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PROJECT ASSISTANCE COMPLETION REPORT

**Regional Coffee Pest Control Project
(No. 596-0090)**

ROCAP

September, 1991

EXECUTIVE SUMMARY

The original five year US\$3.5 million Regional Coffee Pest Control Project grant agreement was signed between ROCAP and IICA in June 1981. The project was carried out through PROMECAFE, a regional program under IICA established to coordinate coffee rust and bean borer research and provide information transfer services to the countries of Central America, Mexico and the Dominican Republic. The Grant was subsequently amended to increase the authorization to US\$6.0 million and the project completion date (PACD) extended to May 31, 1991.

The goal of the Coffee Pest Control Project was to increase the incomes of small coffee farmers in Central America and other PROMECAFE member countries.

The project purpose was to develop an integrated system employing the combined efforts of regional and national institutions to help control the spread of coffee rust and other pests as they affect small coffee producers.

Project inputs consisted of technical assistance, scholarships and training, and commodities developed in full coordination with IICA and other donors including CATIE, CICF in Portugal, IRCC of France, and PROMECAFE member countries. The total value of all contributions made by the participating institutions over the ten year life of the project is estimated to be US\$11,563,364.

In terms of meeting the project purpose, all of the anticipated project outputs have been demonstratively met by project implementation. The project developed a comprehensive program to technify coffee production including among other outputs, the control of coffee rust and the coffee bean borer. Major components of the project were research in coffee pest control methods, chemical control assessments and use regulations of pesticides, reproduction and dissemination of rust resistant coffee varieties, and the transfer of technology for small coffee farmers.

An external EOP evaluation of the coffee project summarized the activity as having had a major positive effect on coffee production region wide. It solidified the coordination efforts at all levels among participating countries resulting in strong support of the National Coffee Institutions and the Ministries of Agriculture. The project's extensive training program surpassed project goals, and through training courses and publications had a remarkable effect on advancing the technical understanding of modern coffee production. The project, in achieving its purpose of controlling the spread of coffee rust and other pests, has established a regional institutional network capable of dealing technically and administratively with future threats from the introduction of new coffee diseases or pests.

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The final evaluation concluded that the project was administered by IICA in a most effective manner. Success is visible in all aspects of the project, from the multi-donor cooperation to coordination of the research and extension efforts. The initial project design was good, appropriate to the need, and well managed by IICA according to approved work plans.

Although there were many project spin-offs as a result of this project, perhaps the most important or significant one is the realization of the participating countries' leadership that much can be accomplished by working together (coordinating resources) to overcome common problems affecting the entire region.

In addition to the numerous scientific and economic achievements of the project, four important lessons learned are summarized as follows:

- AID financial support provided through ROCAP was the determining factor in the overwhelming success of the project. ROCAP assistance and guidance permitted the unification of national resources and the recognition by PROMECAFE member countries of the benefits to be gained by acting together.
- Small producers are more likely to benefit from this type of program when they are represented on the "Board of Directors" of "National Coffee Institutions". Additionally, the whole coffee industry will benefit from programs designed to focus on small producers as the primary target.
- The participation of international institutions (e.g. IRCC of France, ICFC of Portugal, Federal University of Vicosa, Brazil, CENICAFE of Colombia, etc.) proved to be invaluable during implementation of the project. PROMECAFE was able to attract and utilize assistance and technical expertise which would not have been possible for member countries to secure separately. Nevertheless, future relationships and agreements need to be more precise yet flexible enough to adjust to evolutionary changes in new project findings.
- The success of the Coffee Pest Project to date raised additional problems and a number of very important researchable potentials. However, further progress will require greater effort on the part of regional interests in sustaining and solidifying the research and transfer procedures among countries.

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ACRONYMS AND EQUIVALENTS

AID	Agency for International Development
CATIE	Centro Agronomico Tropical de Investigación y Enseñanza; Turrialba, Costa Rica
CICAPE	Centro de Investigaciones en Café - CICAPE; Costa Rica
CIFC	Centro Internacional de Royas del Café; Oeiras, Portugal
CIRAD	Centro Internacional de Cooperación para la Investigación y Desarrollo en Agronomía Tropical; Francia
IAC	Instituto Agronómico de Campiñas; Brasil
ICAPE	Instituto del Café; Costa Rica
IHCAPE	Instituto Hondureño del Café; Tegucigalpa, Honduras
IICA	Instituto Interamericano de Cooperación para la Agricultura; San José, Costa Rica
INMECAFE	Instituto Mexicano del Café; México City, México
IRCC	Instituto de Investigaciones en Café y Cacao; Francia
MAG	Ministerio de Agricultura y Ganadería; San José, Costa Rica
OIRSA	Organismo Internacional Regional de Sanidad Agropecuaria; San Salvador, El Salvador
PACD	Project Assistance Completion Date
PROMECAFE	Programa Cooperativo para la Protección y Modernización de la Caficultura en México, Centro América, Panamá y El Caribe, IICA; San José, Costa Rica
ROCAP	Regional Office for Central American Programs, AID; Guatemala City, Guatemala
UFV	Universidad Federal de Vicosa; Brasil
USDA	United States Department of Agriculture; Washington, D.C., U.S.A.
99	100 libras (45.36 Kgrs.)
EOP	End of Project

PROJECT ASSISTANCE COMPLETION REPORT

1. Project Overview

Coffee is the single most important agricultural export crop of Central America and Panama. The area grows coffee on more than one million hectares of land and employs an estimated two and one half million people in the region's rural sector. The countries of the Central American region collectively constitute the second largest source of exportable coffee, only surpassed by Brazil.

In the 1970's the countries of Central America and Panama found themselves faced with serious problems caused by the introduction of the coffee bean borer (*Hypothenemus Hampei*) in Guatemala in 1971, and coffee rust (*Hemileia Vastatrix*) in Nicaragua in 1976.

Coffee rust after its initial introduction, quickly spread into the major coffee areas of Nicaragua and is now found in all of the countries of the region. In some, as yet, the level of infection is relatively light, while in others it has become a negative factor in the production of coffee.

The coffee bean borer, or Broca, since its appearance in Guatemala, has spread slowly but steadily. It is now found infesting the major coffee areas in Guatemala, El Salvador and Honduras. Since it was found on the Honduras/Nicaraguan border, the pest also spread to Nicaragua. Losses due to Broca vary by farm and even within farms in a given area. In the worst infestation areas of Guatemala, losses of 60-75% of the exportable production in given years are not uncommon if left untreated. Most all of the coffee grown throughout the region is C. arabica and it is totally susceptible to both of these pests.

Because of the concern for the economic and social consequences of these major new threats to the industry, especially the small producer, and a desire to form a regional network of coffee researchers and information specialists to modernize the region's coffee production, PROMECAFE was created in 1979.

PROMECAFE's headquarters were originally located in the Instituto Interamericano de Cooperación para la Agricultura (IICA) San José, Costa Rica. IICA signed a general working agreement with each member country and sub-agreements with the Centro Agronómico Tropical de Investigación y Enseñanza (CATIE) at Turrialba, Costa Rica, as well as with the Organización Internacional Regional de Sanidad Agropecuaria (OIRSA) in El Salvador.

PROMECAFE became a multinational program of IICA and the Central American countries including Panama, Dominican Republic, and Mexico. Initially, the basic financial support for PROMECAFE came from an annual contribution of US\$ 20,000 by

each member country. This was to be paid by either the Ministry of Agriculture or the National Coffee Office of the member countries in accordance with the internal agreement of each member nation.

1.1 The ROCAP/PROMECAFE Project

In 1980, ROCAP was requested by the participating countries to consider support for an expanded PROMECAFE effort to confront coffee rust and broca, since these major problems and their effect on production were beginning to reduce foreign exchange generation, as well as seriously decreasing the potential of small producers to continue to earn a significant portion of family income from coffee.

On June 5, 1981, AID/ROCAP and IICA, representing the PROMECAFE participating countries, signed a Grant Agreement for a Regional Coffee Pest Control Project No. 596-0090. The Conditions Precedent to the initial disbursement were met by IICA and the member countries in December 1981. The project began its formal operations in January 1982.

The project was authorized \$3.5 million in grant funds and programmed to be operational for a five year period or until May 31, 1986. At the request of IICA, ROCAP granted a no cost extension for one year and then for seven additional months until December 31, 1987, using funds not spent during the initial period. The original grant was subsequently amended to \$6.0 million and the project completion date extended to May 31, 1991. There was no change in the overall project goal and purpose.

The Agreement signed between IICA and ROCAP focused mainly on finding appropriate chemical and genetic control measures for rust and broca; develop and evolve improved information transfer systems, create a regional data and technical information bank and provide training. Regional coordination of efforts were emphasized and the technical expertise and genebank at CATIE (the largest coffee security/species collection in the world) as well as the services of OIRSA and ICAITI (Instituto Centroamericano de Investigación y Tecnología Industrial) were employed in their areas of special expertise. PROMECAFE also signed an agreement with the International Rust Center at Oeiras, Portugal, and the Universidad Federal of Vicosa, Brazil, because of their reputation and expertise in the identification of coffee rust races and the breeding of potentially valuable coffee plants resistant to coffee rust. In 1988, the French Institute for Research in Coffee (IRCC) was added to the list of project contributors.

1.2 Project Goal:

The goal of the project is to increase the incomes of small coffee farmers in Central America, Panama and other PROMECAFE member countries.

1.3 Project Purpose:

The purpose of the project is to develop an integrated system employing the combined efforts of regional and national institutions to help control the spread of coffee rust and other pests, particularly as they affect small coffee producers.

The Project Amendment focused on the transfer of information, methodologies, germplasm and new technologies developed by the regional network. The specific purpose of the Amendment was to improve coffee production over the longer term through: 1) pest control training for both researchers and extension agents and 2) the region-wide dissemination of research results gained under the original project in the five principal areas. Particular emphasis was placed on the adoption by farmers of improved technologies and private sector commercial applications through the expansion of tissue culture facilities.

1.4 Project Description:

The project has developed a comprehensive program to technify coffee production including control of coffee rust and broca (coffee bean borer) in Central America, Mexico and Panama. Major components include research in coffee rust and broca control methods; chemical control assessments and use regulations of pesticides; reproduction and dissemination of rust resistant varieties; and, transfer of technology for small coffee farmers. Project is coordinated by PROMECAFE of IICA with participation of CATIE and CICYT in Portugal. Major emphasis has been given to training host country personnel (governmental and private institutions). Over the life of the project, 1996 participants have benefited from training activities in coffee rust control and related themes; 700 participants trained in genetic improvement (including 14 technicians trained in tissue culture); and, 1826 trained in communication, extension, and generation and transfer of technology.

1.5 Project Elements:

The major elements of the ROCAP/PROMECAFE Project focused on actions which, if successful, were considered to be the most important in reducing the threat of coffee rust, broca, and high pesticide residues through fundamental and applied research, information transfer, and training carried out through the coordinated efforts of the participating countries.

The ROCAP Coffee Pest Control Project supported seven activities that contribute to minimizing such limiting factors when the Project terminates. These activities include the following:

- Introduction and testing at the national level, high yielding, rust resistant coffee plants to enable the countries to select two or three varieties for distribution to small coffee growers.
- Study of the biology, epidemiology and control of coffee rust for the purpose of determining the use of more appropriate fungicides, their dosage, time and number of applications and equipment to attain a more adequate and economic control of the disease, particularly on small farms.
- Study of the biology, epidemiology and control of the coffee bean borer to determine the best cultural practices in order to combine these, if possible, with biological and/or chemical pest control.

- Analysis of coffee residues to develop uniform regional methods for maintaining levels within accepted norms.
- Training of technical and auxiliary personnel from national coffee organizations (and/or national Ministries of Agriculture) to overcome the limited national technical capacities in the region.
- Development, adaptation and transfer of appropriate technologies for the rapid and practical incorporation of improved production practices on small farms to increase producer incomes.
- Development of a regional information system and a data bank to serve as a technical reference source and data analysis mechanism for countries participating in the PROMECAFE/ROCAP Project.

1.6 Evaluations

The project has had three external evaluations: the first was carried out in August 1984; the second in April 1987; and the third in May 1991. The third and last evaluation covered the period from the initiation of the project in 1981 to the end of the project on May 31, 1991.

As a result of the second evaluation, the project elements were modified to emphasize the training of national technicians (member countries) and transfer of extension information developed by the project to coffee producers in PROMECAFE member countries. The final evaluation concluded that 1) the IICA/PROMECAFE project was one of the best of its kind sponsored by AID on a world wide basis, 2) the results exceeded or surpassed all of the original and amended project objectives, 3) it successfully developed and transferred new coffee production and pest control technology, and 4) the project had a major influence on regional coffee institutional program and management perspectives.

2. Project Contributions

The major contributors in support of the PROMECAFE project are as follows:

- USAID/ROCAP Regional Office of Central America and Panama.
- IICA Instituto Interamericano de Cooperación para la Agricultura.
- PROMECAFE Member Countries: Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panamá, México and República Dominicana.
- CATIE Centro Agrónomico Tropical de Investigación y Enseñanza.
- IRCC Instituto de Investigaciones en Cafe, Francia.

The value of contributions made by each participating institution is summarized below:

<u>Cooperating Inst.</u>	<u>Planned Contributions</u>	<u>Value of Contributions (\$)</u>	<u>% of Total Contributions</u>
USAID/ROCAP	6,000,000	6,000,000	44.6
IICA	1,494,000	1,510,725	11.2
CATIE	500,000	560,000	4.2
Member Countries	2,300,000	3,080,760	22.9
IRCC *		<u>2,300,000</u>	<u>17.1</u>
T O T A L	\$10,294,000	\$13,451,485	100.0

3. Summary of Contributions by Institution

3.1 AID Contributions

The total authorized AID contribution for the ten year program was 6.0 million primarily for local personnel and training costs, travel and per diem, management oversight, infrastructure construction and development, materials and equipment, and replacement vehicles. Most project funds have been disbursed.

3.2 IICA Contributions

IICA's contributions to the project consisted mainly of in-kind costs for salaries of their professional staff assigned to the PROMECAFE project. Other costs included management, administrative and use of equipment and supplies. The total value of IICA's contribution during the life of the project is estimated to be \$1,510,725.00.

3.3 CATIE Contributions

Over the life of the project, CATIE's contribution included the use of land for research plots and plant reproduction: its coffee collection (germ plasm), research and training laboratories, classrooms, office computer center, library and coffee bean processing facility. Total estimated value of CATIE's contribution is \$560,000.00

3.4 PROMECAFE Member Country Contributions

The contribution in cash made by member countries to PROMECAFE over the life of the project amounted to \$2,330,760.00.

In addition to cash contributions, members countries provided personnel and other in-kind contributions (e.g. use of national installations and facilities, laboratory and experiment station equipment, etc.) in an estimated amount of \$750,000.

1/ As of July 31, 1991, cash contributions

* Unplanned (in-kind contributions)

3.5 IRCC of France Contribution

The French Institute for Research in Coffee provided key technical research advisors over the life of the project. The rapid progress made in controlling coffee rust, developing tissue culture techniques, and research on nematodes, could not have been achieved without IRCC's assistance. IRCC's contribution to the project during the years 1988, 1989 and 1990 amounted to an estimated \$2,300,000.00. The French assistance during this period included the full time services of five technicians and the awarding of eleven scholarships, four of which are candidates for Ph.D's in the agricultural sciences. The French assistance was an unplanned contribution to the project.

4. Project Accomplishments

Following the introduction of the coffee bean borer into Guatemala in 1971, and coffee rust into Nicaragua in 1976, the region faced a major threat to the coffee industry and its most important source of foreign exchange earnings. The principal constraints to controlling these pests were (1) all the coffee varieties grown in the region were susceptible to coffee rust, and (2) the national research and extension services in the region were weak, inadequately supported and not able to find solutions to the disease and pest problems limiting yields and profit. Due to the high cost of chemical control measures, small and medium enterprises were seriously endangered because of limited resources and poor understanding of modern cultural practices as well as disease and insect pest control measures.

Since the Coffee Pest Control Program became operational in January 1982, it has had a major positive effect on coffee production region wide. It has solidified the coordination efforts at all levels among the participating countries, resulting in strong support of National Coffee institutions and the Ministries of Agriculture. The project has attracted the support of other Technical Assistance institutions such as the French Coffee Research Institute (IRCC). It has effectively promoted improved coordination between agricultural scientists and technicians, and the free exchange of plant materials, research results, and extensive information region wide.

The Project's extensive training program has surpassed project goals and has, through training courses and publications, had a remarkable effect on advancing the technical understanding of modern coffee production, research methods, cultural practices, and rust and coffee berry borer epidemiology, control and laboratory procedures throughout the region. In addition, the program made major changes in the philosophy and effectiveness for the packaging, transfer and adoption of new production methods for pest control and coffee culture on thousands of small farms.

Overall, the final evaluation concluded that the project was administered by IICA in a most effective manner. The project had good overall leadership and IICA managed its personnel and expenditures within the budget allocations, according to approved annual work plans.

Some of the specific accomplishments obtained at the end of the project include:

- a) Coffee rust control research has developed an abundance of technical information and field tested recommendations. When this information is applied to coffee culture, farmers are assured of an efficient and cost effective system for controlling coffee rust.
- b) Rust control research has shown that only one to three sprays of a copper based (50%) fungicide applied at the proper time are needed to control rust, and the amount of chemical required per application can also be reduced by more than 30% thus reducing small farmer costs for rust control by a significant margin (by \$30 to \$45 per manzana).
- c) Research on coffee berry borer (broca) control indicates that the damage from the insect varies from year to year and from area to area and that when the infestation is low, the removal of fallen and late maturing fruit alone, on small farms can reduce the infestation the following year to below 10%. In high infestation years, the number of applications of "Endosulfán" can be reduced from six to three if properly timed.
- d) The coffee berry borer research has generated sufficient information to allow for specific recommendations on the preferred type of spray equipment including standards and procedures for the most effective application of insecticides (e.g. pounds of pressure per square inch, time of day, intervals for repeat spraying, etc). Selection and use of the appropriate spray equipment can reduce control costs by 50% and at the same time result in the most effective level of control.
- e) A new method of reproducing coffee using the tissue culture technique has been developed and is now being used for testing at the commercial level. It can reduce by almost thirty years the time required between selection of a superior rust resistant plant and its release as a commercial variety. This technique has demonstrated that yields can be increased by as much as 400 per cent through tissue culture. The technology for micro propagation of the coffee specie has been developed in three laboratories established and equipped by the project in Honduras, Guatemala and El Salvador. This technology is being made available to the countries of the region to assist national seed improvement programs.
- f) Three high yielding rust resistant coffee varieties have been distributed to regional national institutions for validation and seed multiplication.
- g) During the life of the project, 281 training events have been conducted with member countries participation. More than 9,100 technicians have been trained in coffee pest research and extension/outreach activities. This includes an effective training program in micro-propagation for laboratory technicians.
- h) All C.A. countries and Panama have adopted the methodology for small farmer research and technology transfer developed by the project. This is being implemented by National Advisory Work and Support Groups sponsored by the coffee producer associations in each member country.

5. Progress Towards Achieving Project Goal and Purpose

The Coffee Pest Control Project made numerous profound and lasting contributions to the overall improvement of the coffee industry in Central America. As a multi-country networking research and extension program, PROMECAFE has been a highly successful project having a significant effect on the technical understanding of modern coffee production, research methodology, cultural practices, and rust and coffee berry borer epidemiology and control. The project has been very successful in numerous scientific findings and in transferring these to small coffee producers

During the life of the project, PROMECAFE organized, for the first time in the history of the region, the technical, financial and administrative forces needed to combat a serious economic threat to the coffee industry in Central America. To accomplish this, the project established a network for free interchange or exchange of information and materials between those countries that possess them to member countries in need of them.

The information flow and cooperation between the different member countries are now recognized realities, as well as the exchange of rust resistant genetic materials between CATIE, PROMECAFE and the National Coffee Institutions representing the coffee producer. Small farmers (even those without audit) using only improved cultural practices and chemical controls have increased their yields from 500 pounds per manzana* to over 1,600 pounds. In other cases, where new rust resistant varieties are included along with cultural and disease control per manzana have been recorded. Small farmers receiving credit and using the complete IICA/PROMECAFE technological package have easily exceeded rates of 5,000 pounds or more per manzana. The mass introduction in the near future of rust resistant varieties will further increase small farmer incomes and lower production costs.

In summary, the PROMECAFE project while establishing an effective integrated system to control coffee rust and other pests, contributed greatly towards regional efforts for modernizing the coffee industry. Notwithstanding the scientific experiences gained in research and extension, the project trained thousands of national technicians and more than 25,000 small producers in modern methods of coffee production.

The project, in achieving its purpose of helping control coffee rust and other pests, has established a regional institutional network capable of dealing technically and administratively with any future threat from the introduction of new coffee diseases or pests. Because of the project, there is a growing recognition and acceptance among the national and institutional leadership that continued progress in modernizing the region's coffee industry can best be accomplished by working together through PROMECAFE.

* 1 ha. = 1.43 manzanas

6. Project Spin-Offs

PROMECAFE was designed to solve numerous production problems related to coffee rust and the coffee bean borer. Once resolved, these findings were transferred to small coffee producers for introduction into their farming systems.

As a multi-country and institutional networking research and extension program with specific performance tasks, this project offered four very significant spin-offs: (a) Provided ROCAP (AID) a unique opportunity to review its project planning, implementation and monitoring procedures; (b) for IICA, the grantee and implementing agent the past ten years, provided an excellent feed-back mechanism to measure its capabilities in administrative management and regional coordination; (c) for member countries, the networking experience proved to be a valid case to measure the benefits of a regional system based on shared costs (quotas) and the free exchange of professional services, planting materials, and research facilities; and (d) for the region as a whole, the project provided an opportunity for the National Coffee Institutions to seriously improve their outreach capabilities and expand their sphere of influence with growers, processors, exporters and the leadership in National Governments.

In summary, the ultimate spin-off of this project has been the realization by Central American leadership that much more can be accomplished in a cost effective manner by working together to overcome common problems affecting the entire region.

The Coffee Pest Control Project in achieving its purpose, has been the single most important catalyst in setting the stage not only for modernization of the coffee industry but for regional cooperation and integration. This in itself is having a most positive and significant impact on the economic welfare of the region.

7. Lessons Learned

The Final External Evaluation documents the successes and limitations of the project. It notes the project has attained all of the goals set forth in the project agreement including the modifications to the project through various amendments. Coffee rust and coffee bean borer research has proven that significantly reduced levels of chemical application and improved farm sanitation practices can control these pests at economically feasible costs on small and large coffee farms. In addition, economic control thresholds have been developed along with the best timing of application. Likewise, extensive regional genetic improvement programs have attained significant results as a number of outstanding coffee varieties are far enough along for commercial production.

In addition to the numerous scientific and economic achievements noted above, several important lessons learned from the coffee project are as follows:

- AID financial support provided through ROCAP was the determining factor in the overwhelming success of the project. ROCAP assistance permitted the unification of national resources and the recognition by PROMECAFE member countries of the benefits to be gained by acting together.

- Small producers are more likely to benefit from this type of program when they are represented on the "Board of Directors" of "National Coffee Institutions".
Additionally, the whole coffee industry will benefit from programs designed to focus on small producers as the primary target.
- Multi-institutional research and extension program participants such as CATIE, IICA and OIRSA could reduce or overcome project implementation restrictions by being represented through inter-disciplinary groups. The formation of these groups could be a condition for organizations wishing to participate in this type of program.
- The participation of international institutions (e.g. IRCC of France, ICFC of Portugal, Federal University of Vicosa, Brazil, CENICAFE of Colombia, etc.) proved to be invaluable during implementation of the project. PROMECAFE was able to attract and utilize assistance and technical expertise which would not have been possible for member countries to secure separately. Nevertheless, future relationships and agreements need to be more precise yet flexible enough to adjust to evolutionary changes in new project findings.
- Multi-institutional/country projects are better served when responsibilities and contributions are spelled out in precise detail. Also, agreements with longer project life and greater flexibility to permit modification of objectives due to changing socio-economic conditions is recommended.
- The "Friendship and Work Groups" (GAT) is a methodology developed in Colombia, S.A. to transfer the improved technologies for coffee production to small and medium farmers. This methodology, consisting of grouping farmers from coffee producing areas to teach them through demonstration plots improved cultural practices, was tested with great success in Honduras and Guatemala. Subsequently GAT's utilizing the mass media information transfer system, have been established in all PROMECAFE member countries. GAT's are being used successfully in the Regional Agriculture Network Project (PROCACAO/IICA).

8. Continued AID monitoring

PROMECAFE is organized and functions as a regional cooperative program under the guidance and control of an Advisory Board whose membership is composed of one representative each from the National Coffee Institutions and Ministries of Agriculture.

IICA is the executive agency responsible for the administration, coordination and fiscalization of PROMECAFE's regional activities.

The Coffee Pest Control Project, implemented by IICA/PROMECAFE was an unusually successful project of what is now generally recognized as the best organization for dealing with biological threats to the economy of the coffee industry in Central America.

No continued or post-project AID monitoring of this activity is required for the project to continue to have a positive impact on the coffee industry. The continued operational viability and quality of PROMECAFE's output, however, remain to be assured as there are some unresolved problems that could affect project operations in the future.

One such problem is member country contributions. Each has pledged to make an annual cash contribution of \$20,000/year to PROMECAFE for overall program operations. The prompt payment of Quotas has been a problem as only two member countries have paid in full since the beginning of the project. Although, the situation is improving as overall member country payments is now about 89% of the programmed level. However, with the AID/ROCAP donations terminating, it will be extremely important for all member countries to bring their contributions (quotas) up to date. If this is not done, there is concern that the program could lose momentum and focus without the continued full support of each participating country.

9. Recommendations for Pre-PACD Project Adjustments

No final adjustments in project design or implementation prior to PACD were recommended or required nor are there any outstanding conditions or covenants.

10. Post-PACD Actions

As of the date of this report, there is an unliquidated balance of project funds estimated at \$6,000.00. As soon as the final voucher is processed, the unliquidated balance will be deobligated. In addition, there are three financial audit recommendations outstanding. The most serious of these involves reimbursement of suspended costs due to IICA's loss of records and documents which support expenditures made by the contractor under the program.

The remaining recommendations deal with questionable costs (payment of taxes not allowed under the agreement), and the failure of project member countries to pay their allocated contributions in full prior to completion of the project (PACD).

The contributions of the member countries is now complete with the recent payments of \$180,000 by El Salvador and \$171,000 by Costa Rica.

Although contributions were lagging, the project activities and achievement of project objectives did not suffer for the lack of funding by the member countries. Moreover, the audit findings and the subsequent corrective actions to be taken by IICA will not affect the outcome (success or failure) of the project.

RADO, working in close cooperation with the Mission Controller, is taking the necessary steps to see that the Contractor meets its responsibilities for closing all pending audit recommendations. The deadline to take corrective actions in response to the audit is March 31, 1992.

To this end, RADO is actively coordinating with the Controllers' office the appropriate corrective actions to be taken by IICA, the AID project manager, or both as required.

RADO will be responsible for preparing an addendum to this report summarizing corrective actions taken to close all open financial audit recommendations, by May, 1992.