards the activities programmed as shown in Exhibit D, counterpart and other donor financing. This complementary support is expected to be provided through existing and anticipated projects with GTZ, EEC, INTSORMIL, LUPE and US-AID's.

VII. Program Administration

To facilitate program implementation, the following steps will be taken by each institution.

A. ROCAP

The ROCAP Regional Agricultural Development Officer (RADO) will be charged with overall oversight and guidance of the RENARM Project. He will be assisted by a Natural Resources Officer and a project coordinator. This unit will be responsible for the daily implementation of RENARM. Additionally, the plant protection activities under this agreement will receive technical and substantive guidance from the ROCAP Agricultural Officer resident in CATIE and the contracted plant protection technical advisor also based in Costa Rica. Assistance from other AID and ROCAP technical, contracting and financial staff as may be appropriate will be available to assist EAP with the implementation of the program.

B. EAP

The program will be administered by EAP. EAP will assign a qualified project leader who will be supported by a team of technicians. The team leader will be responsible for day to day project management, monitoring, routine reporting, and coordination. A preliminary time-phased implementation plan is presented in Exhibit D.

EAP will assume full responsibility for coordinating the B.S. degree training in plant protection; preparation of teaching materials for degree training; production of exotic natural enemies; in-house diagnostic and inventory activities and beneficial insect rearing.

EAP will play a key collaborative and complementary role to CATIE in the overall RENARM Plant Protection (RPP) effort. EAP and CATIE will closely coordinate all outreach and training activities to assure that they are complementary. A technical advisory council, consisting of internationally recognized IPM specialists, with experience in tropical America, will assist EAP personnel with development of yearly work plans and in-house assessment of overall EAP/RPP progress and direction. CATIE will also participate, as described below.

C. CATIE

While CATIE has a primary role in plant protection throughout the region, EAP and CATIE have distinct areas of specialization which facilitate the division of labor and help assure that activities are complementary. CATIE is expected to help promote EAP outreach activities whenever appropriate and assist EAP upon request with coordination of technical assistance, responsive research, diagnostic services and other extension and training activities.

An appropriate CATIE technician will be invited by EAP to participate in the preparation of EAP's annual work plans for this Program. Likewise, an EAP representative is expected to be present as CATIE conducts its annual RPP planning processes. This mutual participation in workplan development will assure that activities are complementary and non-duplicative, as well as giving each institution advance notice of the other's IPM plans for the coming two years.

D. Monitoring and Evaluation (M&E)

The overall RENARM Project will be monitored and evaluated in a continuous and consistent manner with the assistance of an independent contractor specializing in this field. While ROCAP will be responsible for the development of this global M&E system, EAP will play an important role in the evaluation process. At the outset, EAP will help to establish a list of key indicators for M&E. The indicators will reflect the objectives of the program in terms of specific impacts both in the field and relating to institutional development. All data collected for M&E should have a clearly defined purpose for decision-makers who will be orienting program resources towards the most successful interventions. EAP's participation in the M&E program will also be necessary to facilitate standardized data collection, reporting and analysis.

In addition to the on-going M&E activities described above, a more formal mid-term assessment of the impacts of the RENARM activities implemented through EAP is planned for program year three, and a major, final evaluation in year five.

E. Workplans

The initial work plan to be prepared by EAP should describe the activities to be executed over the coming two years, with estimated levels of effort, timing and budgets. All proposed activities should be justified in terms of the established objectives and purpose of the Project. The work plan will serve as the basis for initial commitments of funds from ROCAP. Each October, a revised work plan will be presented to ROCAP for the following two years. The details of this system will be set forth in a program manager's letter from ROCAP.

F. Research

All research to be conducted using ROCAP support is designed to be practical, problem responsive, and should directly involve the identified beneficiaries whenever appropriate. EAP should assure that each research activity examines how expected beneficiaries could participate in the design, execution, support and evaluation of the investigation.

G. Quarterly and Annual Reports

EAP agrees to submit a consolidated report of project activities and progress, in a format acceptable to ROCAP, both quarterly and annually. Quarterly and Annual Reports should be submitted to both ROCAP and CATIE. Quarterly reports should be submitted 15 work days after the end of the quarter. Annual reports should be submitted by January 3 of the year following the reporting period.

H. Collaborating Institutions

EAP will collaborate and/or coordinate with all entities which are relevant to the objectives and goals of the program described in this attachment (ROCAP, USAIDs, national and regional, public and private). Collaboration will take place mainly through outreach activities. Target institutions will be identified and collaborative arrangements will be established over the life of the project.

kk:3773a