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**First Evaluation  
of USAID/FEDECOOP  
Coffee Technification  
and  
Diversification Project**

by

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submitted to

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## Abstract

Project purpose is to help Costa Rican Federation of Coffee Cooperatives (FEDECOOP) establish farmer credit system to finance long-term coffee renovation to maintain current production, quality and export levels and to help divert marginal coffee areas to other crops. This first evaluation (11/87 - 1/88) was conducted by a two-person contract team to evaluate system effectiveness, farm level impact, and the degree to which goals and purposes were reached. Evaluation based on review of documents, interviews, and visits to 15 of 31 affiliated local cooperatives. The major findings are:

- \* This well-managed and coordinated project met most objectives by November 1987, well ahead of plans.

- \* An estimated 6,183 farmers received coffee renovation credit covering 6,882 hectares.

- \* Credit system operating well and loan repayment expected to be good with strong recovery system through the coops.

- \* Technical assistance reaching coffee producers but adoption of para-technician concept slow.

- \* Diversification to crops other than coffee progressing well but more time needed to evaluate this component.

- \* Loan repayment flows and new AID funding should be provided to allow the program to continue.

The evaluation noted the following 'lessons':

- \* Profitable technology is a key to establishing an effective credit system.

- \* A strong cooperative system can effectively manage long-term credit to small and medium size farms.

- \* Paratechnician concept not readily adopted in all cases.

### Acronyms of Organizations

- ACDI - Agricultural Cooperative Development International
- CATIE - Centro Agronómico Tropical de Investigación y Enseñanza  
Center for Research and Education in Tropical  
Agriculture
- CICAFFE - Centro de Investigaciones en Café  
Coffee Research Center (Part of ICAFE)
- COFISA - Corporación Costarricense de Financiamiento Industrial  
Costa Rican Industrial Finance Corporation, Inc.
- FEDECOOP - Federación de Cooperativas de Caficultores, R. L.  
Federation of Coffee Cooperatives
- ICAFE - Instituto del Café de Costa Rica  
Costa Rican Coffee Institute
- IDA - Instituto de Desarrollo Agrario  
Agrarian Development Institute
- INCAE - Instituto Centroamericano de Administración de Empresas  
Central American Institute of Business Administration
- MAG - Ministerio de Agricultura y Ganadería  
Ministry of Agriculture and Animal Husbandry
- USAID - United States Agency for International Development  
Agencia para el Desarrollo Internacional de los  
Estados Unidos

## Land and Volume Measures

1 Hectare = 10,000 sq. meters

= 1.25 Manzanas

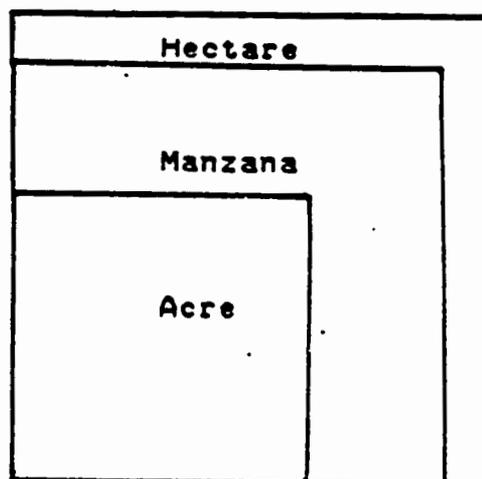
= 2.47 Acres

1 Acre = .40 Hectare

= .50 Manzana

1 Manzana = 1.98 Acres

= .80 Hectare



1 Cajuela = 20 liters = 1 Double Decaliter

1 Fanega = 400 liters = 20 Double Decaliters = 20 Cajuelas

= 2 Double Hectoliters

= 255 kilograms of mature coffee bean

U.S. \$1.00 = ₡68.25 (colones) [December 15, 1987]

# First Evaluation of the Coffee Technification and Diversification Project

## A. EXECUTIVE SUMMARY

### Background

Historically, coffee has played a major role in the Costa Rican economy. In 1986, the coffee sector accounted for more than 29 percent of the total value of agricultural production, provided employment for an estimated 7 percent of the economically active labor force of the country (23 percent of the agricultural labor force), and generated significant amounts of foreign exchange and revenues to the government.

The discovery of coffee rust in Costa Rica in 1983 led to the development of the Coffee Technification and Diversification Project (CTDP). The goal of this project is to support the Costa Rican economy in sustaining present levels of coffee exports. The purpose of the project is to help Costa Rican coffee growers technify plantations for higher and better quality coffee production and to diversify into other crops in areas that are not suitable for coffee, thereby reducing the effects of coffee rust on farms. In addition, the project is to improve the incomes of these farmers, the majority of whom operate small and medium sized farms.

A Memorandum of Understanding (MOU) between AID and the Federation of Coffee Cooperatives (FEDECOOP) authorizing one billion colones for the five year CTDP was signed on March 27, 1985. The Industrial Finance Corporation (COFISA) was named Trustee of the funds. Of this total, 800 million colones were for coffee technification, 150 million for diversification, and a 50 million colon grant was provided FEDECOOP to cover administrative, technical assistance, personnel, equipment and other costs associated with project implementation. Counterpart funding of 27,691 million colones by FEDECOOP for various administrative costs, 93,662 million colones by affiliate cooperatives for technical assistance, and 105.5 million colones by farmers results in an estimated total project cost of 1,226.8 million colones.

Funds are provided by AID at an annual interest rate of 9 percent. Of this, 2 percent goes to COFISA as Fund Trustee, and 7 percent plus any earnings from investments by COFISA go to the Center for Research and Education in Tropical Agriculture (CATIE). FEDECOOP sub-lends its loan funds to affiliated cooperatives at 12 to 14 percent (higher rate if no technical assistance provided by the cooperative). The cooperatives provide long term member loans at 18 percent simple interest, with varying terms depending on use of credit.

## Evaluation

This is the First Evaluation of the Coffee Technification and Diversification Project. The general objectives are: to evaluate effectiveness of FEDECOOP during implementation; to study efficiency of affiliate cooperatives in disbursing credit; to evaluate project impact at the farm level; to determine major outputs to date; and to evaluate the degree to which goals and purposes have been reached.

The evaluation is based on data and information gathered from meetings and interviews with key personnel in AID, COFISA, and FEDECOOP; from a review of all known and existing project documentation and reports; from interviews with managers, agronomists, and other staff in 15 of the 31 affiliated cooperatives; and from on-site visits with a number of coffee farmer-borrowers. Approximately 36 person-days were used for the evaluation.

## Findings

The original Project plan outlined in the MOU called for a five year credit program to reach an estimated 6,000 coffee growers associated with FEDECOOP. The credit was to be used for coffee renovation and crop diversification. A total of 7,000 hectares were targeted for coffee renovation and another 1,500 has. were destined for alternative crops.

Most of these objectives had been realized in only one-half the time period planned. By the end of October, 1987, the affiliated cooperatives had effectively channeled the credit to their member farmers. Some borrowers are behind in their interest payments but this appears to be temporary since a strong recovery system is in operation in most of the cooperatives. The evidence is strong that the credit has been used to completely renovate old coffee plots and that yields are consistently higher than planned.

The crop diversification activities are about on schedule with a total of 765 hectares financed and planted. Almost two-thirds of that planned has been executed for both value of credit and hectares. The field technicians, cooperative leaders and producers seem most enthused about the potential for macadamia production in many of the marginal coffee areas. Little enthusiasm was found for cardamom.

The number of farmers targeted for the five-year project appears to have already been reached. An estimated 6,183 farmers have received coffee renovation credit covering 6,882 hectares. This means a little over one hectare of renovated coffee was financed per borrower, on the average. The total

amount of credit disbursed by the end of October, 1987, was 828,457,000 colones. This includes repayment flows on the coffee nursery loans which explains why it is larger than the programmed 800 million colones. COFISA records showed a total of 788,105,970 colones had been disbursed to FEDECOOP by December 2, 1987. This means only about 12 million colones are left for coffee renovation over the next two years plus any nursery reflows (Assuming no additional funds or reflows are made available).

The coffee renovation efforts have been very positive in the eyes of the farmers and there is high expectation that this program will continue. The cooperative system is now receiving requests for credit but cannot respond until a decision is made concerning the future of the project. The evaluation team highly recommends use of loan repayment flows and new AID monies to continue the project at a level of about 1,000 hectares per year for the next five years.

Although many specific recommendations are in the complete report, five aspects of the CTDP need to be monitored carefully in the future to assure continued success of the project: (1) Although not directly a part of the project, a few of the cooperatives are very weak in the management and financial areas and need outside assistance. The CTDP has not been affected yet but could be over time. Thus, it should help those cooperatives obtain the needed assistance; (2) Loan repayment is just now beginning and should be measured and studied quantitatively to identify any emerging problems; (3) Further training and education on all aspects of the project must continue for the technicians, cooperative leaders, and farmers associated with the project; (4) crop diversification activities are still in their early stages of implementation and need to be supported through continual monitoring; and (5) transfer of technology to farmers in a cost-effective way is a continual challenge. The CTDP has struggled with the para-technician concept but now appears to be moving ahead with a modified approach.

### Lessons Learned

The Coffee Technification and Diversification Project demonstrates it is possible to establish a reasonably well functioning credit program for small and medium size farms with good loan repayment. The key elements are the availability of profitable technologies with the credit and an institutional mechanism to extend credit and collect loan repayments in a cost-effective way. The complete coffee renovation technological package appears very profitable for the farmer and the federation of coffee cooperatives has established an effective credit system to assure loan repayments.

## B. EVALUATION METHODOLOGY

### Objectives:

This is the First Evaluation of the Coffee Technification and Diversification Project. The objectives of the evaluation as found in the statement of work (a detailed scope of work is attached as Appendix B) are:

1. To evaluate the Project's major outputs to date, based on indicators specified by the Trust and Memorandum of Understanding (MOU) No. 16;
2. To evaluate the effectiveness of FEDECOOP in coordinating Project activities and complying with the terms of the MOU No. 16 in such areas as: providing extension services in technical assistance, credit, genetic material and equipment, etc.;
3. To evaluate the efficiency developed by FEDECOOP's affiliate cooperative institutions to provide credit to the Project's target group as well as the affiliates' capacity to manage their credit portfolios.
4. To evaluate the impact of the Project on participating small coffee producers with respect to changes in production; income and profitability; use of modern technology and inputs; management of formal credit; and provide an overview of the sociological impact of the Project; and
5. To evaluate the degree to which the Project has reached the targeted beneficiaries and complied to the terms of the Trust and MOU in the selection of participants and actively promoted crops other than coffee in climatic zones not apt for the cultivation of coffee.

This evaluation was originally considered to be mid-term in nature since the CTDP was scheduled to finish in 1990. Nevertheless, since the credit fund is almost depleted and many of the output objectives have almost been reached, this evaluation will certainly need to be considered as a final evaluation as well. This is because AID must decide quickly if there is to be a follow-up project. No decision will essentially stop the Project since it will soon run out of credit funds, a major program input.

## Methodology

The evaluation and final report were the primary responsibility of Dr. Ronald L. Tinnermeier, Professor of Agricultural and Resource Economics, Colorado State University, who spent three weeks in-country. Jack Jordon, USAID Mission/USDA, Honduras, assisted in the in-country evaluation for one week. Dr. Rubén Nájera, USAID Contractor, Honduras, spent one day analyzing the current profitability of the complete coffee renovation technology. The evaluation was scheduled for the period November 23, 1987 through January 25, 1988. An estimated 36 workdays were involved in the evaluation by the team. This does not include time spent in the evaluation by staff of AID/Costa Rica and FEDECOOP nor time involved by coop staff and farmers during field visits and interviews. In-country work took place during the period November 23 to December 16, 1987.

The data, conclusions, and recommendations contained in this report are based on a number of information sources. These include: (1) Meetings and interviews with personnel in USAID/Costa Rica, FEDECOOP, COFISA, and selected cooperatives (Major contacts listed in Appendix C), (2) A review of all available Project documents and materials in USAID, FEDECOOP, and the affiliated cooperatives (See Appendix F), (3) On-site visits to 15 of the 31 affiliated coffee cooperatives (Schedules found in Appendix D), and (4) On-site visits to a number of coffee farms financed by the Project.

The 15 cooperatives visited during the evaluation represented most of the country as shown in Figure 1. These cooperatives were non-randomly selected to show the range of cooperatives by size, financial and managerial strength, geographic location, and other characteristics. The studied cooperatives represented 65 percent of the total cooperative membership, 60 percent of the hectares financed by the Project, and about 53 percent of the coffee producers receiving Project credit (Table 1). Interviews with cooperative leaders were informal to allow for natural conversation. A structured questionnaire (Appendix E) was used to guide the interviews to assure all information needed for the evaluation was obtained. Notes were kept during the interviews to record important data and comments about the Project. An internal evaluation by Dr. James Torres, ACDI contractor, in September 1987, was used as a starting point for this evaluation. That report was partially based on visits to 11 cooperatives, four of which were different from those visited during this evaluation. Thus, 19 of the 31 cooperatives were visited over the course of the two evaluations.

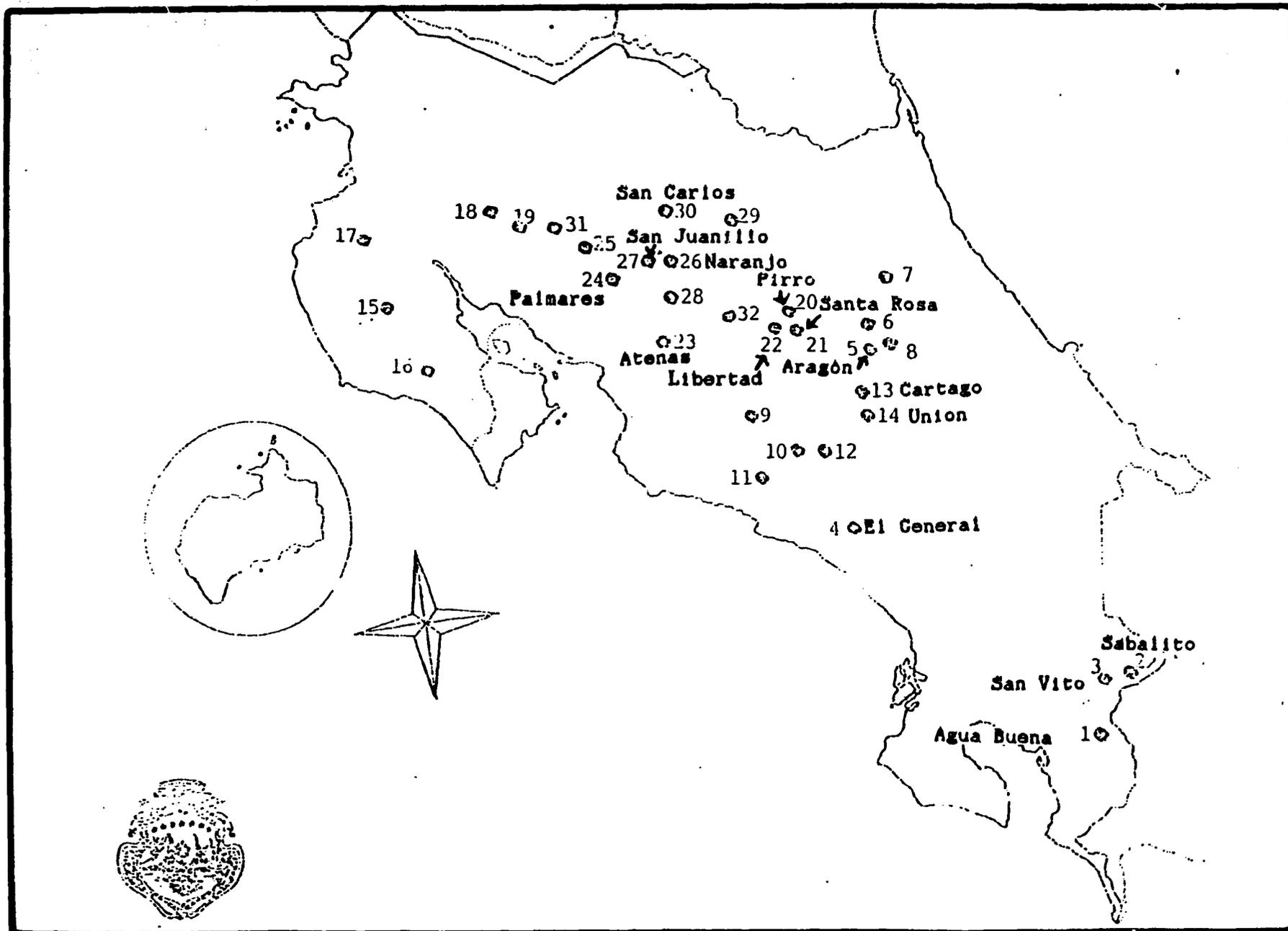


Figure 1. Location and Names of Fifteen Coffee Cooperatives Visited During Evaluation

Table 1. Total Hectares, Loans and Values Financed  
by Cooperative, 1985 - Oct.30, 1987

Cooperative	No. of Members	Total Amount Financed			
		Has.	Loans	Approved	Disbursed (Thousands of Colons)
1 AGUA BUENA*	900	118	156	16,209	15,153
2 ARAGON*	1,275	359	190	45,322	43,078
3 ATENAS*	1,100	233	182	29,642	28,291
4 CARTAGO*	1,400	101	138	12,430	11,690
5 CENIZOSA	140	69	74	8,770	7,537
6 CERRO AZUL	275	95	169	11,813	10,580
7 DOTA	480	39	36	4,669	4,374
8 EL DOS TILA	269	36	33	4,517	3,935
9 EL GENERAL*	3,400	479	631	60,620	57,857
10 LEON CORTES	3,100	450	615	56,223	52,183
11 LIBERTAD*	1,150	450	246	59,670	56,668
12 LLANO BONITO	561	146	346	18,472	17,462
13 MONTES DE ORO	360	31	29	3,651	2,567
14 NARANJO*	2,225	474	487	60,851	58,089
15 PALMARES*	1,304	371	276	48,013	45,940
16 PEJIBAYE	270	123	149	15,729	14,658
17 PILA ANGOSTA	208	141	107	18,279	16,798
18 PIRRO*	170	137	30	16,401	15,292
19 SABALITO*	1,300	147	164	19,339	18,105
20 SAN CARLOS*	3,580	66	75	8,072	7,567
21 SAN JUANILLO*	2,600	479	386	61,857	59,094
22 SAN RAMON	2,710	305	278	38,958	36,588
23 SAN VITO*	3,600	626	845	80,124	77,361
24 SANTA ROSA*	780	278	225	35,394	32,891
25 SANTA TERE	560	92	90	12,895	12,303
26 SARAPIQUI	250	47	35	5,820	5,203
27 SUIZA	1,750	230	221	29,918	28,338
28 TARRAZU	1,313	402	703	50,402	47,640
29 TILARAN	520	87	58	10,951	9,674
30 UNION*	1,200	78	43	9,472	8,830
31 VALVERDE VEGA	1,050	196	257	25,141	23,293
=====					
TOTALS	39,800	6,882	7,274	879,625	829,039

\* Cooperatives visited during the evaluation.

SOURCE: FEDECOOP Reports and Files

Even though considerable effort was made to gather the most reliable data and information as possible, the short period of time for the visits and evaluation may have led to some erroneous findings, omissions, or incompleteness in some areas. Even so, we are confident that the findings do indeed represent the essential characteristics of the Project.

The evaluation report is organized in accordance with the AID Evaluation Summary format as specified in the contract Terms of Reference (See Appendix B).

### C. EXTERNAL FACTORS AFFECTING PROJECT IMPLEMENTATION

The major external factor outside the control of personnel which can affect Project implementation is the world coffee price. Fortunately, coffee prices have been fairly good during the life of the Project. The exception was during 1986 when the cooperatives expected the price to be relatively high. This optimism led to extraordinarily high advances to coffee producers in the early part of the production cycle (A system practiced by all coffee processors throughout Costa Rica). When coffee was actually delivered, the price was considerably lower than expected. As a result, no or little additional payment was due the producer. This caused some coffee borrowers to be delinquent in their interest payments on the Project renovation loans. This is not considered to be serious in the future for two reasons: one, the world is back on the quota system which should help stabilize prices, and two, the cooperatives won't repeat their mistake of offering too large of an advance based on future price assumptions. Cooperatives are also stressing the importance of producing quality coffee which can bring a higher price as well.

The important assumption that coffee renovation is profitable to the coffee farmer still appears to hold. Nevertheless, the Project should continue to study the economic effects of their recommendations under conservative coffee price assumptions to help guarantee profitable advice for their borrowers.

### D. STATUS OF INPUTS

#### Project Components

The major inputs for the Project were the establishment of a Project coordinating unit, a credit fund, training of staff and farmers, purchase of vehicles and equipment, foreign technical assistance, and evaluation/audits.

The Project began with four main components:

1. Project Coordination
2. Applied Coffee Technology
3. Technical Assistance
4. Credit

A fifth component, Applied Technology in Coffee Processing was added through Amendment No. 1 in 1986.

A Memorandum of Understanding (MOU) between AID and the Federation of Coffee Cooperatives (FEDECOOP) authorizing one billion colones for the five year CTDTP was signed on March 27, 1985. The Industrial Finance Corporation (COFISA) was named Trustee of the funds. Of this total, 800 million colones were for coffee technification, 150 million for diversification, and a 50 million colon grant was provided FEDECOOP to cover administrative, technical assistance, personnel, equipment and other costs associated with Project Coordination. Counterpart funding of 27.7 million colones by FEDECOOP for various administrative costs, 93.6 million colones by affiliate cooperatives for technical assistance, and 105.5 million colones by farmers results in an estimated total project cost of 1,226.8 million colones (As amended). A breakdown of budget items by source is shown in Table 2.

The amount budgeted for each of the components of the Project for the life of the Project (1985-90) and the amounts spent by category by November, 1987, are shown in Table 3. As can be seen, the donation expenditures have generally been less than that budgeted. Since the credit fund is almost depleted and the number of farmers and hectares reached is at or over the expected end-of-project status, one can assume there have been savings generated during implementation of the Project. When annual budgets with yearly expenditures for the first three years (1985-87) are compared, more was spent than budgeted for the Project Coordination and Applied Technology components (See Appendix Table A-4 for detail). Of course, since the Project extended more credit to more farmers and land area than planned during the first three years, it would not be surprising to see expenditures ahead of budgets as has happened.

Table 2. Financial Plan for Project Inputs

Activity	USAID	Counterpart Funding			Totals
		FEDECOOP	Coops	Farmers	
(Thousands of Colones)					
<b>Project Coordination</b>					
Personnel		9,872			9,872
Vehicles & Equipment	600	1,030			1,630
Operation Costs	750	800			1,550
Sub-totals	1,350	11,702			13,052
<b>Applied Technology</b>					
Personnel	3,240				3,240
Vehicles & Equipment	1,800				1,800
Operation Costs	2,250				2,250
Consultants & Training	3,138				3,138
Sub-totals	10,428				10,428
<b>Technical Assistance</b>					
Personnel		5,141	93,662		98,803
Vehicles & Equipment	14,795	1,800			16,595
Operation Costs	15,339	2,250			17,589
Publications & Materials	4,130				4,130
Sub-totals	34,264	9,191			137,117
<b>Applied Technology/Processing</b>					
Personnel	2,110	6,447			8,557
Vehicles & Equipment	615				615
Operation Costs	608	351			959
Consultants & Training	625				625
Sub-totals	3,958	6,798			10,756
<b>Non-credit Totals</b>	50,000	27,691	93,662		171,353
<b>Credit</b>	950,000			105,500	1,050,500
<b>Total Project</b>	1,000,000	27,691	93,662	105,500	1,226,853

SOURCE: MOU No. 16 and Amendment No. 1.

Table 3. USAID Project Funds Budgeted and Spent by November 1987

Activity	USAID	By November 1987	
	to 1990 Budget	Amount Spent	Balance
(Thousands of Colones)			
<b>Project Coordination</b>			
Personnel	0	0	0
Vehicles & Equipment	600	725	(125)
Operation Costs	750	433	317
Sub-totals	1,350	1,158	192
<b>Applied Technology</b>			
Personnel	3,240	1,342	1,898
Vehicles & Equipment	1,800	2,793	(993)
Operation Costs	2,250	1,466	784
Consultants & Training	3,138	902	2,236
Sub-totals	10,428	6,503	3,925
<b>Technical Assistance</b>			
Personnel	0	0	0
Vehicles & Equipment	14,795	11,942	2,853
Operation Costs	15,339	5,780	9,559
Publications & Materials	4,130	51	4,079
Sub-totals	34,264	17,773	16,491
<b>Applied Technology/Processing</b>			
Personnel	2,110	137	1,973
Vehicles & Equipment	615	601	14
Operation Costs	608	506	102
Consultants & Training	625	0	625
Sub-totals	3,958	1,244	2,714
Non-credit Totals	50,000	26,678	23,322
Credit	950,000	788,106	161,894
Total Project	<u>1,000,000</u>	<u>814,864</u>	<u>185,136</u>

SOURCE: FEDECOOP Coordinating Unit Reports and NOU No. 16.

COFISA is the credit fund trustee and provides complete periodic reports to USAID. This institution appears to operate well as fiduciary of the credit part of the Project. No complaints were received relative to flow of funds and timing of such flows by COFISA. Nevertheless, some felt the 2 percent interest payment to COFISA for their services was too much. It is not uncommon for fiduciaries to receive less than 1 interest point for such services.

Each of the five Project components will now be discussed in more detail.

### Project Coordination

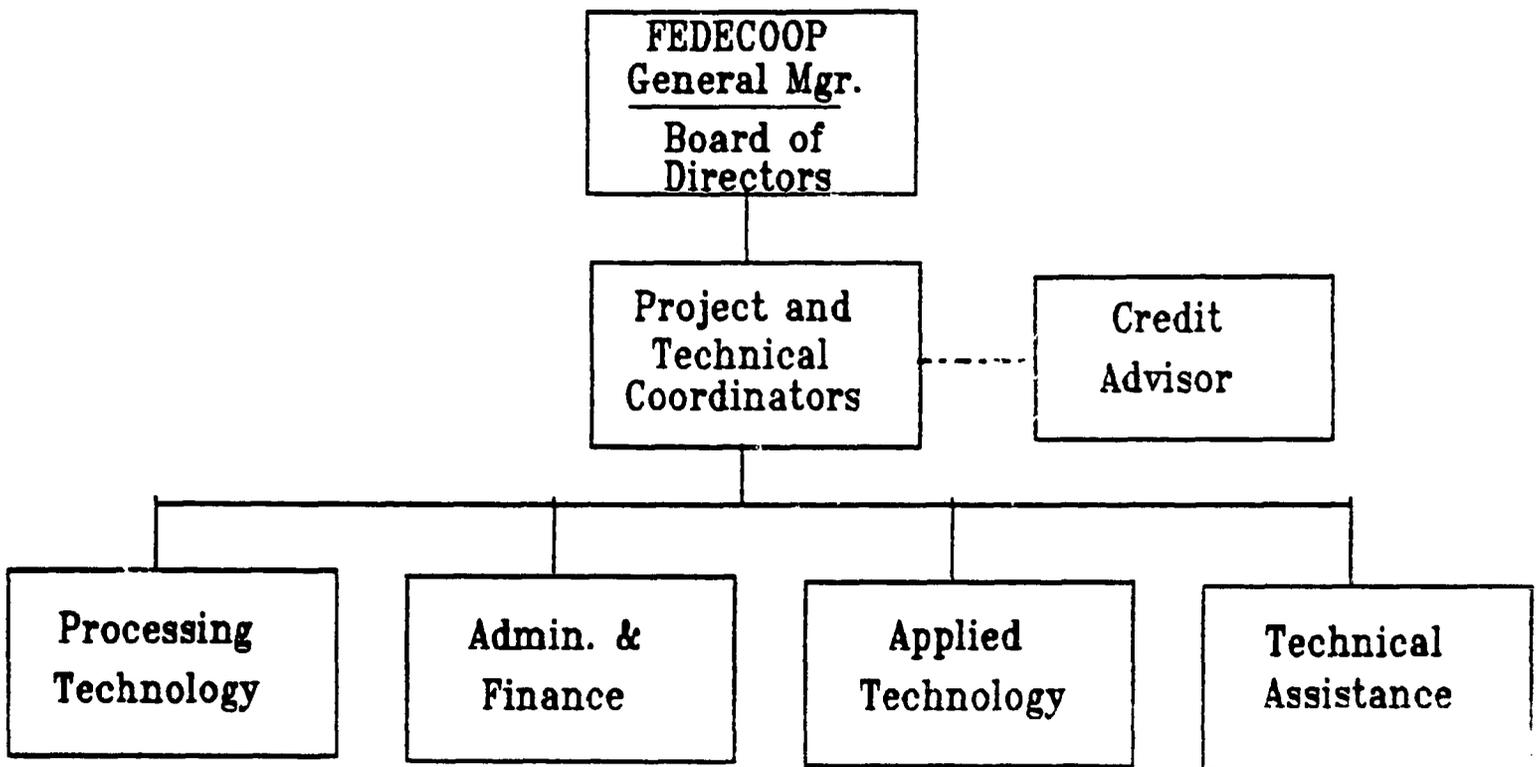
FEDECOOP has been an effective institution for implementing the Project. It had an organizational structure that allowed for the addition of longer term credit and technical assistance activities without major change. The credit and technology are being delivered adequately to the target beneficiaries.

The major responsibility for implementation rests with the Project Coordinating Unit (PCU) which is a new entity within FEDECOOP. The PCU General Coordinator reports directly to the General Manager (also considered the Executive Director of the Project) and Board of Directors of FEDECOOP. The Board recently formed a special commission of four board members to establish a more direct supervisory link to the previously largely autonomous Coordinating Unit. This new commission should help keep FEDECOOP management informed of any policy issues arising during Project implementation. The evaluation team was told the commission was not formed to intervene in daily operations of the Project. In fact, it would not be advisable to do so since such action could well jeopardize the current success of the Project.

The PCU is organized into four administrative sections as shown in Figure 2. These largely correspond with the major components of the Project discussed in the next part of the report. The processing section works with the coffee processing plants in the member cooperatives. The controller's section handles the financial controls and prepares the monthly Project summaries and reports. Presently, it also summarizes credit information. This section has a head, an accountant, an assistance, and a credit supervisor (not filled at the time of the evaluation--a critical void). This section also provides administrative services to the PCU. The applied technology section is responsible for providing technical information on coffee and alternative crops for diversification. Finally, the technical assistance section provides technical information and direct assistance to the member cooperatives and their produ-

cers. As will be discussed later, the PCU unit needs two additional sections: one responsible for monitoring credit lending, collection, and reporting activities (supported by the foreign credit adviser), and one responsible for economic analysis of the Project and for testing profitability at the farm level of the technical recommendations. The credit supervisor can carry out much of this responsibility but may need an assistant to do the job adequately. The evaluation team was informed that the credit supervisor position will be filled in early 1988. The agricultural economist could be part of the applied technology team.

Figure 2.  
Organizational Chart for  
Project Coordinating Unit



The Project Coordination Unit (PCU) has been working well (aside from the problems mentioned in the previous paragraph). Unit leadership has been stable and has generally managed the implementation of the Project well. The unit has established an adequate accounting system to manage and control Project funds. The unit has a terminal tied into the main FEDECOOP computer system as well as two microcomputers with hard disks (20 and 30 megabytes) for Project management and data collection and analysis. An external audit was recently performed and no major accounting problems were found according to preliminary reports. The final audit report had not yet been released at the time of this evaluation.

The training of project agronomists, cooperative leaders, and the participating farmers continues to be a need as discussed in the technical assistance component. The PCU has good ties with FEDECOOP, with the Costa Rican Coffee Institute, and with the University of Costa Rica. However, ties with CATIE, a major beneficiary of interest reflows, appear very weak

Operational costs of the PCU have been less than that planned (See Tables 3 and Appendix A-4). However, vehicle and equipment costs have been slightly above that budgeted. Generally, the funds appear to have been used well for coordination of the Project.

### Applied Technology

This component has the responsibility for identifying crops and technology for diversification activities; providing improved planting material for coffee and substitute crops; helping prepare training courses for field technicians; managing coffee nurseries in the cooperatives; and identifying profitable crops and existing technology which coffee farmers can readily adopt. Three professional agronomists are assigned to this section.

The agronomic technical capability at the PCU level is very good. The technicians are highly respected and recognized throughout the country. The only complaint heard is that they don't get out to the affiliated cooperatives often enough. Of course, serving 33 member cooperatives (two new ones were added at the time of the evaluation) representing close to 40,000 farmer members is quite a task. For this reason, it is recommended that regional agronomists be established so such assistance is closer at hand. Presently, all of the applied technology activities come out of the San Jose central office.

At the time of the evaluation, no person or unit appeared to have the responsibility to carry out economic studies of the technical recommendations nor to measure the economic impact (nationally, regionally, and on the farm) of the Project. As such, there is a serious need to establish this capability in the applied technology section or at the management level of the PCU.

Expenditures for the two experiment stations managed by this component of the Project are shown in Appendix Tables A-5 and A-6. The Sarapiquí station is used for experiments and demonstration of recommended technologies for coffee (13 hectares), macadamia (7 has.), and cardamom (4 has.). The San Joaquin station is used primarily for the production of improved variety seeds and for demonstration of recommended varieties. The Project also depends on technological recommendations emanating from the ICAFE training and research center (CICAFE).

The budget and expenditure figures for the applied technology activities appear to be adequate (Tables 3 and Appendix Table A-4). However, costs for the vehicle and equipment line item have exceeded the amount budgeted by more than the 15 percent variation allowed by the MOU.

### Technical Assistance

This component provides technical information and direct assistance in the field to FEDECOOP affiliated cooperatives and their borrowers for coffee production and crop diversification activities. The MOU specified that the Project would add an additional 14 agronomists to the 10 existing agronomists working with the member cooperatives. In addition, 46 new paratechnicians (making a total of 52) were to be trained and employed to complement the work of the agronomists.

This is the one area of the Project plans that has not been entirely accomplished. At the time of the evaluation, a total of 40 agronomists were working in the Project, a number considerably above the level originally planned. Of these, five agronomists work directly out of the San Jose coordinating unit office. The rest of the agronomists work directly out of the local cooperatives. This translates into about 155 farmers per agronomist. Only eight paratechnicians were involved with the Project, 46 less than planned.

It is not entirely clear why the Project has been slow in adopting the paratechnician concept. The major reason given is that such a system doesn't fit the Costa Rican situation well. Farmers are said to be better educated and informed as compared with countries where paratechnicians have been used. Thus,

they would not accept technical advice and recommendations from persons with limited training. Furthermore, the agronomists are very skeptical about working with paratechnicians.

The Project has actively discussed the use of paratechnicians and is continuing to evaluate and design a system that would be workable within the Costa Rican setting. Dr. Nesman, an expert on the paratechnician approach, was contracted to study the situation and submitted a report with recommendations in late 1987. He felt the concept still had merit but that adjustments were necessary for it to be accepted by those concerned. Dr. Ledesma, extension training specialist under short-term contract, has also widely discussed the use of paratechnicians with Project personnel during extension training courses.

The use of mid-level technicians (técnico medio) with degrees from the vocational agriculture schools appears to be the most feasible approach to extending the technical assistance activities to more farmers in a cost-effective way. These technicians cost less than university agronomists to employ and can be provided motorbikes for transportation, another significant cost savings. Nevertheless, the cost of transferring technology to cooperative members using this modified approach will need to be continually monitored to determine if it is, in fact, a cost-effective method as compared with the less expensive (but problematic in Costa Rican context) paratechnician approach.

The expenditures for the technical assistance activities in the Project are considerably below the levels budgeted in the MOU (Table 3 and Appendix Table A-4). No doubt, the shortfall in employing the projected paratechnicians explains much of the difference for vehicle and operational cost line items. However, it doesn't explain the very small amount of expenditures for technical publications and materials. If the Project is extended, this is an area that needs more detailed examination. On the surface, it appears the Project has not adequately met MOU publication and dissemination objectives or that costs for this line item were greatly over estimated.

### Applied Technology in Processing

This component is to carry out studies, lend technical assistance, train personnel, and otherwise advise and assist the member cooperatives in ways to improve their coffee and other processing facilities to improve both the quality and quantity of output. This activity was added to the Project in 1986 under Amendment No. 1 of the MOU with the transfer of savings generated in the technical assistance component.

This component now includes one section chief and four industrial engineers. They appear to have visited and satisfactorily advised many of the affiliated cooperatives. All cooperatives visited during the evaluation were aware of this activity and spoke well of the assistance provided. The engineers are actively working with the cooperatives to improve their coffee quality, a much needed effort since a number of the cooperatives have very old processing equipment. Another major concern of many cooperatives is that the adoption of the new technology by their members will increase green coffee output to the point that their processing plants won't have sufficient capacity to handle the new levels of production. The technology in processing component will need to assist the cooperatives in analyzing the seriousness of this concern.

The expenditures for this component of the Project have been a little less than that budgeted. The only line item significantly below that projected is for consulting and training where no expenditures have been made.

### Credit

The major user of Project funds is the credit component. A total of 900 million colones were provided by AID at an annual interest rate of 9 percent. Of this, 2 percent goes to COFISA as Fund Trustee, and 7 percent plus any earnings from investments by COFISA go to the Center for Research and Education in Tropical Agriculture (CATIE). FEDECOOP sub-lends its loan funds to affiliated cooperatives at 12 to 14 percent (higher rate if no technical assistance provided by the cooperative). The cooperatives provide long term loans to their members at 18 percent simple interest, with varying terms and grace periods depending on use of credit. Loan amounts are based on a single coffee enterprise budget for the entire country. About 120,000 colones maximum financing per hectare is used by most of the cooperatives as shown in Appendix Table A-3 (Amount approved per ha.). If possible, a system should be established to adjust the loans to fit individual needs and repayment capacities. Reducing the amount of credit for labor, especially when it is primarily family labor, greatly reduces the financial risk assumed by the borrower.

The actual amount withdrawn is normally less than that approved as shown in the last column of Table A-3. For all loans, approximately 94 percent of the amounts approved was withdrawn, on the average. The percentage of withdrawals varied from a low of 70 percent in the Montes de Oro Cooperative to a high of 96.2 percent in San Vito. As loan repayments begin, it will be interesting to see if withdrawal percentages have any relationship to repayments.

By November, 1987, COFISA reported a total of 788,106,000 colones (83 percent of total) had been disbursed to FEDECOOP for the coffee renovation and crop diversification credit program (Table 3). All levels of the Project reported satisfaction with the credit distribution mechanism. The flow of funds from USAID, through COFISA and FEDECOOP, and then to the respective cooperatives for sub-lending to member farmers is working well with few or no delays. Farmers report no more than a 15 day delay from the date of the credit application to approval and first disbursement. Details of the use of credit and its impact are discussed in later sections of the report.

One important aspect of the Project not envisioned in the original design, relates to the mobilization of savings in the cooperatives. Some cooperatives are already obtaining a major portion of their loan funds from members' savings. This should be encouraged in all cooperatives since a strong savings activity will also encourage financial discipline on the credit side. In addition, if the interest charge to the farmer is set at or near the market rate, this should further encourage the cooperatives to look at the savings side as a cheaper source of funds.

### Summary

Inputs for the Coffee Technification and Diversification Project have generally followed the original project design estimates. The major exception has been in the technical assistance component where the paratechnician approach has not been implemented to any great extent. This has resulted in considerable savings for that component, part of which was transferred to the new processing technology component with USAID approval. If that fund transfer came primarily from savings due to import duty exemptions for Project vehicles, then it has strengthened the overall effort. If, on the other hand, the savings came from cutbacks in the program to transfer technology to farmers, and there is some evidence to support this view, then the Project monitors and managers should take a critical look at what is happening in the technical assistance component of the Project. Appropriate, profitable technology transfer to Project borrowers is a continual requirement.

Training of staff and field personnel needs to continue for all component areas of the Project. With loan repayments just coming due, credit training should receive high priority. The foreign credit adviser needs additional resources to develop training for cooperative technicians, agronomists and farmers. Once named, the new credit supervisor can take primary responsibility for the credit training. INCAE's banking/finance department may be a good place to contract higher level training in credit and finance for cooperative managers and FEDECOOP leaders.

## **E. STATUS OF OUTPUTS**

The original Project plan outlined in the MOU called for a five year credit program to reach an estimated 6,000 coffee growers associated with FEDECOOP. The credit was to be used for coffee renovation and crop diversification. A total of 7,000 hectares were targeted for coffee renovation and another 1,500 has. were destined for alternative crops.

As can be seen in Table 4, most of these objectives had been realized in only one-half the time period planned. By the end of October, 1987, the affiliated cooperatives had effectively channeled the credit to their member farmers. Some borrowers are behind in their interest payments but this appears to be temporary. In addition, a strong recovery system is in operation in most of the cooperatives. The evidence is solid that the credit has been used to completely renovate old coffee plots and that yields are consistently higher than planned.

The crop diversification activities are about on schedule with a total of 765 hectares financed and planted. Almost two-thirds of that planned has been executed for both value of credit and hectares. The field technicians, cooperative leaders and producers seem most enthused about the potential for macadamia production in many of the marginal coffee areas. Little enthusiasm was found for cardamom.

The number of farmers targeted for the five-year project appears to have already been reached. An estimated 6,183 farmers have received coffee renovation credit covering 6,882 hectares. This means a little over one hectare of renovated coffee was financed per borrower, on the average. The total amount of credit disbursed by the end of October was 828,457,000 colones. This includes repayment flows on the coffee nursery loans which explains why it is larger than the programmed 800 million colones. COFISA records showed a total of 788,105,970 colones had been disbursed to FEDECOOP by December 2, 1987. This means only about 12 million colones are left for coffee renovation over the next two years plus any nursery reflows (Assuming no additional funds or reflows are made available).

The coffee renovation efforts have been very positive in the eyes of the farmers and there is high expectation that this program will continue. Because of this, it is very important that USAID make a decision as to future efforts as soon as possible. The cooperative system is now receiving requests for credit but cannot respond until a decision is made concerning the future of the project. Farmers will have to decide what

they will do for the next production cycle within the next couple of months.

Table 4

MAJOR PROJECT OUTPUTS

<u>Goals</u>	<u>Progress</u> <u>to October 31, 1987</u>
1. Coops with expertise in handling credit and technical assistance.	FEDECOOP int. pmts. to COFISA current. Coop pmts. to FEDECOOP generally current. Most farmers current on int. pmts. to coops. Basic credit training has been provided coops.
2. Farmers using improved technology.	Technology introduced in participating coops. Very high percent of borrowers using new technology.
3. Diversification a) Non-trad. crops on 1,500 has.	193 has. in cacao, 475 has. in macadamia, 65 has. in cardamom, 23 has. in avocado. Total of 765 has. (65% of end-of-project status).
b) Disburse 150 million colones in loans.	93.1 million loaned (62% of end-of-project status).
4. 6,000 coffee farmers in credit technification.	7,274 loans to an estimated 6,183 farmers (103% of end-of-project status).
5. 7,000 has. under technification.	6,882 has. under complete renovation (98% of end-of-project status).
6. Disburse 800 million in renovation credit.	828.5 million colones in credit for nurseries and complete renovation. (103% end-of-project status)

## F. STATUS OF PROJECT'S PURPOSE ACHIEVEMENT

The discovery of coffee rust in Costa Rica in 1983 led many to believe that a serious threat to this important sector of the economy existed. Such concern resulted in the development of the Coffee Technification and Diversification Project (CTDP). The goal of this project was to support the Costa Rican economy in sustaining existing levels of coffee exports. The purpose of the project was to help Costa Rican coffee growers improve the technology of their plantations for higher yields, produce better quality coffee, and to diversify into other crops in areas that were not suitable for coffee, thereby reducing the effects of coffee rust on farms. In addition, the project was to improve the incomes of these farmers, the majority of whom operate small and medium sized farms.

As suggested in the outputs section, most of the objectives of the Project will be reached before the end of the project planned for 1990. The number of farmers using credit to finance improved coffee lots has already surpassed the level planned. Field staff indicate that a very high percentage of the borrowers are using the improved coffee varieties and are practicing the recommended levels of input use. Yields are consistently higher than expected after two years of production. Where yields are lower than expected (apparently very few cases), it is because a portion of the new plants died the first season and some replanting was necessary.

Improved coffee quality will come directly from the production of the improved varieties since the older diseased varieties have been replaced. Improving the operation of the cooperative processing plants will also lead to better quality coffee. Staff in the newly added Project component of processing technology are working with the cooperatives to improve the methods and equipment used in washing, processing, and drying the coffee. A few of the cooperatives indicated they are receiving premium prices for their quality coffee. Many others are hoping to enter that same quality coffee market through improved production and processing.

Diversification from coffee to other crops is moving more slowly but is on schedule with initial Project plans. It is likely that the projected number of farmers and hectares going into other crops will be reached before the end of the Project. Macadamia, cacao, and fruit crops appear to have the greatest potential.

The most recent analysis of costs and returns for the coffee producers following the recommended complete renovation technology shows that farmers' incomes should be increasing

significantly. Using coffee prices being paid at the time of the evaluation, the internal rate of return to the producer was estimated at 44 percent at expected levels of production. Even with 25 percent lower prices, the return was estimated at 27.8 percent (Appendix Table A-8). Assuming lower production levels, the returns are 31.5 percent for current prices and 16.9 percent for lower prices (Appendix Table A-7). With the world coffee quota system now in operation again, many feel prices will be at the present level or higher over the next few years.

#### **G. STATUS OF GENERAL ACHIEVEMENT**

The Project has certainly helped contribute to maintaining the levels of coffee production that existed in Costa Rica in 1985, a program goal. In addition, the improved genetic material (plants) and processing procedures and equipment should lead to better quality coffee for export.

The original concern about the potentially damaging effect of coffee rust has not been borne out to date. The rust has not entered Costa Rica as rapidly as in other Central American countries. No exact estimates were obtained concerning the incidence of the disease in the country, but one cooperative technician in a good coffee area felt perhaps 10-15 percent of some zones had been affected by coffee rust. Nevertheless, it is estimated that around 60 percent of the existing coffee plants in the country are 10 years or older. Thus, the potential for disease exists in these older plantations. The Project has replaced an estimated 10 percent of the older coffee land area with more disease resistant varieties over the past three years. This should help reduce any potential future effect of rust or other coffee diseases for at least this portion of the total coffee area.

Progress towards reaching these general goals has certainly been a partial result of this coffee technification project. Achieving the Project purposes of replacing old coffee with newer varieties to maintain productive levels and to improve product quality are directly related to the more general goal of supporting the economically important coffee sector.

#### **H. PROJECT IMPACT ON BENEFICIARIES TO DATE**

Detail on Project borrower characteristics in the various coffee zones is not yet available. As the data are gathered and placed on computers, such information should become available in the future.

Reports from the local cooperatives are in terms of number of loans, not number of borrowers. Many borrowers had more than one loan. Thus, an exact figure for the number of individual farmers (borrowers) reached by the Project was not available at the PCU level. However, each cooperative has this information for each member but it has not been summarized nationally yet.

To estimate the number of borrowers reached, detailed records from a few cooperatives were analyzed. Those data showed that about 85 percent of the total number of loans over a three year period represented the number of individual borrowers. Admittedly, this is a very crude estimate and the Project does need to obtain more accurate numbers from the cooperatives as soon as possible. It should be noted that the 85 percent factor applies only for the three year period, not for any one year. In fact, it appears only 50-70 percent of the loans extended the third year were to new borrowers. The other loans were to borrowers from the first or second years.

FEDECOOP estimated in 1984 that about 89 percent of its affiliated cooperative members had an average of 1.4 hectares in coffee production. Another 10 percent had an average of 3.5 hectares in coffee. Only 1 percent of the members were considered large producers with an average of 18.4 hectares in coffee.

As can be seen in Appendix Table A-3, the average number of hectares financed per loan in the Project ranged from 4.6 hectares in the Pirro Cooperative to only .4 hectares per loan in the LLano Bonito Cooperative. For all cooperatives, the Project has financed slightly less than one hectare per loan, on the average. Although the amount of coffee financed per borrower will be a little higher since many farmers have more than one loan, it is still safe to assume that the major beneficiaries of the Project are small to medium sized farms. This also holds for the macadamia and cardamom loans. Even so, if the Project is extended, it is recommended that a maximum of two hectares of coffee and 5 hectares of diversified tree crops (macadamia, cardamom, etc.) be financed for any one borrower. This limitation will assure that the Project benefits are as widespread as possible.

As indicated in the outputs section, approximately 6,180 coffee farmers have received Project credit for completely renovating their old coffee. This financing has covered 6,882 hectares of production. This means about 15 percent of the cooperative members have received Project benefits during the first three years of operation.

Economic analysis of the costs and returns associated with the renovated coffee suggests relatively high net incomes will

be received this year by those farmers adopting the recommended technology at the current prices paid by the cooperatives (See Appendix Tables A-7 and A-8 for more detail).

### I. UNPLANNED EFFECTS

There have been no major effects of the Project during its three years of operation that weren't anticipated. The coffee yields resulting from the complete renovation technology have been a little higher than projected. Also, there has been a multiplier effect of the Project with borrowers financing additional coffee renovation with their own funds and neighbors adopting the technology without credit from the Project. It is difficult to measure this multiplier effect, but based on the comments of field technicians, it appears that an additional 15 to 25 percent more hectares may be under the new technology over and above that financed directly.

The coffee renovation technology has increased the demand for labor and other inputs in the zones affected. It appears that a major portion of the non-labor inputs are purchased through the cooperatives which has further strengthened their financial and input supply systems. In the longer term, this could have a very significant, positive impact on the coffee cooperative system.

### J. LESSONS LEARNED

The Coffee Technification and Diversification Project has operated well during its initial three years of operation. A number of "lessons" can be identified which could help others design similar projects for other countries.

Perhaps the most important experience is that credit can function well with relatively low rates of delinquency when clearly profitable technology is provided along with the credit. It is easy to see the superior production characteristics in the coffee plants, the farmers are enthusiastic about the Project, and the farmer incomes should increase dramatically from the technology adoption. Given this situation, collection of loan repayments should be considerably easier as the loans become due.

Another important factor in the timely repayment of the loans is the cooperative mechanism itself. The existing, relatively strong federation of coffee cooperatives (FEDECOOP) and the local cooperatives themselves provide a strong system for repayment. Coffee marketing takes place through the cooperatives so the loan interest and principal payments due are automatically deducted from the payment to the borrower

members. This makes for a very strong credit recovery system. This lesson can be applied in other situations where cooperatives exist and are active in product marketing activities.

A third lesson of the Project is less positive. The concept of using paraprofessionals (other farmers and community members) to reduce the technical assistance costs has not been accepted in Costa Rica as readily as in other countries. This suggests the use of paraprofessionals needs to be studied carefully within the country context. In the case of Costa Rica, the university educated agronomists are reluctant to use less educated personnel as a mechanism to channel technical advice to farmers. This is primarily because they are afraid erroneous recommendations might be made by overzealous paratechnicians. The agronomists are also skeptical that farmers will follow advice from less trained people. Because of this resistance to the paraprofessional concept, this approach is being studied and introduced more slowly than planned originally for the Project.

#### **K. SPECIAL COMMENTS**

The Project likely has contributed to more general country benefits. The coffee sector accounted for more than 29 percent of the total value of agricultural production in 1986. For that same year, the coffee sector provided employment for an estimated 7 percent of the economically active labor force of the country (23 percent of the agricultural labor force). Finally, coffee exports have generated significant amounts of foreign exchange and revenues to the government. If the Project results in increased production and/or improved quality of coffee exports, major benefits are likely to accrue to the entire nation. This is an aspect that may merit study if the Project is extended for another five years.

No data were available during the evaluation concerning the impact of the Project on employment and government revenue. Nevertheless, national impact studies for a similar project in Honduras indicated that such impacts can be significant. In those studies, Núñez and Canales found that the coffee renovation project increased the foreign exchange earnings, generated new employment of over 700 person-years the first year and peaked at 14,000 person-years of new employment in full production, and significantly contributed to increasing the value added to the national economy.

Finally, if the Project is extended for five more years using loan repayment flows and some additional USAID funds, as recommended, it is advisable that USAID more closely monitor the implementation and operation of the activities since the Project will grow to considerable size in amount of funds handled and potential impact.

## L. RECOMMENDATIONS

### Institutional Development

- \* The Project Coordinating Unit should advise and assist FEDECOOP in identifying cooperatives with weak management and/or financial position and help provide the outside assistance needed by such cooperatives for improvement. Over time, a poorly operating cooperative will likely have negative consequences for the AID Project as well.
- \* The Project Coordinating Unit should place more emphasis on the economic aspects of the program at the cooperative and farm levels. Emphasis on the important area of production should not overshadow the equally important economic aspects.
- \* An agricultural economist with the responsibility of carrying out economic studies at the farm and coop levels to serve as a basis for policy analysis and program changes should be hired as soon as possible. This might be in lieu of an agronomist for that unfilled position.
- \* The Credit Supervisor position should be filled as soon as possible by someone with considerable credit and economic analysis experience, preferably an agricultural economist. This will allow on-the-job training and coordination with the work of the foreign credit advisor. Plans are to fill the position in early 1988.
- \* Foreign technical assistance should be continued to assure program continuity. This is especially important as repayments on coffee renovation are just now beginning and repayments for even longer term loans like macadamia won't begin for another two years.
- \* FEDECOOP should request permission from USAID to re-program the remaining balance of the AID donation for covering project implementation costs to reflect future needs. If the credit program continues, as recommended, it would be appropriate for USAID to donate additional funds to provide support for the scheduled credit and technology transfer activities.
- \* As a part of the FEDECOOP donations reprogramming and/or expansion effort, funds should be earmarked to provide training of cooperative beneficio employees and technical assistance in engineering aspects of flow of product through the beneficios. These are least cost alternatives for immediate impact in maintaining quality of Costa Rican coffee in world markets.

- \* Improved information flow from the affiliated cooperatives to the Project office and return is needed. For example, under the current system, multiple loans to a single farmer are reported separately and, as a result, the number of loans is greater than the total number of farmers reached.
- \* Present efforts to computerize data to produce summary information and data for management should proceed with careful study but be completed as quickly as possible.
- \* The Project should further emphasize field visits by all staff members and a system established to report on and monitor such work. This is especially important for the technical specialists working out of the central office. In fact, it is highly recommended that these agronomists be physically placed in the field as regional supervisors of cooperative technicians and of credit activities.

### Credit

- \* The repayment flows from the existing AID fund should be channeled back through the FEDECOOP system to continue the successful coffee renovation program.
- \* USAID should consider adding additional resources to the repayment flows to allow the coffee credit program to continue at its present level. This amount should be based on an estimated cash flow using past credit data and reflow estimates. A repayment rate of 90 percent and credit for 1000 hectares of renovation per year would appear to be reasonable assumptions for such an analysis. Preliminary estimates of additional funding required for such a program is 153 million colones over three years.
- \* Reflows from credit activities for crop diversification should continue to be recycled to new diversification beneficiaries. With respect to macadamia credit, an additional 200 million colones will be needed over the next three years to allow for planned expansion.
- \* Subsequent lending should consider an upward adjustment of interest charged to the farmer from 18 percent to a market rate (Central Bank passive rate is now 20 1/2 percent). This additional interest income should accrue to the general credit fund as a partial offset for inflation. Analysis using updated data demonstrates an internal rate of return of 31-44 percent for well-managed coffee after complete renovation.

- \* Income for CATIE from interest on initial loan funds should not continue for the reflow and new monies. The resulting interest income should flow back into the program to support credit and technical assistance activities carried out by the affiliated cooperatives.
- \* An emergency fund should be established to handle special cases where loan losses have occurred which were completely beyond the control of the farmer--floods, fire, etc. Allocating 2 percent of interest charged is recommended as a starting point. Some of the funds shifted from the CATIE interest portion could be used for this activity.
- \* FEDECOOP, in consultation with USAID, should set a maximum limit on the number of hectares to be financed for any one borrower. In order to maximize coverage of cooperative members, a two hectare limit is recommended for coffee renovation. A maximum of 5 hectares per borrower for diversified crops is suggested to allow for more flexibility in that more uncertain activity.
- \* Mobilization of savings by the participating cooperatives should be strongly encouraged by the CTDP. Stronger financial discipline for credit activities usually exists when part of the loan funds come from the borrowers' own savings.
- \* Budgets should be prepared for the different ecological zones to determine maximum credit allowed per hectare of coffee and alternative crops financed. At present, only one outdated cost of production budget is being used as a guide for credit country-wide.
- \* No more than 80 percent of the estimated cost of production should be financed. Where the farmer's capacity to pay is below that level, the loan amount should be adjusted accordingly.
- \* If possible, a system should be established to adjust the loans to fit individual needs and repayment capacities. Reducing the amount of credit for labor, especially when it is primarily family labor, greatly reduces the financial risk assumed by the borrower.
- \* Member cooperatives need to establish uniform credit and other data collection forms to facilitate entry of the data in computers and to provide data consistency for program monitoring, impact studies, and management.
- \* Applications for macadamia credit should include evidence that there is adequate income from other sources to cover the interest costs of the loan before macadamia production

begins. In the absence of such evidence, more secure collateral for the loan should be required or a system of intercropping with other crops (coffee, annual crops) to cover interest costs from that same plot should be established.

- \* Credit should not be extended for coffee renovation for zones below 500 meters elevation.
- \* Farmers with nursery loans should be encouraged to make early repayments as income is generated from plant sales. Where plant sales are made to other Project borrowers, the cooperative should directly debit the buyers loan account and credit the appropriate nursery loan account. This procedure will help assure timely repayment of nursery loans.
- \* The current practice of deducting interest payments from that portion of the loan destined for labor should be continued unless the borrower wishes to make interest payments directly.
- \* FEDECOOP should work with the affiliated cooperatives to devise a system of financing vehicles for use by regional and cooperative technicians at reasonable cost.
- \* The Project should strongly encourage all participating cooperatives to establish a credit committee or commission (if not already done) to be used as part of the credit approval process. The local agronomist should be a voting member of the committee.
- \* Credit training should be further stressed for the FEDECOOP regional agronomists, for cooperative managers, accountants, technicians, and credit committee members, and for participating borrowers.

#### Extension and Technology Transfer

- \* Crop diversification should emphasize macadamia and cacao which can be grown successfully in the more marginal coffee areas. Limited activities in the higher elevation areas for interplanted mangos and aguacates is suggested. Cardamom appears to have little or no potential for the coffee areas.
- \* The Project should continue to find ways to transfer technology to all cooperative members in a cost-effective way. Using lower cost agronomists (tecnicos) under the direct supervision of experienced agronomists (Ing. Agronomos) is suggested.

- \* Continual training of field technicians, cooperative managers, and farmers on new coffee and alternative crop technologies is highly recommended.
- \* Funding for diversification research and rapid dissemination of the results should be increased.
- \* Additional educational and audiovisual materials on coffee and alternative crop technologies should be developed by the Project for use in the cooperatives and communities by the field technicians and cooperative leaders.
- \* Current technical recommendations need to be analyzed from an economic point of view and adjusted accordingly. Results of such analysis will be especially important during periods of low coffee prices. The employment of one or more agricultural economists, as recommended, will help in this regard.

Appendix A - Data Tables

Table A-1. Coffee Renovation Loans by Year, Cooperative, and Amounts

Cooperative	1985				1986				1987			
	No. of		Amount		No. of		Amount		No. of		Amount	
	Has.	Loans	Approved	Disbursed	Has.	Loans	Approved	Disbursed	Has.	Loans	Approved	Disbursed
			(Thousands of Colons)				(Thousands of Colons)				(Thousands of Colons)	
1 AGUA BUENA	10.00	17	1,197	1,197	57.50	65	6,884	6,865	42.00	54	5,028	3,992
2 ARAGON	59.25	48	7,093	7,093	200.00	96	23,944	23,944	91.00	34	10,894	8,650
3 ATENAS	24.00	18	2,873	2,873	147.75	111	17,688	17,669	54.00	42	6,465	5,133
4 CARTAGO					69.94	93	8,373	8,373	30.00	43	3,592	2,852
5 CENIZOSA	7.00	7	838	838	10.00	10	1,197	1,197	50.00	36	5,986	4,753
6 CERRO AZUL	5.25	9	629	629	37.50	53	4,489	4,489	50.00	69	5,986	4,753
7 DOTA	8.50	7	1,018	1,018	18.50	20	2,215	2,215	12.00	9	1,437	1,141
8 EL DOS TILA					13.50	17	1,616	1,552	21.00	15	2,514	1,996
9 EL GENERAL	156.92	221	18,736	18,736	197.91	242	23,693	23,693	112.00	140	13,408	10,646
10 LEON CORTES	155.00	249	18,556	18,556	174.97	242	20,947	20,191	111.70	97	13,372	10,088
11 LIBERTAD	82.77	41	9,909	9,909	232.00	121	27,774	27,775	114.00	73	13,648	10,646
12 LLANO BONITO	37.00	93	4,430	4,430	65.00	153	7,782	7,782	41.00	82	4,908	3,897
13 MONTES DE ORO									30.50	29	3,651	2,567
14 NARANJO	165.00	147	19,753	19,753	182.06	162	21,796	21,796	112.00	117	13,408	10,646
15 PALMARES	100.37	74	12,016	11,878	156.45	118	18,730	18,852	101.35	42	12,133	10,076
16 PEJIBAYE	16.25	21	1,945	1,874	72.00	87	8,620	8,387	31.00	33	3,711	2,944
17 PILA ANGOSTA	5.75	6	688	688	70.00	43	8,380	8,380	60.00	29	7,183	5,703
18 PIRRO	53.00	12	6,345	6,345	39.00	8	4,669	4,669	45.00	10	5,387	4,278
19 SABALITO	5.75	9	688	688	84.75	76	10,146	10,146	50.00	60	5,986	4,753
20 SAN CARLOS					45.00	37	5,387	5,375	20.00	37	2,394	1,901
21 SAN JUANILLO	149.67	138	17,918	17,918	200.00	153	23,944	23,944	112.00	67	13,408	10,646
22 SAN RAMON	110.50	104	13,319	13,319	89.00	74	10,655	10,655	96.00	65	11,493	9,123
23 SAN VITO	88.74	172	10,624	10,624	406.00	495	48,605	48,605	112.00	147	13,408	10,646
24 SANTA ROSA	104.00	86	12,451	12,451	84.75	66	10,146	9,892	81.00	66	9,697	7,448
25 SANTA TERE	19.75	33	2,396	2,396	40.75	26	4,878	4,878	24.00	15	2,873	2,281
26 SARAPIQUI	11.50	8	1,377	1,377	9.20	8	1,101	1,101	25.00	17	2,993	2,376
27 SUIZA	59.25	41	7,093	7,093	97.75	99	11,702	11,702	64.00	55	7,662	6,083
28 TARRAZU	149.59	317	17,909	17,909	132.00	203	15,803	15,803	112.00	150	13,408	10,646
29 TILARAN	7.00	1	838	838	26.25	22	3,143	3,142	51.75	33	6,195	4,919
30 UNION	9.70	3	1,161	1,161	42.35	19	5,070	5,070	26.00	20	3,113	2,471
31 VALVERDE VEGA	29.00	39	3,472	3,472	85.00	109	10,176	10,176	75.00	87	8,979	7,130
<b>TOTALS</b>	<b>1630.51</b>	<b>1,921</b>	<b>195,272</b>	<b>195,063</b>	<b>3086.86</b>	<b>3,028</b>	<b>369,554</b>	<b>368,317</b>	<b>1957.30</b>	<b>1,773</b>	<b>234,323</b>	<b>185,184</b>

Table A-2. Coffee Nursery Loans by Year, Cooperative, and Amounts

Cooperative	1985				1986			
	No. of Has.	Amount (Thousands of Colons)		Repaid	No. of Has.	Amount (Thousands of Colons)		Repaid
1 AGUA BUENA	5.00	15	1,937	1,937	3.00	5	1,162	1,162
2 ARAGON	4.25	4	1,647	1,647	4.50	8	1,744	1,744
3 ATENAS	2.25	5	872	872	4.50	6	1,744	1,744
4 CARTAGO					1.20	2	465	465
5 CENIZOSA	0.75	1	234	234	1.33	20	515	817
6 CERRO AZUL	0.75	13	291	291	1.08	25	418	418
7 DOTA								
8 EL DOS TILA	1.00	1	387	387				
9 EL GENERAL	6.34	11	2,457	2,457	6.00	17	2,325	2,325
10 LEON CORTES	4.06	10	1,573	1,573	4.58	17	1,775	1,775
11 LIBERTAD	10.52	7	4,076	4,076	11.00	4	4,262	3,226
12 LLANO BONITO	1.87	7	725	725	1.62	11	628	628
13 MONTES DE ORO								
14 MARANJO	7.21	29	2,794	2,794	8.00	32	3,100	3,100
15 PALMARES	8.63	30	3,344	3,344	4.62	12	1,790	1,790
16 PEJIBAYE					3.75	8	1,453	1,453
17 PILA ANGOSTA	2.74	9	1,062	1,062	2.49	20	965	966
18 PIPRO								
19 SABALITO	3.50	9	1,356	1,356	3.00	10	1,162	1,162
20 SAN CARLOS					0.75	1	291	291
21 SAN JUANILLO	9.00	14	3,487	3,487	8.00	14	3,100	3,100
22 SAN RAMON	5.26	27	2,038	2,038	3.75	8	1,453	1,453
23 SAN VITO	12.32	12	4,774	4,774	7.00	19	2,712	2,712
24 SANTA ROSA	4.50	4	1,744	1,744	3.50	3	1,356	1,507
25 SANTA TERE	2.50	8	1,004	1,004	4.50	8	1,744	1,744
26 SARAPIQUI					0.90	2	349	349
27 SUIZA	4.32	5	1,674	1,674	4.61	21	1,786	1,786
28 TARRAZU	4.95	22	1,918	1,918	3.52	11	1,364	1,364
29 TILARAN					2.00	2	775	775
30 UNION					0.33	1	128	128
31 VALVERDE VEGA	4.00	9	1,546	1,546	2.50	13	969	969
TOTALS	105.72	252	40,940	40,940	102.03	300	39,535	38,953

Table A-3. Average Value of Loans Per Hectare and Loan, Average of Hectares Financed and Percent Withdrawn of Amount Approved, by Cooperative

Cooperative	Average Amount Approved Per Ha.	Average Amount Approved Per Loan	Average Number of Has. Approved	Average Amount Withdrawn Per Ha.	Average Amount Withdrawn Per Loan	Percent Withdrawn of Approved
	(..... Thousands of Colons .....) )					
PIRRO	119.7	546.7	4.6	111.6	509.7	93.2
ARAGON	119.7	235.6	2.0	113.3	223.0	94.6
UNION	119.7	222.5	1.9	111.5	207.2	93.1
LIBERTAD	119.7	218.4	1.8	112.7	205.7	94.2
PILA ANGOSTA	119.7	208.4	1.7	108.8	189.4	90.9
PALMARES	119.7	183.2	1.5	113.9	174.4	95.2
TILARAN	119.7	181.7	1.5	104.7	158.9	87.5
SARAPIQUI	119.7	165.8	1.4	106.2	147.1	88.7
ATENAS	119.7	158.0	1.3	113.7	150.1	95.0
SAN JUANILLO	119.7	154.4	1.3	113.7	146.7	95.0
CENIZOSA	119.7	151.3	1.3	101.3	128.1	84.6
SANTA ROSA	119.7	148.1	1.2	110.4	136.7	92.2
SAN RAMON	120.0	146.0	1.2	112.0	136.2	93.3
SANTA TERE	120.1	137.1	1.1	113.1	129.1	94.2
SUIZA	119.7	135.7	1.1	112.6	127.6	94.0
DOTA	119.7	129.7	1.1	112.2	121.5	93.7
EL DOS TILA	119.7	129.1	1.1	102.8	110.9	85.9
NARANJO	119.7	129.0	1.1	113.7	122.5	95.0
MONTES DE OR	119.7	125.9	1.1	84.2	88.5	70.3
SABALITO	119.7	116.0	1.0	110.9	107.5	92.7
SAN CARLOS	119.7	105.2	0.9	111.9	98.3	93.5
PEJIBAYE	119.7	101.3	0.8	110.7	93.7	92.5
AGUA BUENA	119.7	96.4	0.8	110.1	88.6	92.0
VALVERDE VEG	119.7	96.3	0.8	109.9	88.4	91.8
EL GENERAL	119.6	92.6	0.8	113.7	88.0	95.1
LEON CORTES	119.7	89.9	0.8	110.6	83.1	92.4
SAN VITO	119.7	89.2	0.7	115.2	85.8	96.2
CARTAGO	119.7	88.0	0.7	112.3	82.5	93.8
CERRO AZUL	119.7	84.8	0.7	106.4	75.4	88.9
TARRAZU	119.7	70.3	0.6	112.7	66.2	94.1
LLANO BONITO	119.7	52.2	0.4	112.7	49.1	94.1

Table A-4. Budget for USAID Donation Funds, 1985-1987

Activity	---Amounts Budgeted---			Three Yr. Total	Amount Spent 11/87	Balance 11/87
	1985	1986	1987			
(Thousands of Colones)						
<b>Project Coordination</b>						
Personnel	0	0	0	0	0	0
Vehicles & Equipment	600	0	0	600	725	(125)
Operation Costs	96	144	144	384	433	(49)
Sub-totals	696	144	144	984	1,158	(174)
<b>Applied Technology</b>						
Personnel	384	636	650	1,670	1,342	328
Vehicles & Equipment	1,800	0	0	1,800	2,793	(993)
Operation Costs	296	444	444	1,184	1,466	(282)
Consultants & Training	416	624	624	1,664	902	762
Sub-totals	2,896	1,704	1,718	6,318	6,503	(185)
<b>Technical Assistance</b>						
Personnel	0	0	0	0	0	0
Vehicles & Equipment	9,992	2,528	2,275	14,795	11,942	2,853
Operation Costs	2,208	3,027	3,028	8,263	5,780	2,483
Publications & Materials	552	828	828	2,208	51	2,157
Sub-totals	12,752	6,383	6,131	25,266	17,773	7,493
<b>Applied Technology/Processing</b>						
Personnel	0	218	473	691	137	554
Vehicles & Equipment	0	615	0	615	601	14
Operation Costs	0	68	135	203	506	(303)
Consultants & Training	0	125	250	375	0	375
Sub-totals	0	1,026	858	1,884	1,244	640
Totals	16,344	9,257	8,851	34,452	26,678	7,774

SOURCE: FEDECOOP Coordinating Unit Reports

Table A-5. Sarapiquí Experiment Station Expenditures

PROGRAMA USAID-FEDECOOP R.L.  
RESUMEN DE COSTOS ESTABLECIMIENTO POR CULTIVOS  
FINCA EXPERIMENTAL SARAPIQUI AL 30-9-87

CONCEPTO	C A F E		MACADAMIA		CARDAMOMO		CAMINOS Y CERCAS	TOTALES
	LOTE #1	LOTE #2	LOTE #1	LOTE #2	LOTE #1	LOTE #2		
SUELDOS	506,775.31	312,989.65	15,743.98	236,979.96	106,587.77	131,458.23		1,310,534.90
HORAS EXTRAS								0.00
BENEFICIOS SOCIALES	131,855.42	121,019.95	6,087.53	91,630.20	41,213.01	50,829.37		442,635.48
SERVICIOS PROFESIONALES			300.00					300.00
VIATICOS	12,471.94	13,431.32	1,918.76	12,471.94	2,878.14	4,796.90		47,969.00
SEGUROS							8,725.80	8,725.80
REP. Y MANT. GENERAL	194.94	209.92	30.00	194.94	44.98	74.97	6,430.00	7,179.75
REP. Y MANT. EQUIPO Y MAQ.	1,295.36	1,457.28		1,295.36			5,506.75	9,554.75
IMPUESTOS Y PATENTES								0.00
ENERGIA ELECTRICA								0.00
AGUA								0.00
TELEFONOS								0.00
FLETES	25,050.00			10,000.00				35,050.00
ALQUILERES	5,250.00	10,500.00					2,100.00	17,850.00
PAPALERIA Y UTILES	64.15	69.09	9.87	64.15	14.81	24.68		246.75
COMBUSTIBLES Y LUBRIC.	6,802.53	7,606.64	147.84	6,802.53	221.76	369.60	25,798.81	47,749.71
MATERIALES DIVER. E INSUMOS	393,296.52	299,883.79	2,829.96	123,445.32	11,956.85			831,412.44
REPUESTOS Y ACCESORIOS	2,953.05	3,280.93	131.97	2,953.04	197.97	329.94	28,891.70	38,738.60
DEPRECIACION	1,092.40	1,210.90	57.75	1,092.40	86.62	144.37	110,175.78	113,860.22
DIVERSOS	2,359.39	2,540.90	362.98	2,359.39	544.48	907.45	1,591.00	10,665.59
MATERIALES CAMINOS Y CERCAS							31,473.25	31,473.25
<b>TOTALES</b>	<b>1,089,461.01</b>	<b>774,200.37</b>	<b>27,620.64</b>	<b>489,289.23</b>	<b>163,746.39</b>	<b>188,935.51</b>	<b>220,693.09</b>	<b>2,953,946.24</b>
<b>COSTO PROMEDIO POR HAS</b>	<b>181,576.84</b>	<b>110,600.05</b>	<b>27,620.64</b>	<b>81,548.21</b>	<b>109,164.26</b>	<b>75,574.20</b>		

## NOTAS:

- 1) En el lote #1 de cafe se plantaron 6 has de cafe caturra, para un total de 33.275 plantas, con un promedio de 5.500 plantas por hectarea. Plantacion establecida en 1986
- 2) En el lote #2 se plantaron 6.5 hectareas de cafe caturra, para un total de 33.375 plantas, ademas se planto 0.50 hectarea de catuai amarillo, para un total de 2.500 plantas y un promedio por hectarea de 5.000 plantas. Plantacion establecida en 1987.
- 3) En el lote #1 de macadamia, se plantaron 168 arboles de los clones 333,660,246,344 y 508, derivados de las especies tetraphylla e integrifolia. Este ensayo se realiza en coordinacion con el ICAFE. Plantacion establecida en 1986.
- 4) En el lote #2 de macadamia se plantaron 803 arboles, de los clones 660,344 y 508, para un total de 6 hectareas. Plantacion establecida en 1987.
- 5) En el lote #1 de cardamomo se plantaron 1.50 hectareas, de la variedad malabar y mysore, para un total de 1.500 plantas. Plantacion establecida en 1986
- 6) En el lote #2 de cardamomo se plantaron 2.50 hectareas de la variedad malabar y mysore, para un total de 2.500 plantas. Plantacion establecida en 1987.

Table A-6. San Joaquin Experiment Station Expenditures

PROGRAMA USAID-FEDECOOP R.L.  
RESUMEN DE COSTOS ESTABLECIMIENTO  
1.30 HAS. DE CAFE FINCA SAN JOAQUIN

CONCEPTS	COSTOS
SUELDOS	106,147.20
SERVICIOS PROFESIONALES	12,425.25
VIATICOS	2,795.00
FLETES	6,500.00
MATERIALES DIVER. E INSUMOS	140,149.36
DIVERSOS	472.50
<b>TOTAL</b>	<b>268,490.33</b>
=====	=====

## NOTAS:

- 1) Costo promedio por hectarea 206,531.00
- 2) Esta finca experimental plantada con variedades como caturra, catuai amarillo, catuai rojo y catimores, tiene como proposito fundamental la produccion de semilla seleccionada.

La produccion de semilla varia por hectarea de acuerdo a los diferentes cultivares, se estima en caso de catuai y caturra una produccion de 2000 kilos por hectarea por ano, para ser distribuidos entre los agricultores beneficiarios del Programa, bajo las normas de seleccion dadas por el Instituto del Cafe de Costa Rica.

SOURCE: FEDECOOP Project Coordinating Unit.

Table A-7. Investment Plan To Renovate One Hectare of Coffee, 1987.  
(Colones)

ACTIVITY	YEAR						
	1	2	3	4	5	6	7
<b>LABORES DE CULTIVO</b>							
Preparacion Terreno	4,815.4	438.2					
Siembra	13,349.2	438.2					
Aplic. Fung. y Otros	2,626.7	2,188.5					
Aplic. Herbicidas	1,532.5	1,094.1					
Fertilizacion	1,311.9	1,311.9					
Aporca y Gavetea	8,535.1	1,750.3					
Arreglo de Plantas			9,696.0	9,696.0	9,696.0	9,696.0	9,696.0
Re poblacion			3,636.0	3,636.0	3,636.0	3,636.0	3,636.0
Control Hierbas			3,636.0	3,636.0	3,636.0	3,636.0	3,636.0
Mant. Cercas y Cam.			606.0	606.0	606.0	606.0	606.0
Otros			4,848.0	4,848.0	4,848.0	4,848.0	4,848.0
Sub Total	32,170.8	7,221.4	22,422.0	22,422.0	22,422.0	22,422.0	22,422.0
Imprevistos 5%	1,608.5	361.1	1,121.1	1,121.1	1,121.1	1,121.1	1,121.1
<b>TOTAL MANO DE OBRA</b>	<b>33,779.3</b>	<b>7,582.5</b>	<b>23,543.1</b>	<b>23,543.1</b>	<b>23,543.1</b>	<b>23,543.1</b>	<b>23,543.1</b>
<b>INSUMOS</b>							
Almacigo	52,800.0	2,557.5	3,000.0	3,000.0	3,000.0	3,000.0	3,000.0
Fertilizantes	4,752.0	5,859.9	14,580.0	14,580.0	14,580.0	14,580.0	14,580.0
Nitrogenados	1,252.9	1,252.9					
Carb. de Calcio	6,930.0						
Fol. Fung. y Otros.	3,657.4	3,079.9	3,457.5	3,457.5	3,457.5	3,457.5	3,457.5
Herbicidas	4,125.0	4,125.0	4,410.0	4,410.0	4,410.0	4,410.0	4,410.0
Nematicida	4,235.0	4,235.0	14,400.0	14,400.0	14,400.0	14,400.0	14,400.0
Sub Total	77,752.3	21,110.2	39,847.5	39,847.5	39,847.5	39,847.5	39,847.5
Imprevistos 5%	3,887.6	1,055.5	1,992.4	1,992.4	1,992.4	1,992.4	1,992.4
<b>TOTAL INSUMOS</b>	<b>81,639.9</b>	<b>22,165.7</b>	<b>41,839.9</b>	<b>41,839.9</b>	<b>41,839.9</b>	<b>41,839.9</b>	<b>41,839.9</b>
<b>TOTAL</b>	<b>115,419.2</b>	<b>29,748.2</b>	<b>65,383.0</b>	<b>65,383.0</b>	<b>65,383.0</b>	<b>65,383.0</b>	<b>65,383.0</b>
<b>COSECHA (Costo Unitario)</b>							
Fanegas		5	50	40	40	40	40
Recoleccion (Colones/Fanega)		900.0	900.0	900.0	900.0	900.0	900.0
Transporte (Colones/Fanega)		70.0	70.0	70.0	70.0	70.0	70.0
<b>COSTO TOTAL COSECHA</b>							
Recoleccion		4,500	45,000	36,000	36,000	36,000	36,000
Transporte		350	3,500	2,800	2,800	2,800	2,800
Sub Total Cosecha		4,850	48,500	38,800	38,800	38,800	38,800
<b>GASTOS FINANCIEROS AGRICOLA</b>	<b>115,419</b>	<b>34,598</b>	<b>113,883</b>	<b>104,183</b>	<b>104,183</b>	<b>104,183</b>	<b>104,183</b>

SOURCE: Calculations of Ruben Nunez, December 1987.

Table A-7 (Cont.). Financial Internal Rate of Return to Farmer.  
(1,000 Colones)

Year	Cost			Add. Work. Cap.	Production			Price		Additional Income		Additional Net Benefits	
	W/out (1,000 Colones)	With	Net		W/out	With	Net	(1)	(2)	(1)	(2)	(1)	(2)
1	36.554	115.419	78.865		10.0	(10)	4.4	3.3	(44)	(33)	(123)	(112)	
2	36.554	34.598	(1.956)		10.0	5	(5)	4.4	3.3	(22)	(17)	(20)	(15)
3	36.554	113.883	77.329	70	10.0	50	40	4.4	3.3	176	132	29	(15)
4	36.554	104.183	67.629	(9)	10.0	40	30	4.4	3.3	132	99	73	40
5	36.554	104.183	67.629	(0)	10.0	40	30	4.4	3.3	132	99	64	31
6	36.554	104.183	67.629	0	10.0	40	30	4.4	3.3	132	99	64	31
7	36.554	104.183	67.629	0	10.0	40	30	4.4	3.3	132	99	64	31
8	36.554	104.183	67.629	0	10.0	40	30	4.4	3.3	132	99	64	31
9	36.554	104.183	67.629	0	10.0	40	30	4.4	3.3	132	99	64	31
10	36.554	104.183	67.629	0	10.0	40	30	4.4	3.3	132	99	64	31
11	36.554	104.183	67.629	0	10.0	40	30	4.4	3.3	132	99	64	31
12	36.554	104.183	67.629	0	10.0	40	30	4.4	3.3	132	99	64	31
13	36.554	104.183	67.629	0	10.0	40	30	4.4	3.3	132	99	64	31
14	36.554	104.183	67.629	0	10.0	40	30	4.4	3.3	132	99	64	31
15	36.554	104.183	67.629	0	10.0	40	30	4.4	3.3	132	99	64	31
16	36.554	104.183	67.629	0	10.0	40	30	4.4	3.3	132	99	64	31
17	36.554	104.183	67.629	0	10.0	40	30	4.4	3.3	132	99	64	31
18	36.554	104.183	67.629	0	10.0	40	30	4.4	3.3	132	99	64	31
19	36.554	104.183	67.629	0	10.0	40	30	4.4	3.3	132	99	64	31
20	36.554	104.183	67.629	(61)	10.0	40	30	4.4	3.3	132	99	125	92
IRR												31.5%	16.9%

The price of C/4,400/Fan. is what FEDECOOP is paying farmers in crop year 1987/88

Price in column (2) is 25% less than price in column (1).

Table A-8. Investment Plan Assuming Higher Coffee Yields, 1987.

(Colones)							
ACTIVITY	YEAR						
	1	2	3	4	5	6	7
<b>LABORES DE CULTIVO</b>							
Preparacion Terreno	4,815.4	438.2					
Siebra	13,349.2	438.2					
Aplic. Fung. y Otros	2,626.7	2,188.5					
Aplic. Herbicidas	1,532.5	1,094.1					
Fertilizacion	1,311.9	1,311.9					
Aporca y Savetea	8,535.1	1,750.3					
Arreglo de Plantas			9,696.0	9,696.0	9,696.0	9,696.0	9,696.0
Re poblacion			3,636.0	3,636.0	3,636.0	3,636.0	3,636.0
Control Hierbas			3,636.0	3,636.0	3,636.0	3,636.0	3,636.0
Mant. Cercas y Can.			606.0	606.0	606.0	606.0	606.0
Otros			4,848.0	4,848.0	4,848.0	4,848.0	4,848.0
Sub Total	32,170.8	7,221.4	22,422.0	22,422.0	22,422.0	22,422.0	22,422.0
Imprevistos 5%	1,608.5	361.1	1,121.1	1,121.1	1,121.1	1,121.1	1,121.1
<b>TOTAL MANO DE OBRA</b>	<b>33,779.3</b>	<b>7,582.5</b>	<b>23,543.1</b>	<b>23,543.1</b>	<b>23,543.1</b>	<b>23,543.1</b>	<b>23,543.1</b>
<b>INSUMOS</b>							
Almacigo	52,800.0	2,557.5	3,000.0	3,000.0	3,000.0	3,000.0	3,000.0
Fertilizantes	4,752.0	5,859.9	14,580.0	14,580.0	14,580.0	14,580.0	14,580.0
Nitrogenados	1,252.9	1,252.9					
Carb. de Calcio	6,930.0						
Fol. Fung. y Otros.	3,657.4	3,079.9	3,457.5	3,457.5	3,457.5	3,457.5	3,457.5
Herbicidas	4,125.0	4,125.0	4,410.0	4,410.0	4,410.0	4,410.0	4,410.0
Nematicida	4,235.0	4,235.0	14,400.0	14,400.0	14,400.0	14,400.0	14,400.0
Sub Total	77,752.3	21,110.2	39,847.5	39,847.5	39,847.5	39,847.5	39,847.5
Imprevistos 5%	3,887.6	1,055.5	1,992.4	1,992.4	1,992.4	1,992.4	1,992.4
<b>TOTAL INSUMOS</b>	<b>81,639.9</b>	<b>22,165.7</b>	<b>41,839.9</b>	<b>41,839.9</b>	<b>41,839.9</b>	<b>41,839.9</b>	<b>41,839.9</b>
<b>TOTAL</b>	<b>115,419.2</b>	<b>29,748.2</b>	<b>65,383.0</b>	<b>65,383.0</b>	<b>65,383.0</b>	<b>65,383.0</b>	<b>65,383.0</b>
<b>COSECHA (Costo Unitario)</b>							
Fanegas		5	60	50	50	50	50
Recoleccion (Colones/Fanega)		900.0	900.0	900.0	900.0	900.0	900.0
Transporte (Colones/Fanega)		70.0	70.0	70.0	70.0	70.0	70.0
<b>COSTO TOTAL COSECHA</b>							
Recoleccion		4,500	54,000	45,000	45,000	45,000	45,000
Transporte		350	4,200	3,500	3,500	3,500	3,500
Sub Total Cosecha		4,850	58,200	48,500	48,500	48,500	48,500
<b>GASTOS FINANCIEROS AGRICOLA</b>	<b>115,419</b>	<b>34,598</b>	<b>123,583</b>	<b>113,883</b>	<b>113,883</b>	<b>113,883</b>	<b>113,883</b>

SOURCE: Calculations by Ruben Nunez, December 1987.

Table A-8 (Cont.) Financial Internal Rate of Return to Farmer.  
(1,000 Colones)

Year	Cost			Add. Work. Cap.	Production			Price		Additional Income		Additional Net Benefits	
	W/out (1,000 Colones)	With	Net		W/out	With	Net	(1)	(2)	(1)	(2)	(1)	(2)
1	36.554	115.419	78.865		10.0	(10)	4.4	3.3	(44)	(33)	(123)	(112)	
2	36.554	34.598	(1.956)		10.0	5 (5)	4.4	3.3	(22)	(17)	(20)	(15)	
3	36.554	123.583	87.029	78	10.0	60 50	4.4	3.3	220	165	55	(0)	
4	36.554	113.883	77.329	(9)	10.0	50 40	4.4	3.3	176	132	107	63	
5	36.554	113.883	77.329	(0)	10.0	50 40	4.4	3.3	176	132	99	55	
6	36.554	113.883	77.329	0	10.0	50 40	4.4	3.3	176	132	99	55	
7	36.554	113.883	77.329	0	10.0	50 40	4.4	3.3	176	132	99	55	
8	36.554	113.883	77.329	0	10.0	50 40	4.4	3.3	176	132	99	55	
9	36.554	113.883	77.329	0	10.0	50 40	4.4	3.3	176	132	99	55	
10	36.554	113.883	77.329	0	10.0	50 40	4.4	3.3	176	132	99	55	
11	36.554	113.883	77.329	0	10.0	50 40	4.4	3.3	176	132	99	55	
12	36.554	113.883	77.329	0	10.0	50 40	4.4	3.3	176	132	99	55	
13	36.554	113.883	77.329	0	10.0	50 40	4.4	3.3	176	132	99	55	
14	36.554	113.883	77.329	0	10.0	50 40	4.4	3.3	176	132	99	55	
15	36.554	113.883	77.329	0	10.0	50 40	4.4	3.3	176	132	99	55	
16	36.554	113.883	77.329	0	10.0	50 40	4.4	3.3	176	132	99	55	
17	36.554	113.883	77.329	0	10.0	50 40	4.4	3.3	176	132	99	55	
18	36.554	113.883	77.329	0	10.0	50 40	4.4	3.3	176	132	99	55	
19	36.554	113.883	77.329	0	10.0	50 40	4.4	3.3	176	132	99	55	
20	36.554	113.883	77.329	(70)	10.0	50 40	4.4	3.3	176	132	168	124	
IRR												44.1%	27.8%

The price of C/4,400/Fan. is what FEDECOOP is paying farmers in crop year 1987/88

Price in column (2) is 25% less than price in column (1).

Appendix B - Evaluation Terms of Reference

2

ARTICLE I - Statement of Work

First evaluation of the Coffee Technification/Diversification Project. COFISA trust Agreement (Trust) and AID/FEDECOOP Memorandum of Understanding (MOU) No. 16.

**OBJECTIVES:**

1. To evaluate the Project's major outputs to date, based on indicators specified by the Trust and MOU No. 16.
2. To evaluate the effectiveness of FEDECOOP in coordination Project activities and complying with the terms of the MOU No. 16 in such areas as: providing extension services in technical assistance, credit, genetic material and equipment, etc.
3. To evaluate the efficiency developed by FEDECOOP's affiliate cooperative institutions to provide credit to the Project's target group as well as the affiliates' capacity to manage their credit portfolios.
4. To evaluate the impact of the Project on participating small coffee producers with respect to changes in production; income and profitability; use of modern technology and inputs; management of formal credit; and provide an overview of the sociological impact of the Project.
5. To evaluate the degree to which the Project has reached the targeted beneficiaries and complied to the terms of the Trust and MOU in the selection of participants and actively promoted crops other than coffee in climatic zones not apt for the cultivation of coffee.

**SCOPE OF WORK:****A. Methodology:**

The Contractor will have access to and make use of the official AID Project files and work closely with the ACDI Credit Consultant based at FEDECOOP. Within FEDECOOP, the Project Coordinator will be the primary contact.

FEDECOOP together with the ACDI Credit Consultant will coordinate field visits with regional officers to assure maximum exposure to activities and problems. Field work may appropriate one half of total work days requested. FEDECOOP will provide contractors with all quarterly reports as well as quarterly reports from ACDI technicians working on the Project.

## B. Specific Terms of Reference:

### 1. Overall Institutional Development

- 1.1 How effective has FEDECOOP been in implementing the Project given additional ongoing activities? In this respect:
- a. has FEDECOOP proven to be an effective institution in coordinating the credit and technical assistance delivery services to Project Beneficiaries; and,
  - b. has FEDECOOP's Accounting Department shown satisfactory capacity to manage Project funds, to establish the accounting system needed to control the use of Project funds, and to encourage and support institutional development in the weaker affiliate cooperatives?
- 1.2 Briefly evaluate and comment on how effective COFISA has been in managing the Trust and in making capital available to FEDECOOP for the purposes of the Project.
- 1.3 What has been the effectiveness of short- and long-term training efforts by FEDECOOP and the Credit Consultant:
- a. the creation and staffing of a program of assistant agronomists in support of the extension activities organized;
  - b. the definition of the in-service training program for extension agents (and "paratechnicians");
  - c. the development and implementation of media programs designed to train coffee farmers in FEDECOOP's technification models; and,
- 1.4 What support links have been developed between regional institutions (e.g. IICA, IHCAFE, CATIE and FEDECOOP) and to what extent have these links facilitated technical assistance and services for the Project?

### 2. Extension Activities

- 2.1 Has the Implementing Unit within FEDECOOP been expanded and its coverage increased as a result of Project activities? How?
- 2.2 What is the status of the in-service training program instituted to improve the capacity of FEDECOOP extension agents to transfer technology to coffee farmers?
- a. what kind of training activities have been organized;

- b. what has been the quality of training received to date;
  - c. to what extent is the content of courses, seminars, and workshops organized relevant to field activities planned for extensionists?
- 2.3 What Project promotion activities are being organized, how do extension agents participate in the organization of such activities, and to what extent are they being effective in getting target farmers involved in the Project?
- 2.4 What selection criteria are being used to select Project beneficiaries, have extension agents participate in the definition and application of such criteria, and how effective are they in reaching the Project's target group? In this respect, are such selection criteria useful in identifying and reaching small coffee producers as anticipated by the MOU?
- 2.5 What is the extent of Project coverage at this time? What type of coffee farmers are presently participating in the Project, and are the more affected areas by coffee rust being serviced?
- 2.6 What is the current extensionist/beneficiaries ratio? Is this ratio adequate to provide needed technical assistance?
- 2.7 To what extent is the system of on-farm supervisory visits being replaced by a system of farmer education? That is, has FEDECOOP translated its technical models into technology transfer messages that can be easily understood by Project beneficiaries? In this respect:
- a. is a gradual approach being used to get small coffee farmers involved in the Project and is this approach adequate;
  - b. is formal instruction being provided to groups of small coffee producers;
  - c. is FEDECOOP actively directing diversification activities and credit resources to areas which are not optimum for the cultivation of coffee;
  - d. who is currently receiving individualized/intensive assistance and to what extent is this type of assistance being utilized as a training follow-up mechanism?
- 2.8 What is the effect of the new training program on technification on the farm?

### 3. Credit Activities:

- 3.1 What arrangements have been made by FEDECOOP to adequately organize uniform credit criteria, application formulas and systems in all of the affiliate cooperatives?
- 3.2 How effective have the participating cooperatives been in approving and administering subloans to small coffee farmers and in providing them with needed extension services?
- 3.3 What level of funding is now available for the credit program, including both investment and production loans? Are the affiliate cooperatives making available stipulated counterpart for such programs?
- 3.4 What role has been played so far by FEDECOOP affiliates in the development of credit plans for small coffee farmers, in assisting them in loan management, in distributing inputs and in monitoring loan repayments? Has the involvement of FEDECOOP agents in such activities proven to be effective in Project implementation?
- 3.5 Are annual production loans in addition to investment loans being made available to participating farmers? From what source?
- 3.6 Does the Project provide for continuation of renovation activities beyond the current input of the Project? If not, what kind and what amount of resources would be required to assure continuity and is it important to do so?

### 4. Project Acceptability, Technological Adoption and Diffusion

- 4.1 Have target farmers accepted the technification and diversification program proposed by FEDECOOP technicians? In this respect, to what extent have (a) the credit terms designed, (b) the type of assistance offered, and (c) the possibility of a gradual renovation of damaged plantations enhanced Project involvement?
- 4.2 Has any previous interest in the Project among beneficiaries been affected by the current world coffee prices?
- 4.3 Are Project participants adequately following instructions provided by FEDECOOP technicians? That is, are participating farmers replacing old coffee varieties with new ones; repopulating plantations to optimum levels; and utilizing fertilizers, pest control practices, advanced in shade control and pruning techniques as expected? If not, why and what modifications must be introduced for technology transfer to become more effective?

4.4 Are Project participants satisfied with the credit assistance (e.g. both investment and production) and technical assistance being provided under the Project? If not, what are their complaints, and how can existing problems be overcome?

4.5 To what extent has FEDECOOP acquired the capacity and become involved in promoting the advantages of processing and marketing highest quality coffee whose marketing does not necessarily depend in ICO quotas? If not, what modifications must be introduced to promote this strategy?

5. Impact of the Project on Participating Small Coffee Producers:

5.1 What are the production increases, if any, resultant from Project participation?

5.2 Are there production increases and, if existent, how does this affect income and profitability to small producers? Compare pre-Project income patterns with post-Project income patterns.

5.3 To what extent have Project participants continued to utilize fungicides, pesticides and fertilizers following the initial two-year disbursement of Project subloans?

5.4 Provide an overview of farmer perceptions with regard to enhancement of living conditions and the more general impact on the social aspect deriving from the Project with respect to primary and secondary employment generation, outmigration from coffee areas, and general living conditions of participants.

ARTICLE II - Technical Directions and Reports

A. Performance of the work herein shall be subject to the technical directions of the cognizant AID Office indicated on the Cover Page.

For the purpose of this contract "Technical Directions" are defined as: directions to the Contractor which fill in details, suggest possible lines of inquiry or otherwise complete the general scope of "Technical Directions" must be within the terms of this contract and shall not change or modify the terms in any way. The Contractor shall notify the Contracting Officer in writing of any Technical Directions which he considers to constitute changes prior to proceeding with.

**B. Reports**

1. Two days prior to departure from Costa Rica, the Contractor will present in writing to the Chief, Rural Development Division, a summary of the evaluation findings.

2. Thirty days after departure from Costa Rica, the Contractor will furnish to the Chief, Rural Development Division, ten copies of the final evaluation report, in English, prepared according to the AID Evaluation Summary (ES) format, as follows:

a. Executive Summary:

The executive summary is a two-to three-page, single-space document containing a clear, concise summary of the most critical elements of the report. It should be a self-contained document that can stand alone from the report. The summary should be written in such a way that individuals unfamiliar with the project can understand the project's basic elements and how the findings from the evaluation are related to it without having to refer to any other document.

b. Evaluation Methodology

c. External Factors affecting Project implementation

d. Status of Inputs

e. Status of Outputs

f. Status of Project's Purpose Achievement

g. Status of General/Subgeneral Achievement

h. Description of Project Impact on Beneficiaries to Date

i. Unplanned Effects

j. Lessons Learned

k. Special Comments or Remarks

l. Recommendations

## Appendix C - Primary Contacts

### Primary Contacts

#### ACDI

C. Frank Astacio, Credit Adviser  
Rafael Ledesma, Rural Extension Training

#### USAID

William Baucom, Chief, Rural Dev. Division  
Ross Wherry, Project Officer, RDD  
Michael Foster, Capital Development Office  
Jim Vandenbos, Evaluation Officer  
Luke Malabad, Exec. Officer, Contracts  
John (Jack) Jordon, Consultant, Honduras  
Ruben Nunez, Consultant, Honduras

#### COFISA

Juan Arteaga, Fiduciary Coordinator

#### ICAFE

Orlando Gonzalez, Macadamia Agronomist

#### FEDECOOP

Nautilio Monge Alvarez, General Manager  
Victor Herra, Board of Directors  
Rafael Alvarado, Coordinator, AID Coffee Project  
Gilberto Gutierrez, Sr. Agronomist, AID Coffee Project  
Roberto Esquivel, Agronomist, AID Coffee Project  
Victor Nunez, Accountant, AID Coffee Project  
Marielos Serrano, Computer, AID Coffee Project  
Homer Elizondo E., Head, Finance Dept.  
Luis Fernando Rojas, Coffee Quality Control Mgr.  
Rodrigo Gutierrez, Regional Agronomist, Sarapiquí  
Virginia Bonilla, Secretary  
Vicki Navarro, Secretary

Jorge Mario Rodriguez Z., Agronomist, Coop Agua Buena,  
and Coop Sabalito, Coto Brus  
Victor Delgado, Manager, Coop Agua Buena, Coto Brus  
Enrique Chavarria C., Manager, Coop Aragon, Turrialba  
Roberto Castro, Agronomist, " " "  
Migalan Arce Coto, Educ. Dept., " " "  
Hernan Garcia, Macademia Agron., " " "

Leonidas Lopez G., Manager, Coop Atenas  
 Guillermo Ordonez Ruiz, Agronomist, "  
 Jesus Calderon Cedeno, Manager, Coop Cartago  
 Norman Gomez Ulett, Agronomist, "  
 Ricardo Castro Rivera, Manager, Coop El General, San  
 Isidro  
 Guillermo Quiros G., Agronomist, " " "  
 Edmundo Castro Jimenez, " " "  
 Henry Fonseca Corrales, " " "  
 Dacia Granados Jimenez, Secr., " " "  
 Juan Bta. Moya F., Manager, Coop La Libertad, Heredia  
 Ronald Chavarria R., Agronomist, " " "  
 Solomon Hernandez R., Board of Dir., " "  
 Hernan Cordero Sandoval, " " "  
 Edwin Acuna Corrales, Manager, Coop Naranjo  
 Yanuario Herrera Ruiz, Agronomist, "  
 Luis Carlos Castillo, Manager, Coop Palmares  
 Juan J. Rodriguez R., Agronomist, "  
 Tony Rodriguez, Manager, Coop Pejibaye, Turrialba  
 Jose Miguel Vargas, Agronomist, "  
 Francisco Zalazar V., Manager, Coop Rio Pirro, Heredia  
 Controller, " " "  
 Antonio Valerio, Controller, Coop Sabalito, Coto Brus  
 Luis G. Rojas V., Manager, Coop San Juanillo, Naranjo  
 Oscar Eduardo Rojas, Manager, Coop San Carlos, Quesada  
 Alexander Rojas, Agronomist, " " "  
 Salvador Quiroz, " " "  
 Orlando A. Arrieta, Agronomist, " " "  
 Claudio Brenes Zeledon, Manager, Coop San Vito, Coto Brus  
 Luis Mora Acuna, Agronomist, " " "  
 Oscar Jimenez Burcos, " " "  
 Carlos Brenes Mendoza, " " "  
 Walter Orozco Fonseca, Manager, Coop Santa Rosa, Heredia  
 Onofre Hidalgo Leiton, Agronomist, " " "  
 Rodrigo Viguez, " " "  
 Juan Bta. Monge Munoz, Manager, Coop La Union, San Rafael

Various coffee producers

Appendix D - Schedules of Field Visits

TECNIFICACION AND DIVERSIFICACION COFFEE PROGRAM

US-AID-FEDECOOP/COSTA RICA

PROGRAM OF VISIT OF MR. JOHN L. JORDAN DURING HIS  
WORKING PERFORMANCE DUTIES OF PROGRAM EVALUATION.

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- 1.- FRIDAY 4 DEC., 1987: 8 AM. COOPE ATENAS
- 2.- " " 2 PM. COOPE INDIA-ING. HUGO LEDEZMA
- 3.- " " 3 PM. COOPE PALMARES
- 4.- SATURDAY 5, " 8 AM. COOPE CARTAGO

THE JEEP SHALL BE AT HOTEL COROBICI AT 6:30 AM. IN ORDER  
TO PROVIDE TRANSPORTATION.

PROGRAMA DE TRABAJO A DESARROLLAR POR EL DR. RONALD H. TINNERMEIER  
 DURANTE SU VISITA DE EVALUACION DEL PROGRAMA USAID-FEDECCOP, R.L.  
 =====

Cooperativa-Lugar	Fecha	Hora
1.- COOPE-LIBERTAD	Nov. 27, 1987	8 a m.
2.- COOPE- PIRRO	" " "	2 p m.
3.- COOPE-ARAGON	" 28 "	8 a m.
4.- COOPE-PEJIBAYE		
5.- COOPE-SABALITO	" 30 "	8 a m.
6.- COOPE-AGUA BUENA	" 30 "	2 p m.
7.- COOPE-SAN VITO	Dic. 1 "	8 a m.
8.- COOPE-EL GENERAL	" 2 "	8 a m.
9.- COOPE-SANTA ROSA	" 3 "	2 p m.
10.- COOPE-SAN CARLOS	" 4 "	8 a m.
11.- COOPE-NARANJO	" 5 "	8 a m.
12.- SAN JUANILLO	" 7 "	8 a m.

Appendix E - Questionnaire

ENCUESTA COOPERATIVA

1. Nombre: \_\_\_\_\_ 2. Ubicacion: \_\_\_\_\_
3. Número de socios: \_\_\_\_\_ 4. Número de empleados: \_\_\_\_\_  
(Consigue un listado de beneficiarios, has., y montos girados si sea disponible)
5. Actividades principales de la cooperativa: \_\_\_\_\_  
\_\_\_\_\_
6. Volumen total de cafe vendido por la cooperativa durante el ultimo ano economico: \_\_\_\_\_ (Fanegas)
7. Cuantos caficultores han solicitado prestamos de la cooperativa?
8. Cuantos han recibido credito?
9. Que criteria utiliza la cooperativa para la seleccion de prestatarios? \_\_\_\_\_  
\_\_\_\_\_
10. Podria explicar los procedimientos crediticios utilizados desde la solicitud hasta el primer desembolso \_\_\_\_\_  
Que fomularios utiliza el programa? \_\_\_\_\_  
Que tipo de garantia utiliza? \_\_\_\_\_  
Quien aprueba el credito? \_\_\_\_\_
11. Que porcentaje de los prestamos y montos estan en mora?  
Numero de prestamos? \_\_\_\_\_% Montos en mora? \_\_\_\_\_%
12. Que controles ha establecido la cooperativa para recuperar prestamos en mora? \_\_\_\_\_  
\_\_\_\_\_

13. Ha sido necesario prorrogar, renovar, o refinanciar algun credito? \_\_\_\_\_ Por cuales razones? \_\_\_\_\_  
\_\_\_\_\_
14. Vale la pena tener formularios, regulaciones, y procedimientos comunes entre las varias cooperativas de la federacion? \_\_\_\_\_  
Explique: \_\_\_\_\_
15. Utiliza la cooperativa un plan de inversion para cada prestatario? \_\_\_\_\_ Si "no", Valdria la pena hacerlo? \_\_\_\_\_
16. Hay suficiente fondos de credito disponible para el programa de tecnificacion y diversificacion? \_\_\_\_\_
17. Tiene la cooperativa cuentas de ahorros? \_\_\_\_\_ Si "si", cual es el valor total a la fecha? \_\_\_\_\_  
Cual es la tasa de interes pasiva pagada? \_\_\_\_\_
18. Cuantos beneficiarios han recibido asistencia tecnica? \_\_\_\_\_
19. Es suficiente esta cantidad y tipo de asistencia tecnica?  
\_\_\_\_\_  
Si "no", que cantidad seria necesaria? \_\_\_\_\_  
\_\_\_\_\_
20. Han recibido los socios asistencia tecnica de otras fuentes?  
Cuales? \_\_\_\_\_ Resultados? \_\_\_\_\_  
\_\_\_\_\_
21. Cuantos socios han adoptado variedades mejoradas de cafe?
22. Que porcentaje de la tierra total de los socios ahora es cultivada con las tecnicas nuevas? \_\_\_\_\_ (financiado)
23. Cuantas hectareas adicionales han sido renovadas sin financiamiento? (Efecto multiplicador) \_\_\_\_\_

24. Que tipo de programas de entrenamiento han recibido los socios? \_\_\_\_\_  
 Quien las ha dado? \_\_\_\_\_  
 Cual fue la reaccion de los socios a estas programas de entrenamiento? \_\_\_\_\_
25. Que tipos de entrenamiento han recibio los tecnicos/empleados de la cooperativa? \_\_\_\_\_  
 Fueron satisfechos? \_\_\_\_\_ Si "no", porque no? \_\_\_\_\_  
 \_\_\_\_\_
26. Que servicios recibe esta cooperativa de FEDECOOP? \_\_\_\_\_  
 \_\_\_\_\_  
 Quedan ustedes satisfechos con la calidad y cantidad de estos servicios? \_\_\_\_\_ Si "no", porque? \_\_\_\_\_  
 \_\_\_\_\_  
 Hay otros servicios que a ustedes les gustaria recibir de FEDECOOP? \_\_\_\_\_
27. Cuantos veces por ano recibe ustedes visitas de personal de FEDECOOP? \_\_\_\_\_ Quienes son? \_\_\_\_\_
28. Es suficiente el dos porciento de interes que recibe la cooperativa para financiar la asistencia tecnica? \_\_\_\_\_ Si "no", cuanto seria necesario? \_\_\_\_\_  
 Seria posible financiar la asistencia tecnica solamente de ingresos de interes? \_\_\_\_\_ A que tasa de interes? \_\_\_\_\_
29. Que esta haciendo la cooperativa en la diversificaiion del cafe?  
 \_\_\_\_\_
30. Utiliza la cooperativa computacion? \_\_\_\_\_ En que forma?

31. En su opinion, como podria ser mejorado el programa de  
FEDECOOP/USAID? \_\_\_\_\_

## Appendix F - References

### REFERENCE MATERIAL

ADMINISTRACION Y CONSULTORIA, S.A., Estudio de Factibilidad para el Establecimiento de: 189 Hectareas de Macadamia, 93 Hectareas de Cardamono y 170 Hectareas de Cacao en la Region Huetar Atlantico, Marzo 1986.

\_\_\_\_\_, Estudio de Factibilidad para el Establecimiento de: 251 Hectareas de Macadamia y 56 Hectareas de Cardamomo en la Region Huetar Norte, Enero 1986.

\_\_\_\_\_, Estudio de Factibilidad para el Establecimiento de 90 Hectareas de Macadamia, Mayo 1985.

ASTACIO, C. Frank, Primer Informe--Asesoria de Credito, 30 de junio de 1986.

\_\_\_\_\_, Segundo Informe--Asesoria de Credito, 31 de Octubre de 1987.

\_\_\_\_\_, Tercer Informe--Asesoria de Credito, 28 de Marzo de 1987.

\_\_\_\_\_, Cuarto Informe--Asesoria de Credito, 30 de Junio de 1987.

\_\_\_\_\_, Quinto Informe--Asesoria de Credito, Setiembre de 1987.

\_\_\_\_\_, Evaluacion del Avance Antes del Inicio de la Asesoria de Credito, 31 de Diciembre de 1985.

\_\_\_\_\_, Segunda Evaluacion del Avance Antes del Inicio de la Asesoria de Credito, 28 de Febrero de 1986.

BANCO CENTRAL DE COSTA RICA, Informe Sobre la Politica de Credito a la Actividad Caftalera Durante 1986, 9 de Agosto de 1987.

COFISA, Quarterly Reports, Setiembre de 1985 a Setiembre de 1987.

CORONAS U., Cristian, Informe Sobre la Capacidad Empresarial de 19 Cooperativas Afiliadas a la Federacion de Cooperativas de Caficultores - FEDECOOP, San Jose, Setiembre de 1985.

FEDECOOP, Programa USAID-FEDECOOP, R.L., Informe Trimestral de Labores, Abril a Junio de 1987.

\_\_\_\_\_, Programa USAID-FEDECOOP, R.L., Informe Trimestral de Labores, Julio a Setiembre de 1987.

\_\_\_\_\_, Programa USAID-FEDECOOP, R.L., Informe de Labores--Marzo de 1985 a Noviembre de 1987, Diciembre de 1987.

\_\_\_\_\_, Reglamento de Credito para Beneficiarios del Proyecto de Tecnificacion y Diversificacion del Cafe, 1 de Mayo de 1985.

ICAFE, Informe Sobre la Actividad Cafetalera Costa Rica, XVI Congreso Nacional Dafetalero, 9 de Agosto de 1987.

NESMAN, Edgar G., Paratechnician Specialist Report, submitted to Agricultural Cooperative Development International, Washington, D.C., October 5, 1987.

OFICAFE, Proyecto de Tecnificacion y Diversificacion del Cafe Ante la Presencia de la Roya, San Jose, Octubre de 1984.

NUNEZ, Ruben, Reporte de Asesoria del 4 al 8 de Mayo de 1987, Servicios Tecnicos del Caribe, 1987.

\_\_\_\_\_, y Amparo Canales, Evaluacion Parcial del Programa de Mejoramiento al Pequeno Caficultor, Servicios Tecnicos del Caribe, San Juan, Junio, 1987.

\_\_\_\_\_, y Amparo Canales, Impacto Economico del Proyecto en la Regional VI-La Paz, Servicios Tecnicos del Caribe, San Juan, Enero, 1987.

\_\_\_\_\_, y Amparo Canales, Impacto Economico del Proyecto en la Regional I - Santa Barabara, Servicios Tecnicos del Caribe, San Juan, Noviembre, 1987.

TORRES, James F., An Evaluation of Costa Rica's Project of Coffee Technification and Diversification, prepared for USAID/Costa Rica, Agricultural Cooperative Development International, Washington, D.C., September 2, 1987.

USAID, Internal Reports and Memos, 1984-1987.

\_\_\_\_\_, Independent Audit of COFISA-FEDECOOP Special (Trust) Fund, April 1986. (Three separate parts and a final report)