

PD-ABK-775
XD

A.I.D. EVALUATION SUMMARY - PART I

1. BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS.
2. USE LETTER QUALITY TYPE, NOT DOT MATRIX TYPE.

IDENTIFICATION DATA

ISA 93886

A. Reporting A.I.D. Unit: Mission or AID/W Office <u>USAID/GUATEMALA/CAP</u> (ES# _____)	B. Was Evaluation Scheduled in Current FY Annual Evaluation Plan? Yes <input checked="" type="checkbox"/> Slipped <input type="checkbox"/> Ad Hoc <input type="checkbox"/> Evaluation Plan Submission Date: FY <u>93</u> Q <u>4th</u>	C. Evaluation Timing Interim <input checked="" type="checkbox"/> Final <input type="checkbox"/> Ex Post <input type="checkbox"/> Other <input type="checkbox"/>
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D. Activity or Activities Evaluated (List the following information for project(s) or program(s) evaluated; if not applicable, list title and date of the evaluation report.)

Project No.	Project / Program	First PROAG or Equivalent (FY)	Most Recent PACD (Mo/Yr)	Planned LOP Cost (000)	Amount Obligated to Date (000)
520-0381	Small Farmer Coffee Improvement Project	1989	07/97	\$11,000	\$8,029

ACTIONS

E. Action Decisions Approved By Mission or AID/W Office Director	Name of Officer Responsible for Action	Date Action to be Completed
<p style="text-align: center;">Action(s) Required</p> <p>Formalize ANACAFE's annual transfer of additional funds to the set aside or investment fund.</p> <p>Request disbursement of the GOG/Min of Fin. remaining commitment to the Credit Trust Fund.</p> <p>Request modification of the Credit Trust Fund interest rate distribution to raise the implementing agency's share to five percent.</p> <p>Determine, with the implementing agency, how to maintain appropriate levels of technical support to project activities.</p> <p>Principal Recommendations: 1. Create an appropriate organizational structure for the project implementation unit that will ensure sustainability. 2. Create a formal mechanism for personnel selection based on position descriptions, qualifications and selection criteria. 3. Improve methodology used to reach beneficiaries merging the functions of the credit and extension technicians. 4. Include whole farm planning as part of the technology package for each farm.</p>	<p>Barbara Ellington-Banks</p> <p>Barbara Ellington-Banks</p> <p>Barbara Ellington-Banks</p> <p>Barbara Ellington-Banks</p>	<p>12/94</p> <p>12/95</p> <p>03/96</p> <p>As Needed Basis</p>

APPROVAL

F. Date of Mission Or AID/W Office Review Of Evaluation:
 (Month) 11 (Day) 18 (Year) 93

G. Approvals of Evaluation Summary And Action Decisions:

	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
Name (Typed)	Barbara Ellington-Banks	Margand Ventura	Margaret Kromhout	William Stacy Rhodes
Signature	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
Date	2/7/95		3-9-95	

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ABSTRACT

H. Evaluation Abstract (Do not exceed the space provided)

The purpose of the Small Farmer Coffee Improvement Project is to increase small coffee farmer income by increasing coffee production, productivity and quality. Implementation was undertaken with the assistance of the Association of Coffee Growers in Guatemala.. The INTERIM evaluation was conducted by ECOTEC.

The major findings and conclusions are: 1) It is expected that both ANACAFE and the GOG will at least meet their financial commitments before Project termination, and it remains possible that additional counterpart funding will be forthcoming; 2) The banks will continue to fund borrowers that can demonstrate a good repayment record, especially if there is a technical support unit for training and technical assistance.

Lessons learned: 1. Financial Sustainability: USAID funding will end therefore a mechanism for self-financing of the credit trust fund implementation unit arose. It will consist of the use of a percentage of the trust fund earnings and support from ANACAFE to maintain the service for as long as the credit trust fund is functional (twenty years). 2. Managerial Sustainability: Due to the annual change in the management structure of the implementing institution, the project implementation unit must have strong operational functions to maintain the services to the small coffee farmer community in Guatemala. 3. Functional Sustainability: Geographic and programmatic focus is required to appropriately utilize resources and improve quality of services and measure the impact of project activities in a reasonable time period. 4. Main Development Concept: On the farmer level, the institutional and management level functions of the implementation unit notwithstanding, actual develop change occurs when the beneficiaries mature to understand and access publically available credit and technical assistance for production, processing and marketing, for which they pay. Within the project, activities have been developed to guide the beneficiaries towards self-reliance. These project activities were designed to be mobile and replicable in order to focus in specific geographic areas and then be transferred to other areas for greater coverage.

COSTS

I. Evaluation Costs

1. Evaluation Team		Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (U.S. \$)	Source of Funds
Name	Affiliation			
Jeffery Nash	Institutional Aspects, Team Leader	520-0381-A-00- 9637-00	\$65,000	USAID
Jose Gurule	Credit System			
Edgar Nesman	Extension System			
Andre Helenberger	Post-Harvest Aspects			
Robert Clyne	Sociological Aspects			
Marco Augusto	Training			
Recinos Byron Rosales	Training			
2. Mission/Office Professional Staff Person-Days (Estimate) <u>25</u>		3. Borrower/Grantee Professional Staff Person-Days (Estimate) <u>60</u>		

A.I.D. EVALUATION SUMMARY - PART II

SUMMARY

J. Summary of Evaluation Findings - Conclusions and Recommendations (Try not to exceed the three (3) pages provided)

Address the following items:

- | | |
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| <ul style="list-style-type: none"> ● Purpose of evaluation and methodology used ● Purpose of activity(ies) evaluated ● Findings and conclusions (relate to questions) | <ul style="list-style-type: none"> ● Principal recommendations ● Lessons learned |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|

Mission or Office
Environment and Natural Resources

Date This Summary Prepared:
 1/95

Title And Date Of Full Evaluation Report:
 Second Evaluation /January 1994

The purpose of the mid-term evaluation was to review several key project components, the present situation, and identify findings and make recommendations. Remedial actions will be stressed for the principal implementing institution, ANACAFE. The following five areas are the major analytical interest for the evaluation: 1. Implementation status and institutional aspects; 2. Credit program; 3. Extension methodology and sociological aspects; 4. Post-harvest handling and quality aspects; and 5. Training program.

The methodology used for the evaluation was through individual interviews with the project staff and beneficiaries and through the examination of numerous Friendship and Working Groups (GATs) and to write up GAT member's perceptions in the form of case studies on the four most informative groups.

The Project purpose originally was to stimulate participation by rural poor in economic growth by providing activities that would improve the small farmer's productive capacity, thereby leading to higher rural incomes. This income redistribution effect is important and is beginning to take place: during the last harvest season (prior to this report) at least one group of beneficiaries received a premium for improved quality parchment coffee which was processed in a Project-designed and financed plant. Even if the average beneficiary has typically low yields (national average of seven bags per manzana), the \$35 to \$70 additional income resulting from the Project is appreciable when compared to the average small farm income of \$150/year indicated in the Project Paper.

Other types of impact include productivity and the integration of women into productive activities. Increased productivity leading to greater yields of higher quality coffee has been the dual benefit of ensuring a better price and a more certain demand, both important in today's depressed world coffee market. At the same time, this activity results in additional employment being generated, primarily for the family and not only during the harvest peak. Despite traditional social and cultural relationships, which typically are not conducive to meaningful female participation in farm decisions, the project has involved a growing number of women in its activities: nine percent of the production loans have been with women.

The Project is having a positive impact in the coffee subsector. It is working within two general areas -- at the field-level, and at the processing plant. Nevertheless, substantial effort still will be required to have these advances accepted and replicated throughout the small coffee producer sector.

The Project is sponsoring or assisting in a number of activities which should introduce or reinforce environmentally sound practices, such as: labor-intensive cultivation techniques; breeding and release of insects for biological control of the coffee border; extensive investigation of pesticide residues; promotion of cultivation of "organic or natural coffee and training focused on safe handling and use of agrichemicals, calibration of spraying equipment and biological controls.

Principal Findings and Conclusions: 1. The frequent change of both Board members and the president and often the General manager of ANACAFE results in minimal operational continuity making project operations dependent on personalities. 2. The lack of continuity in management by ANACAFE required that the technical advisors became the managers of all project activities. 3. The reorganization of the Project Implementation Unit provided more operational independence and focus on project targets. 4. The extension and credit services were not sufficiently well coordinated to reach beneficiaries. 5. The technology packages need to be adapted to each specific area.

Principal Recommendations: 1. Create an appropriate organizational structure for the project implementation unit that will ensure sustainability. 2. Create a formal mechanism for personnel selection based on position descriptions, qualifications and selection criteria. 3. Improve methodology used to reach beneficiaries merging the functions of the credit and extension technicians. 4. Include whole farm planning as part of the technology package for each farm.

Lessons Learned: 1. Financial Sustainability: USAID funding will end; therefore, a mechanism for self-financing of the credit trust fund implementation unit arose. It will consist of the use of a percentage of the trust fund earnings and support from ANACAFE to maintain the service for as long as the credit trust fund is functional (twenty years). 2. Managerial Sustainability: Due to the annual change in the management structure of the implementing institution, the project implementation unit must have strong operational functions to maintain the services to the small coffee farmer community in Guatemala. 3. Functional Sustainability: Geographic and programmatic focus is required to appropriately utilize resources and improve quality of services and measure the impact of project activities in a reasonable time period. 4. Main Development Concept: On the farmer level, the institutional and management level functions of the implementation unit notwithstanding, actual develop change occurs when the beneficiaries mature to understand and access publically available credit and technical assistance for production, processing and marketing, for which they pay. Within the project, activities have been developed to guide the beneficiaries towards self-reliance. These project activities were designed to be mobile and replicable in order to focus in specific geographic areas and then be transferred to other areas for greater coverage.

C

ATTACHMENTS

K. Attachments (List attachments submitted with this Evaluation summary: always attach copy of full evaluation report, even if one was submitted earlier; attach studies, surveys, etc., from "on-going" evaluation, if relevant to the evaluation report.)

1. Full Evaluation report
2. Copy of the evaluation Scope of Work

COMMENTS

L. Comments By Mission, AID/W Office and Borrower/Grantee On Full Report

Mission: The Evaluation indicated the need to extend the long term expatriate technical assistance being provided under the project. In a semi-annual project review (May 1993) and a review of the remaining project funds, the Mission decided not to fully fund the Life of Project (LOP) Authorization due to Mission budget reductions. Therefore, in negotiations with ANACAFE agreement was reached to complete the contract with AGRIDEC and that technical assistance for the project would be contracted on a case by case basis directly by ANACAFE. The technical assistance contract ended on July 27, 1994. The Mission has determined that the project fits into activities proposed for the conflictive areas once a Peace Accord is signed.

Grantee: The Grantee agrees that the constant changes in the ANACAFE Board of Directors to some degree affects the implementation of some project activities. In general, ANACAFE accepts the recommendations of the evaluation and in response the General Manager position was expanded to add continuity to the a new director for the project was hired and a Small Coffee Farmers and Cooperatives Commission was re-established as part of the Board of Directors. The General Manager is fully involved in the implementation of the project and its day to day operations.

XD-ABK-775-A

SECOND EVALUATION

SMALL FARMER COFFEE IMPROVEMENT

PROJECT No. 520-0381

USAID/ANACAFE

CARRIED OUT BY:

Jeffrey Nash, team leader

José Gurulé

Edgar Nesman

Robert Clyne

André Helfenberger

ECOTEC team

Guatemala, January 1994.

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**USAID/ANACAFE
SECOND EVALUATION
SMALL FARMER COFFEE IMPROVEMENT
PROJECT Nº. 520-0381**

INTRODUCTION

The Small Farmer Coffee Improvement Project officially began at the end of July 1989 with the signing of grant and cooperative agreements between AID and the Government of Guatemala (GOG) and the National Coffee Association (ANACAFE). The Project duration was originally conceived as for eight years through July 1997, even though the financing committed under these agreements was for a five-year period. Recently the authorization was granted by AID to extend Project activities to the end of the original period.

Two years ago the Project underwent the first formal evaluation, and the conclusions and recommendations were used to reformulate some activity areas and related resources. Now the Project is mid-way into its implementation period, and it is evident both that substantial progress has been made, and that modifications must take place for the goals to be met.

The orientation of the second or mid-term evaluation is on several key components, their present situation, findings and recommendations. Stress is placed on the remedial actions suggested for the principal implementing institution, ANACAFE, rather than a descriptive progress report. The following five areas are of major analytical interest for the evaluation:

1. Implementation Status and Institutional Aspects
2. Credit Program
3. Extension Methodology and Sociological Aspects
4. Post-Harvest Handling and Quality Aspects, and
5. Training Program.

A team was assembled under the local firm "Empresa de Consultoría en Ecotecnología" (ECOTEC), consisting of the following specialists who completed their analyses during September and October 1993:

1. Jeffrey Nash, Institutional Aspects and Team Leader
2. José Gurulé, Credit System
3. Dr. Edgar Nesman, Extension System
4. Robert Clyne, Sociological Aspects
5. André Helfenberger, Post-Harvest Aspects
6. Ing. Marco Augusto Recinos and Ing. Byron Rosales, Leaders of ECOTEC's team on the Training Program.

The evaluation report contains a short overview of Project implementation, general conclusions and recommendations, and the individual reports by the consultants.

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

1.0

BACKGROUND

ANACAFE was founded as a representational institution for the interests of the Guatemalan coffee industry. The Coffee Law of 1969 established that ANACAFE would be charged with the execution of activities to implement policies for this important economic sector, which included the registry of coffee farms and their annual production, quality control classification for export coffees, investigation and demonstration farms, and a technical assistance service. ANACAFE's General Assembly consists of member producers, whose voting power reflects the volume of registered production.

In 1981 ANACAFE's Board of Directors made a policy decision to focus the technical assistance program on the small producer in response to the national political situation which did not allow the traditional extension service to function. The methodology used was to organize thousands of small producers throughout the country into groups of 15-20, through which production-oriented training was directed to the new target population. This effort was credited with significantly improving the production by these groups, even though credit remained virtually unaccessible to them. In 1986 a special unit was formed in ANACAFE to continue these activities, while much of institution's resources returned to focus on the medium and larger producer.

The AID-funded Project in 1989 was directed to this specialized unit, since the intention was to target this sub-sector and not be oriented to the institutional development of ANACAFE. It also was a natural consequence that the two field-operation departments of ANACAFE foster institutional rivalry which has persisted to the present. In late 1992 in reaction to the depressed income of ANACAFE, substantial institution-wide layoffs became necessary, and the small producer unit with its outside funding was incorporated into the technical assistance division. This arrangement did not prove to be functional, and as of this writing AID has agreed to ANACAFE's request for establishing a separate Project implementation unit.

The major distinction between this new unit and the pre-1993 specialized unit is that the present one will concentrate resources and activities primarily on three geographic regions, while maintaining technical support for other small producers already participating in the Project.

2.0

PROJECT IMPLEMENTATION STATUS

2.1 Status of Project Outputs

After four years of implementation, the Project outputs are in the process of formally being adjusted to reflect "the realities of the coffee sector" and "the institutional capacity of ANACAFE". The following information compares the newly approved targets and the levels actually attained as of September 1993.

<u>Output Description</u>	<u>New</u>	<u>Attained</u>
1. Coffee producers trained and technology implemented through use of credit (mzs)	2,800	1,043
	8,100	947
2. Small producers trained in coffee processing	2,000	84 in 1992/3
3. ANACAFE technicians trained to M.S. level	1	0
4. ANACAFE project unit staffed and operational	1	partially established
5. Processing facilities constructed or improved	25	8
6. Credit trust funds in gov't/commercial banks	BANDESA/ at least 2	BANDESA/ now 1
7. Certification system for improved quality	1	in design stage
8. High quality export marketing promotion	1	in design stage

2.2 Impact of Project Activities

BENEFICIARY LEVEL

The Project purpose originally was to stimulate participation by rural poor in economic growth by providing activities that would improve the small farmer's productive capacity, thereby leading to higher rural incomes. This income redistribution effect is important and is beginning to take place: during the last harvest season at least one group of beneficiaries received a premium for improved quality parchment coffee which was processed in a Project-designed and financed plant. Even if the average beneficiary has typically low yields (national average of seven bags per manzana), the \$35 to \$70 additional income resulting from the Project is

appreciable when compared to the average small farm income of \$150/year indicated in the Project Paper.

Other types of impact include productivity and the integration of women into productive activities. Increased productivity leading to greater yields of higher quality coffee has the dual benefit of ensuring a better price and a more certain demand, both important in today's depressed world coffee market. At the same time, this activity results in additional employment being generated, primarily for the family and not only during the harvest peak. Despite traditional social and cultural relationships, which typically are not conducive to meaningful female participation in farm decisions, the Project has involved a growing number of women in its activities: nine percent of the participants in training events and six percent of the production loans have been with women.

ENVIRONMENTAL

The Project is having a positive impact in the coffee sub-sector it is working with in two general areas -- at the field-level, and at the processing plant. Nevertheless, substantial effort still will be required to have these advances accepted and replicated throughout the small coffee producer sector.

Field-Level

The Project is sponsoring or assisting in a number of activities which should introduce or reinforce environmentally sound practices, such as:

- labor-intensive cultivation techniques
- breeding and release of insects for biological control of the coffee borer
- extensive investigation of pesticide residuals
- promotion of cultivation of "organic or natural" coffee
- training events focused on safe handling and use of agricultural chemicals, calibration of spraying equipment, and biological controls.

Processing Plant-Level

Through on-going commercial scale trials in the construction and modification of wet processing plants, the Project has introduced a technology which results in high quality parchment coffee plus:

- greatly reduced water requirement
- use of recycled water
- reduced electrical consumption.

Some experimentation has been done on the efficient conversion of coffee pulp into natural fertilizer, although currently this pulp remains as a large-scale contaminant whose disposal is a major problem.

2.3 Project Funding

It is understood that AID will not be committing any more funding, and therefore the question arises if the Project can continue to operate with the remainder of AID pipeline and counterpart funds. The answer is positive. It is expected that both ANACAFE and the GOG will at least meet their financial commitments before Project termination, and it remains possible that additional counterpart funding will be forthcoming. The banks probably will continue to fund borrowers that can demonstrate a good repayment record, especially if there is a technical support unit for training and technical assistance.

The strategy recommended is to ~~establish a set-aside or investment fund~~ ~~with interest earnings adequate to cover the interest on the credit trust fund~~ ~~and to provide technical support and administration for the credit trust fund~~ ~~implementation unit after Project financing ends~~ ~~while still part of ANACAFE, this implementation unit would be relatively self-contained and aimed towards self-financing. The set-aside or investment fund should continue for as long as the credit trust fund is functional (initially established as 20 years).~~

2.4 General Recommendations

Although many activities are developing reasonably well, emphasis must be focused on extending the coverage especially as concerns the area improved through integrated Project technologies (productivity-oriented extension, credit, processing, marketing channels). Quantifiable impact measurements should be monitored to detect changes in income and employment generation, environmental practices, and female participation.

An investment or set-aside fund should be created with interest earnings and other resources to ensure the sustainability of the credit trust technical support and administration after AID Project funding ends in mid-1997.

A tentative financial plan should be formulated to quantify and program the needs and sources of funds for operations and investment during the period covered by AID Project financing.

The following actions should be executed as soon as possible to permit a long-term financial plan to be drawn up:

- formalize ANACAFE's annual transfer of additional funds to the set-aside or investment fund
- request disbursement to the Ministry of Public Finances of the \$950K in AID funding for the credit trust fund
- request modification of the trust interest rate distribution to raise the implementing agency's share to five percent.

3.1 Conclusions

The hierarchy of the Project implementation unit is straightforward, but there is one institutional characteristic which makes it very fragile: the frequent change of both board members and the resident, and often resulting in a change in the General Manager. Therefore ANACAFE, and the Project as a result, is dependent on personalities and has shown minimal operational continuity.

The first Project evaluation in 1991 made a series of recommendations concerning the institutional structure. In general terms these have been implemented, and if the current Project implementation unit reorganization is carried out, the organizational friction between the two technical assistance programs should be eliminated. If organizational difficulties continue, they will be the result of personalities and not the structure itself.

The role of expatriate technical assistance has taken the form of two important aspects: "institutional" continuity and technical knowledge. The magnitude of organizational change implied by the new Project structure and geographic focus and the limited time left in the Project virtually require that the technical assistance be provided by individuals who have been involved in the Project for a significant period of time.

With the Project reorganization the lines of authority and responsibility become clearer. But this hardly means that all the pieces are in place and functioning. A major question concerns how the Project staff will interface with the ANACAFE structure, especially in reference to administrative and logistical support, overlapping work zones in the field with ANACAFE staff, and technical support in areas not presently provided by Project staff.

Despite the attention which has been given the areas of activity and strategic planning, evaluations, and information systems by outside consultants and the resident advisory team,

the Project staff has been able to develop a strong institutional base and a high level of operational efficiency. The Project staff has been able to develop a strong institutional base and a high level of operational efficiency. The Project staff has been able to develop a strong institutional base and a high level of operational efficiency.

3.2 General Recommendations

The evaluation team agrees with the reorganization of the Project unit to provide more operational independence and focus on Project targets. It is necessary to concentrate not only geographically, but also programmatically to consolidate those advances already achieved and those most desired. The tendency to spread must be withstood.

A formal mechanism for personnel selection should be established from the Executive Director level down, based on position description, qualifications, and selection criteria.

The ~~_____~~ in selected and very focused areas. Financial and strategic planning, post-harvest processing and handling, export-targeted marketing, and applied extension/training/farm management techniques (this may be short-term). However formal counterparts must be assigned with the responsibility of participating in the technical area, and much more advisor/team coordination is required.

Priority attention should be given to clarifying the operational strategy and the administrative and methodological changes that are needed for transition to a semi-autonomous unit and program.

Attention should be given to establishing the minimum necessary tools and procedures for planning, supervision, evaluation, and a functional management information system.

4.0 CREDIT PROGRAM

4.1 Conclusions

As of September 30, 1993 ANACAFE's outstanding portfolio through the participating banks consisted of 1151 loans distributed as follows:

<u>Loan Type</u>	<u>Number</u>	<u>Amount Approved</u>	<u>Outstanding Balance</u>
Production	1043	Q 9,782,016	Q 5,538,844
Nurseries	104	447,877	401,769
Processing	<u>4</u>	<u>411,700</u>	<u>386,700</u>
TOTAL	1151	Q 10,641,593	Q 6,327,314

To date the level of past due and delinquent accounts is only 1.3% of the outstanding balance, and only three loans totalling less than Q 25,000 have defaulted (because of natural disaster) and were written off from the Trust Reserve Fund.

During the 1993 crop year the Extension Agents organized 37 new groups consisting of 538 coffee farmers. They are currently ~~_____~~ Most of the Coffee Farmers that belong to the GATS are not indebted to the USAID-ANACAFE project but do receive technical assistance from the Extension Agent through group and individual supervision. A spot check on eligibility requirements indicated that the loans fulfilled these. Despite increasing the size of farm unit eligible for credit, the average loan coverage has not raised noticeably and currently is 0.9 mzs. per loan, for a total of 947 mzs. The large majority of loans is for replanting and not maintenance or improvement.

An effort was made to obtain from a centralized source the number of applications pending at the beginning of the crop year, the number received at Regional Office level, the number approved and the number of rejected. The evaluation team was not able to obtain this information, and therefore unable to make even a preliminary judgement as to the demand for credit by eligible small coffee producers.

The loans made by ANACAFE are directed to a specific crop and a specific portion of the farm. The plan does not consider all of the land resources available to the farmer to determine feasibility. A financial analysis is not made of the total farm operation to determine cash flow, but rather is limited to the financed area and the credit decision is made on a partial basis.

There is a difference in the intensity of supervision imparted, and this varies by the individual Extensionist and Credit Agent. The Credit Agent does not provide direct supervisory assistance to borrowers. He does not have loan approval authority and does not close loans. His functions are mostly administrative in the coordination of the loan application process from the extension agent to the participating bank that approves the loan.

4.2 Recommendations

Providing supervisory and technical assistance to borrowers is expensive and should be limited to a reasonable time frame. When the borrowers are financially and technically able, they should be required to graduate from the Project to commercial credit sources. Therefore, the process for graduating borrowers to other credit sources should be initiated, with a list of successful borrowers being presented to Banks for financing with funds from other than ANACAFE.

To insure timely processing and more efficient use of their technical and loan specialists, the Project should develop an Instruction Sheet to standardize the filing of loan documents, and develop a Card System (Tarjetero) for the management of loan making and loan servicing operations. This would insure that loan making and supervisory assistance are done, and would facilitate tracking all activities. The Management File would be used by the central office to make evaluation reviews to detect weaknesses and also progress of the program.

The credit agent should be assigned more responsibilities of loan processing, planning, supervisory assistance and servicing. Credit agents should make a field visit in conjunction with the Extension Agent for the completion of the Farm Plan and should attend group meetings to discuss repayment of the debt with the borrower. Field visits should be documented in the borrower's case file and the management card "tarjetero".

Handwritten note:
Need for control

A tracking system has to be established to determine the processing bottle neck so that corrective action can be taken.

Oversight reviews have to be made by the Credit Supervisor to determine progress made in processing.

5.0 EXTENSION METHODOLOGY AND SOCIOLOGICAL ASPECTS

5.1 Conclusions

Extension System

There is little doubt that the project has had a significant impact on improved coffee production and increased income for the small producer. It is also evident that the GAT methodology has been one of the factors in this improvement. Given this as a basic finding, it is also true that there are aspects that are functioning as expected and others that could be improved so that the project might move on to complete the remaining four years with even greater outcomes. The following findings are listed as areas of concern:

-some GATS have been in existence for over 10 years and their program has changed little from year to year; however, most of the agents and many of the farmers would like to have something new added to the activities;

-many of the recommendations made by the extension agents have not been carried out by the farmers in spite of the repetition year after year, and many farmers lack sufficient financing to carry out the recommendations;

-the technical package for coffee renovation is not seen as clear and understandable; and there has been no clear means of farm level verification that is carried out systematically by the agents;

-there is no clear and consistent pattern of credit activities and coordination between the extension and credit agents;

-the effectiveness of the agents in some areas is based on the number of approved credit operations and for this reason the extension agent has pushed very hard to get credit approval, including carrying out some of the activities that only the credit agent has been trained to do;

-not all GATS are the same in the basic characteristics of the farmer members nor in the degree of maturity of the group, yet the program shows little variation; the GAT groups are generally passive and dependent on the extension agent and do not have self initiative; only a few of the GATS have gone on to form legal associations or cooperatives; and there is little overlap of GAT groups with processing groups, credit subjects, and marketing

groups.

-most agents have little expertise to go beyond coffee production technology; the majority of the agents are presently working without the benefit of a diagnostic of their group; the lack of stability in the assignment to a given area gives little incentive for the agents to work for long range results that they will be accountable for in the future;

Sociological Perceptions

The project appears to be approaching its goals. Technology is being transferred, GAT members are implementing it whenever it is economically possible, and they seem optimistic about the results. For many it is the first and possibly only exposure to the techniques of modern agriculture. While the technology many not always be implementable or appropriate for their needs, they seem optimistic regarding its potential for increasing production and income.

Based on the members' perceptions of the implementability of the technology, the project seems to have some important obstacles. The largest problem facing GAT members is their economic inability, for the most part, to completely implement the technology package. It appears to be far too expensive for most people to implement without financial assistance, and credit is often insufficient or unavailable.

Success or failure of the GAT methodology seems to depend more on the individuals occupying key roles than anything inherent in its structure. Therefore, institutional attention should focus on identifying these key roles and the reason why some individuals have been exceptionally successful in occupying them.

Because the GAT methodology is so strongly influenced by the characteristics of its participants, it is difficult to say whether the GAT methodology would provide an appropriate organizational structure for an expanded membership and scope of activities, other than that of technology transfer. This would depend entirely on the skills and abilities of its participants.

5.2 Recommendations

EXTENSION SPECIALIST: There is no best way to modify the GAT groups so that they can better meet the needs of the Project. There are some guidelines that can be given but it will take some one to work the details out and see how things fit. This person will need to help with operational planning of the extension-training system and supervise its operation as it is transformed. The utilization of monitors also needs to be worked out. Training the agents in extension methodology is also important as well as guiding the preparation of new teaching methods and materials.

This should be a long-term position, but could be on a periodic visit basis.

EVALUATION, MONITORING, INFORMATION SYSTEM: There are a number of like tasks that need to be done that fall under this area of interest, and it would seem better that they be combined. The kind of information that is needed should not depend on the extension agents for collection. The establishment of a separate unit for this effort seems important.

TARGET GROUPS: There is considerable difference in the target groups that are present and potential beneficiaries of the project. This has been taken into account in the proposed plan of operation that is presently circulating. It seems wise to go even further and document the differences in these groups with complete diagnostic studies as they were contemplated in the project paper under the heading of 'baseline studies'. This can be updated and used for identifying group differences, their progress, and the need for program modifications that fit the changing needs, and also will better help in geographical grouping for more efficient coverage.

TEACHING/TRAINING PACKAGE: As the different types of groups are identified, grouped together geographically, and organized according to the level of services that will be delivered, it also means that the teaching/training package needs to be prepared to fit each one. A standard program will not fit all. In any event the key practices need to be identified and the use of behavioral objectives may help in the field verification of practice application. The training package should not be limited to production but should also include such things as entrepreneurship as well.

LEVELS OF GROUP MATURITY: Another aspect of group differences is the kind of organizational maturity that they have or can develop. Training in group organization is needed if the groups are to move from 'passive' to active 'units'. This is particularly true if they are to move on to coffee processing or coffee marketing associations.

It is essential to develop the additional level of maturity that is possible for some of the groups. No semi-public institution such as ANACAFE can offer technical assistance to all growers, on all subjects, and forever. One of the answers is the gradual preparation of the growers for a privatized extension service that they pay for. This requires preparation of both the technicians as well as the farmers so that they come to see technical assistance as a valuable input that is directly related to an increase in economic output.

EXTENSION/CREDIT AGENT ROLES: In general the extension agent is farm production oriented and the credit agent is bank oriented

and they should have specialized skills to carry out those tasks. Yet, supervised credit should be an integrated action at the farm level. The proposal that the two agents make at least three joint visits yearly for planning and supervision seems to be a workable solution. If the number of credit applications is the only thing that is used to evaluate the efforts of an agent, then there may be a strong incentive for the extension agent to 'go it alone' and try to do it all himself, rather than wait for help from the credit agent.

NEW TEACHING METHODS AND MATERIALS: There is a need for additional materials and alternative teaching methods. If project funds do not justify the hiring of a specialist, then this could be supervised by the extension specialist.

EXTENSION AGENT TRAINING: This is an on-going recommendation. It becomes even more evident now because almost half of those serving GAT groups have not had training to work with groups, yet they require quite a different approach than the traditional one-on-one approach. Training through special seminars and workshops is important but is only one of the aspects that results in good job performance. Along with adequate training, clear expectations, adequate supervision, fair evaluation, and just compensation are all necessary as well.

MONITOR PROGRAM: The goals that were set out for this component may not be possible to reach. Reports from the field indicate that there are few locations where this is functioning well. It should continue as an alternative and the successful situations may serve as models for others. This is worthy of a more complete evaluation study by itself.

FOCUS ON FAMILY MEMBERS: The Banegas (1991) study suggested that other family members be considered for membership in the GAT groups and in the training program. This is done already in some groups, but it could be highlighted so that it becomes a desired goal of the project.

6.0

POST-HARVEST PRACTICES AND QUALITY

6.1 Conclusions

The determination of the quality of coffee comes from the inter-relationships of genetic variety, agricultural practices, processing and handling. The fact that widely different varieties are planted in mixed populations without an organized pattern, and that the mixtures are different from farm to farm, has a negative impact on the resulting quality. This makes it practically impossible to obtain a uniform product within a season and from different coffee mills in the same area. This lack of uniformity, which is of primary importance, makes it extremely difficult to

gain access to an increasingly exacting quality-oriented market.

No survey has been done to identify either the areas planted with different varieties, or the existence and operation of coffee mills in different regions of the country. This situation is made more difficult by the lack of clearly defined institutional policy within ANACAFE and the Project in relation to quality, varieties and production making it difficult to set priorities in building or remodeling mills.

The Project has sponsored a technical advisor who has developed an innovative technology to process coffee, which results in lower initial investment cost, lower recurring operational costs, drastically reduces energy and water needs, and reduces the flow of water-borne contaminating wastes to levels more easily contained and treated, thereby avoiding overflow into water supplies.

Unfortunately, the advisor in processing systems has had to provide most of the logistical support to facilitate the construction and modification of processing plant, since ANACAFE has not provided this service. ANACAFE has not provided a counterpart with adequate technical background other than a Project-funded assistant. Furthermore, its Department for Processing Plant Technical Assistance has not adopted this technology and continues to promote traditional installations.

The traditional problem of disposal of coffee pulp continues without any proven method to economically convert this into a useful product, although some investigation is being done.

The marketing advisor still does not have a counterpart in ANACAFE with whom to develop an institutional strategy and a work plan based on a marketing orientation instead of the traditional production orientation.

6.2 Recommendations

Surveys of areas planted with different coffee varieties should be done in the geographic areas where Project activities will be concentrated, especially if nurseries are being financed with Project-sponsored credit.

The extension technology package should be reviewed and the practices modified wherever appropriate to technify the production of the traditional (and higher quality) varieties. Replanting in the areas targeted under the Project with the higher-production but lower quality varieties generally should not be permitted.

As soon as the improved processing mills are operating this harvest season, representative samples should be sent to ANACAFE for quality control testing (tasting). This effort should be

continued periodically to categorize and classify the coffees coming from different areas for future marketing trials.

Based on probable production volumes and the quality classification, these different coffees should be offered through export channels locally and abroad.

In part from this experience, future Project activities in promoting extension, credit, and processing should focus on the type(s) of higher-altitude coffee that have greater market potential.

Experienced technical counterparts should be assigned to both post-harvest advisors (in processing and in marketing) to assist with implementation and provide continuity in these activities.

7.0

TRAINING PROGRAM

7.1 Conclusions

In reference to achievements, the extension and training activities in the past have provided valuable experience for ANACAFE to modify and redefine methodologies for reaching small coffee producers, sometimes providing the only training ever received by the target group. Many small producers have learned some technology with which they have improved their production. The activities that some GATs have initiated have resulted in formal organization of these groups into self-sustaining and self-managing entities, such as cooperatives. On an institutional level, a Department of Training has been established which directs some of its activities to the sector of small producers.

Problems, however, do exist in the operation of this program which affect the training process under the Project:

- no Project-specific training strategy nor process has been defined, nor is there any evaluation of the process itself or its activities
- ✓ -- no specialized staff with a background in non-formal training has been assigned to this activity, thereby leaving this activity to the field extension staff to accomplish along with the many other tasks demanded of them
- training has concentrated almost exclusively on production techniques, often is repetitive, and does not distinguish between new and repeat participants nor specific group needs

7.2 Recommendations

Training should be distinguished from extension or technical

assistance. Technical assistance should be provided by specialists in the technical areas, whereas training should be structured and guided by specialists in non-formal education using the information from technical sources. The training activities for Project beneficiaries can be characterized as disperse, unsystematic, and not producing concrete results.

It is necessary to carry out the following activities:

- make a realistic definition of training needs in relation to Project needs, and then define specific course contents which would constitute a training plan
- the training plan objectives should be defined, followed by the strategy which determines the required conditions
- the target population should be described, as well as the methodology, means, procedures and instruments to plan, implement, and evaluate the training activities
- the technical content presented concerning production techniques should be applicable to the situation, resource level and limitations commonly exhibited by the small producer
- training in coffee processing technology should be oriented more to showing the benefits of new processes and preparing the participants to organize themselves and implement this activity together as a group, since the technology is not applicable to the individual
- training should include topics usually not provided, such as managing production credit, marketing the crop, controlling costs.

TECHNICAL ANALYSIS REPORTS:

1. Evaluation of Implementation Status and Institutional Aspects
2. Evaluation of Credit Program
3. Evaluation of Extension Component
4. Sociological Aspects of the GAT Extension Methodology
5. Evaluation with Regard to Post-Harvest Practices, Quality and Environmental Impact Caused by the Coffee Mills
6. Evaluation of the Training Component

USAID/ANACAFE
 Small Farmer Coffee Improvement Project
 Evaluation of Implementation Status
 and Institutional Aspects

by: Jeffrey Nash

1.0 PROJECT IMPLEMENTATION STATUS REPORT

1.1 Status of Project Outputs

After four years of implementation, the Project outputs are in the process of formally being adjusted to reflect "the realities of the coffee sector" and "the institutional capacity of ANACAFE" (AID Action Memorandum 10/93). The following information compares the output levels originally stipulated in the Project Paper and subsequent agreements with the newly approved targets and the levels actually attained as of September 1993.

<u>Output Description</u>	<u>Original</u>	<u>New</u>	<u>Attained</u>
1. Coffee producers trained and technology implemented through use of credit	8,100 8,100 mzs	2,800 8,100	1,043 947
2. Small producers trained in coffee processing	800	2,000	84 in 1992/3
3. ANACAFE technicians trained to M.S. level	4	1	0
4. ANACAFE project unit staffed and operational	1	1	partially established
5. Processing facilities constructed or improved	not specified	25	8
6. Credit trust funds in gov't/commercial banks	BANDESA/ at least 1	BANDESA/ at least 2	BANDESA/ now 1
7. Certification system for improved quality	1	1	in design stage
8. High quality export marketing promotion	1	1	in design stage

There are several other performance indicators referred to in the bilateral Grant Agreement or the Cooperative Agreement that are relevant to examine at this point.

<u>Indicator</u>	<u>Present Status</u>
Grant Agreement:	
-- an increased portion of coffee marketed at parchment stage	-- taking place because of activities with processing plants but not quantifiable
-- credit trust fund with a minimum 90% recovery rate	-- actually slightly less than 99% of outstanding balance
Cooperative Agreement:	
-- implement recommendations in Environmental Assessment	-- recently began long-term pesticide monitoring program
-- provide counterpart funding of at least Q10,122,300	-- September 1993 reported total of Q6,247,584 (62%)
-- establish management information system including each Project component	-- virtually nothing finished although first parts may be functioning by end of 1993

1.2 Probable Project Output Shortfalls

1.2.1 Most of the above outputs are attainable during the next 3 1/2 years left in the Project. Reaching the targeted number of participants under Output 1 could be possible, but the cultivated area to be improved and with the use of credit is overly optimistic, unless stress is placed on much wider use of labor-intensive technical improvements in existing plantations instead of more expensive replanting. The Project still does not have the information at the beneficiary level to judge the probable credit demand by 2,800 small producers to implement improved agricultural practices on an average of three mzs. during the next three years. However, this is doubtful unless the extension technical package is modified and promoted, since the extension emphasis by ANACAFE to date has been much more oriented to replanting.

1.2.2 Given that the improved technology and procedures for wet processing are being perfected and implemented only in the last year, the Output 2 target number of producers trained in this specific technology would be too ambitious. A further limitation results from the present inadequate information system: the courses in wet processing and their participants reported for 1992/93 may or may not have presented the new technologies, and certainly the large majority of participants had no hands-on instruction in such facilities. However if this output is given a more relevant interpretation but still in keeping with the general concept, such as training in post-harvest processing, handling and quality control techniques, the numbers of training participants pass 600. In this case, the output target is attainable.

1.2.3 The target of Output 3 for graduates in formal, degree-oriented training in coffee technology probably will not be even attempted. The time to initiate formal educational programs is near the beginning of a project, not over half-way through. Usually the intention is for such graduates to overlap with and then replace Project advisors. There is no time for this type of education before the present advisors would finish. A reasonable modification of this concept would be for a larger number of Project beneficiaries and technical staff to attend training sessions in specific topics at specialized institutions in Latin America (e.g., CENICAFE).

1.2.4 Output 4 relates directly to the statement in the Cooperative Agreement that ANACAFE would "set up and house a project implementation unit and progressively absorb and integrate its activities and costs into the ANACAFE program and operations". The impending reorganization of the Project unit and the above modifications of the original Project outputs result from the need to provide greater autonomy and to concentrate implementation activities to reach the new Project targets. Therefore this output should be viewed in the new context of the Project implementing unit having the capability to carry out the proposed activities, rather than retain this output as a measure of the institutionalization of these activities within ANACAFE.

1.3 Impact of Project Activities

1.3.1 BENEFICIARY LEVEL

The Project purpose originally was to stimulate participation by rural poor in economic growth by providing activities that would improve the small farmer's productive capacity, thereby leading to higher rural incomes. This income redistribution effect is important and is beginning to take place: during the last harvest season at least one group of beneficiaries received a premium for improved quality parchment coffee which was processed in a Project-designed and financed plant.

Conservative estimates indicate that an additional US\$5-10 can be obtained per bag sold locally of better processed parchment coffee. Even if the average beneficiary has typically low yields (national average of seven bags per manzana), the \$35 to \$70 additional income resulting from the Project is appreciable when compared to the average small farm income of \$150/year indicated in the Project Paper.

Increased productivity leading to greater yields of higher quality coffee would have the dual benefit of ensuring a better price and a more certain demand, both important in today's depressed world coffee market. At the same time, this activity results in additional employment being generated, primarily for the family and not only during the harvest peak.

If producer groups can access to processing facilities, they should be able to maintain a certifiable quality level of parchment coffee. They then would be in a better position to receive sales premiums from exporters reflecting the value added by certification of quality standards, in addition to selling the higher valued dry coffee instead in the very perishable cherry form. If the processing facility incorporates the design improvements promoted under the Project, the operational cost will be relatively lower than with traditional mills, resulting in a savings which could be transferred to the small producer.

Another type of impact is the degree to which women are being integrated into Project activities. By nature coffee is a family crop, as the entire family participates at least in the harvest, and often in other tasks. However the Project is focusing on the higher altitude regions, which usually exhibit a strong influence of traditional social and cultural relationships, which typically are not conducive to meaningful female participation in farm decisions. In spite of this situation, the Project has involved a growing number of women in its activities: nine percent of the participants in training events and six percent of the production loans have been with women.

1.3.2 NATIONAL LEVEL

The Project is not stressing increased production per se, but rather two specific and targeted outcomes:

- 1) increased economic productivity by the targeted group of small producers, who also form part of the rural poor, and
- 2) facilitating their position to retain a larger share of the value-added product destined for those specialty markets.

Although the world coffee market is considered to be saturated, there are some large specialty or niche markets that are expanding steadily, and in which Guatemala already has some recognition: the higher-altitude, special varieties, and "organic" coffees. To the degree that the Guatemalan coffee sector can participate more in such specialty markets, there will be greater stability in coffee exports with an emphasis not on greater volumes but in higher valued coffees and export earnings.

This crop will continue to be very important to the national economy. In the late 1980's approximately 37 percent of Guatemalan export income came from coffee. The coffee sector generated full-time employment for an estimated 122,000 people and 19 million person-days of temporary jobs. These numbers underline the importance of focusing on strategies to enter and maintain market presence.

1.3.3 ENVIRONMENTAL

The Project is having a positive impact in the coffee sub-sector it is working with in two general areas -- at the field-level, and at the processing plant. The following aspects are not uniformly carried out at all project sites nor is there a large enough body of data to impute quantitative improvements to different practices introduced or emphasized through the Project. Therefore generalizations concerning sector coverage and perceivable effects are not possible. Also, most of these aspects are in the early stages of field implementation. Substantial effort still will be required to have them accepted and replicated throughout the small coffee producer sector.

Field-Level

The Project is sponsoring or assisting in a number of activities which should introduce or reinforce environmentally sound practices, such as:

- labor-intensive cultivation techniques (shade control, weeding, pruning) which help control coffee pests and thereby reduce the need for chemical measures
- breeding and release of insects that are natural predators to provide biological control of the coffee borer
- extensive investigation of pesticide residuals
- promotion of cultivation of "organic or natural" coffee
- training events focused on safe handling and use of agricultural chemicals, calibration of spraying equipment, and biological controls.

Processing Plant-Level

Through on-going commercial scale trials in the construction and modification of wet processing plants, the Project has introduced a technology which results in high quality parchment coffee plus the benefits listed below.

- greatly reduced water requirement (approximately 150 lts. needed to process 100 lbs. dry coffee instead of 1,000 lts., approximately 1/7th. the water used)
- use of recycled water after sediment is removed, thereby requiring less area and time for waste water oxidation treatment (and making this procedure more accepted)
- reduced electrical consumption, since two small (2HP) motors are used instead of one large motor (28HP).

Existing installations can be (and have been) retrofitted and modified to obtain similar results. Given its modular design, the plant can be expanded to accommodate different processing volumes found among the hundreds of mid- and large-scale mills currently in operation in Guatemala without sacrificing the advantages listed above. The Project definitely can have a substantial and permanent environmental impact in the coffee sector.

Other trials are being conducted on the design and functionality of solar dryers using forced-air and portable drying patios that require minimal construction. Some experimentation has been done on the efficient conversion of coffee pulp into natural fertilizer, although currently this pulp remains as a large-scale contaminant whose disposal is a major problem.

1.4 Project Funding

1.4.1 SOURCES

The Project Grant Agreement originally established the funding levels as:

- AID: US\$ 11.0M
- GOG: Quetzal equivalent of US\$ 9.25M
- ANACAFE: Quetzal equivalent of US\$ 3.75M, and
- Banking System: Quetzal equivalent of US\$ 1.0M.

As the foreign exchange rate was Q2.70/US\$1.00 at that time, this rate is considered as binding during the life of the Project, and is reflected in the Cooperative Agreement Section on Administrative Arrangements which states that the GOG will provide Q25.0M as capital for the credit component. The counterpart funding level for ANACAFE was set at the equivalent of US\$3.749M (or Q10.1M) as shown in the AID Project Paper "Summary Cost Estimate and Financial Plan" (in other places this number is \$3.75M or \$3.8M).

The present status of funding levels by source is as follows:

- AID: US\$7.029M committed for ANACAFE operations and US\$1.0M committed for credit trust fund (and BANDESA)
- GOG: Q12.0M disbursed or committed in Central Bank and banking system, plus another Q5.0M pending release by Finance Ministry (totalling the equivalent of US\$6.3M)
- ANACAFE: Q6.25M in contributions accumulated through September 1993 (equivalent to US\$2.3M, which is 62 percent of the original commitment under the Project)
- Banks: to date nothing specifically committed, although beginning with the fifth year they would provide credit financing from their own resources.

It is understood that AID will not be committing any more funding, and therefore the question arises if the Project can continue to operate with the remainder of AID pipeline and counterpart funds. The answer is positive, even though the coverage of the credit and technology transfer components originally proposed would be reduced, precisely because of the practice of calculating counterpart funding based on the exchange rate at the time of the agreements. It is expected that both

ANACAFE and the GOG will at least meet their financial commitments before Project termination. Also it remains possible that additional counterpart funding will be forthcoming. The banks probably will continue to fund borrowers that can demonstrate a good repayment record, especially if there is a technical support unit for training and technical assistance.

1.4.2 FINANCING PROJECT ACTIVITIES

The strategy recommended is to establish a set-aside of earnings adequate to generate enough interest income from financial market investments to maintain a modest sized "credit trust fund implementation unit" after Project financing ends in 1997. While still part of ANACAFE, this implementation unit would be relatively self-contained and aimed towards self-financing. The set-aside or investment fund should continue for as long as the credit trust fund is functional (initially established as 20 years). All other funds obtained or income earned should be channelled into the investment fund until reaching the volume needed to generate sufficient annual interest income to meet post-Project operating expenses.

FOR PROJECT OPERATIONS:

The principal source of operational funding for the Project is the pipeline of AID grant monies. These alone should be able to support the Project implementation unit operations through the project completion date of July 1997. These funds should be accessed on a priority basis to cover operational costs. Any other resources or temporary accumulations of idle funds should be channelled into short-term financial accounts that earn interest, which in turn would be added to the investment or set-aside fund.

The status of the Project AID funding pipeline approximately was the following as of September 30, 1993:

Committed/not disbursed	\$3,450,000
less estimate ANACAFE-Sept liquidation	100,000
less Institutional contractor balance	700,000
less future Evaluation/Audit contracts	50,000

Balance available for Project Impl. Unit	\$2,600,000

At the present exchange rate of Q5.80/US\$1.00, the above balance would be valued at Q15.0M, yielding an annual average of Q4.0M for the remaining 3 3/4 years. Past experience indicates that an annual operational budget of Q2.3M would be adequate for the implementation unit's direct costs, leaving a balance of over Q1.5M yearly. The balance in the institutional contractor (AGRIDEC) is sufficient to finish the contract in July 1994 and may allow a several month non-funded extension after that.

A tentative financial plan for the implementation unit should be drawn up through the end of Project financing to identify resource requirements for operations, acquisition/replacement of equipment and vehicles, needs for local consultants and other services, outside training, and some compensation to offset increased costs caused by currency devaluation.

AS OPERATIONAL COUNTERPART:

As of September 1993 ANACAFE's counterpart contributions have reached nearly Q6.3M of the total Project commitment of Q10.1M (US\$3.749M valued at the initial exchange rate of Q2.70/US\$1.00, which is maintained during the Project's duration). In recent meetings with AID, ANACAFE indicated that it would be willing to transfer to the project unit another Q500K annually for the next four years (and perhaps thereafter) in addition to direct and indirect expenses counted as counterpart financing. Since the project unit would no longer be as integrated into ANACAFE for personnel and logistical support, the total counterpart funding otherwise would be substantially reduced from present levels. This agreement will need to be formalized to facilitate planning.

FOR CREDIT TRUST FUND:

According to the Project Grant Agreement with AID, the GOG would make available for the credit trust fund the Quetzal equivalent of US\$9.25M by the end of the Project in July 1997. If the initial Q2.70 exchange rate is still applicable, the fund would reach Q25.0M. However if the current rate is used (Q5.80), the amount would surpass Q50.0M. As this agreement is dependent upon PL-480 resources being supplied through the national budget, the more conservative amount would be more realistic for planning purposes. Currently the credit trust fund totals Q12.0M, and another Q5.0M should be forthcoming shortly from the GOG budget.

In addition, AID has an outstanding commitment of \$950K or approximately Q5.5M for disbursement to the GOG Ministry of Public Finances, earmarked for the credit trust fund. With this disbursement the credit trust would total Q22.5M and later would surpass Q30.0M whenever the GOG brought its contribution to Q25.0M mentioned above. It is crucial that the monetization of the \$950K be effected to permit the capitalization of an investment fund in time to generate and re-invest interest earnings.

Another recommendation is that the distribution of the interest rate be modified to allow at least five percent for the Project. With this the credit trust fund (of Q22.5M) should produce earnings of Q1.1M if completely loaned out. Initially these earnings would be destined for the set-aside or investment fund and later for project technical assistance and administration. The current one percent assigned to ANACAFE would be part of the five percent assigned to the Project unit. The rest of the interest rate could be distributed at six percent for the lending bank, one percent for trust fund handling by the Central Bank, and

down to nine percent for the reserve fund (from 13 percent). A mechanism should be sought to permit any unused portion of reserve funds to be placed in short-term financial accounts presently yielding at least 20 percent annually and added to the investment fund.

AS INVESTMENT OR SET-ASIDE FUND:

It is recommended that a fund be created by ANACAFE for the Project to generate and reinvest both interest earnings and idle funds to finance post-Project operations of technical and administrative support for the credit trust. Given that the Project implementation unit's operations should be financed completely by the AID contribution through July 1997, the investment fund would reach a total of Q8.0M at that time. The estimated annual interest income then would be Q1.6M (at 20 percent) solely from this fund plus another Q1.1M (at five percent) as interest from credit activities. The total of Q2.7M would be sufficient for the unit's operations. The following table is meant to be illustrative and is conservatively based on the following general assumptions:

- the investment fund would consist of the annual ANACAFE contribution plus the previous balance of the fund, and the interest earned from both funds, and the balance would be brought forward with no deductions to the next year
- the credit trust fund is assumed to remain at Q22.5M but obviously would yield more interest if the amount is greater
- interest earned on this fund would be 20 percent annually
- interest earned on the credit trust fund would be five percent annually (assuming completely loaned out)
- to coincide with the Project termination date, calculation of interest is for 3/4 of FY1994 (January - September) and FY1997 (October - June), but for the full fiscal years of 1995 and 1996.

ILLUSTRATIVE INVESTMENT FUND
(in millions of Quetzales, rounded)

	FY1994	FY1995	FY1996	FY1997
Initial Balance	0	1.4	3.4	5.8
ANACAFE Contribution	0.5	0.5	0.5	0.5
Invest. Fund Interest	0.1	0.4	0.8	0.9
Credit Fund Interest	<u>0.8</u>	<u>1.1</u>	<u>1.1</u>	<u>0.8</u>
Ending Balance	1.4	3.4	5.8	8.0

The point of this exercise is to show that even under fairly constraining budget assumptions, the implementation unit could be self-sustaining, as long as the credit funds are handled properly and recuperation is within the Project parameters. To the degree that the goal of a Q50.0M credit trust fund were attained, both the level of operational support in technical assistance and training

and the coverage would be able to expand substantially.

It will be important that other possibilities be examined carefully to increase credit operation volume and to incorporate other sources of income:

- seek other sources of loan capital to add to the credit trust, similar to the World Bank supported coffee credit project in the Zacapa area (for which ANACAFE will be providing production technical assistance paid for by that project)
- provide supervisory and training services for other bank lending to the small coffee producer sub-sector, and charge service fees (perhaps in conjunction with the BCIE US\$20.0M credit line to commercial banks)
- charge users directly for training and technical assistance services, especially in the areas of coffee processing and marketing assistance.

1.5 General Recommendations

1.5.1 Although many activities are developing reasonably well, emphasis must be focused on extending the coverage especially as concerns the area improved through integrated Project technologies (productivity-oriented extension, credit, processing, marketing channels). Quantifiable impact measurements should be monitored to detect changes in income and employment generation, environmental practices, and female participation.

1.5.2 An investment or set-aside fund should be created with interest earnings and other resources to ensure the sustainability of the credit trust technical support and administration after AID Project funding ends in mid-1997.

1.5.3 A tentative financial plan should be formulated to quantify and program the needs and sources of funds for operations and investment during the period covered by AID Project financing.

1.5.4 The following actions should be executed as soon as possible to permit a long-term financial plan to be drawn up:

- formalize ANACAFE's annual transfer of additional funds to the set-aside or investment fund
- request disbursement to the Ministry of Public Finances of the \$950K in AID funding for the credit trust fund
- request modification of the trust interest rate distribution to raise the implementing agency's share to five percent.

2.1 Background

ANACAFE is basically a representational institution for the interests of the Guatemalan coffee industry. The Coffee Law of 1969 established that AN would be charged with the execution of activities to implement policies for this important economic sector, which included the registry of coffee farms and their annual production, quality control classification for export coffees, investigation and demonstration farms, and a technical assistance service. ANACAFE's General Assembly consists of member producers, whose voting power reflects the volume of registered production.

In 1981 ANACAFE's Board of Directors made a policy decision to focus the technical assistance program on the small producer in response to the national political situation which did not allow the traditional extension service to function. The methodology used was to organize thousands of small producers throughout the country into groups of 15-20, through which production-oriented training was directed to the new target population. This effort was credited with significantly improving the production by these groups, even though credit remained virtually unaccessible to them. In 1986 a special unit was formed in ANACAFE to continue these activities, while much of institution's resources returned to focus on the medium and larger producer.

It was a natural choice that the AID-funded Project in 1989 be directed to this specialized unit, especially since the intention was to target this sub-sector and not be oriented to the institutional development of ANACAFE. It also was a natural consequence that the two field-operation departments of ANACAFE foster institutional rivalry which has persisted to the present. In late 1992 in reaction to the depressed income of ANACAFE, substantial institution-wide layoffs became necessary, and the small producer unit with its outside funding was incorporated into the technical assistance division. However this arrangement did not prove to be functional, and as of this writing AID has agreed to ANACAFE's request for establishing a separate Project implementation unit. The major distinction between this new unit and the pre-1993 specialized unit is that the present one will concentrate resources and activities primarily on three geographic regions, while maintaining technical support for other small producers already participating in the Project. The AID-ANACAFE agreement also includes extension of the Project completion date to July 1997 and some modification of Project Output targets.

It is worth stating that the general conclusions of the evaluation team were pointing towards the need for the basic

restructuring of Project activities, in the best interests of the Project, prior to our knowledge of this impending decision. It seemed certain that the operational dichotomy would restrict both types of technical assistance efforts, and little could be gained in the time remaining. The Project was not meant to be, nor was ANACAFE permeable to a broad institutional development focus.

2.1 Project Structure

The hierarchy of the Project implementation unit consists of ANACAFE's Board of Directors, a Project Advisory Committee, the General Manager of ANACAFE, and the Project's Executive Director. There also is an Evaluation Committee presided by the Minister of Public Finance for credit-related policy issues. In practice the Board of Directors has little to do with Project matters and entrusts its authority in several members who also are on the Advisory Committee and periodically inform the Board of matters of interest. This committee does have real decision powers and exercises them within a framework of what it feels necessary to oversee. Currently, the vice-president of the board of directors heads the committee, and the Executive Director reports directly to him.

Up to here the structure is straight-forward, but there is one institutional characteristic which makes it very fragile: the frequent change of both Board members and the General Manager. A different Board President is chosen every two years, and often this implies a change in General Manager as well. The Project Paper mentions this instability as a structural weakness to be overcome for the Project to succeed. Unfortunately, the situation has continued. ANACAFE itself, and the Project as a result, is dependent on personalities and has shown minimal operational continuity.

Although the Advisory Committee supposedly could provide some measure of continuity (its members serve for four years), the entrenched bureaucratic nature of ANACAFE's structure and personal alliances limit effective exercise of authority. A clear example is the common opinion that the Project's inefficient administration resulted from the incompetency of the first executive director. And, yet, he held the position for three years. Other examples of the limited power exercised by the Committee include not being presented with any long-term strategy or operational plan for the unit, or that the present fiscal year started without either a budget or an action plan being approved. These items are not the responsibility of the Committee, but they do show the unresponsive nature of management.

To avoid this pervasive bureaucratic nature from restraining the Project any longer, a break from the past is necessary. The Project cannot change ANACAFE's nature, nor can it exert much

influence on individuals outside the Project. It is recommended that a "civil service" or "career" mentality be fostered by having a formal selection process for Executive Director's position, and that this be carried out by the Advisory Committee. Position description, personal qualifications, and evaluation criteria would be established and candidates sought. Other positions subordinate to the Executive Director also should be filled via an open selection process with similar procedures, although not with Committee participation.

The intention is not to change existing staff, but to fill the key positions with personnel chosen on the basis of qualifications and whose loyalty will be with Project activities. A corollary of this "civil service" is that personnel should be evaluated periodically to ensure adequate performance, and at the same time, to offer job security for those who are competent and effective. This style of personnel administration should be implanted as soon as possible and begin with the staff already in place. It should become characteristic of the unit before "Project" identification ends in July 1997.

The first Project evaluation in 1991 made a series of recommendations concerning the institutional structure. In general terms these have been implemented, especially if the reorganization is carried out, which should eliminate the organizational friction between the two technical assistance programs. If organizational difficulties continue, they will be the result of personalities and not the structure itself. It is anticipated that at the regional level the coordination and cooperation among technicians will continue wherever needed without major difficulties, as in the past.

Another aspect of Project implementation is the role for expatriate technical assistance, which has taken the form of two important aspects: "institutional" continuity and technical knowledge. The present evaluation does not include analysis of this element, but obviously it is relevant when appraising the future of the Project. The opinion of the evaluation team is that four general areas still require outside assistance, and currently there are long-term advisors in the first three:

- overall program operational and strategic planning, financial administration, and structuring a farm management extension approach
- supervision in the construction or modification of wet processing plants which both reduce operational costs and improve process waste treatment, training staff in the use and maintenance of these facilities, and writing or editing detailed manuals on these
- finish preliminary selection of export marketing strategies and options, supervision of participation by Project processing plants in preliminary quality control procedures, assist with implementation and analyze

- results from trial marketing options
- assist in modification of extension/training system elements and GAT methodology to focus on Project targets, structure a farm management extension approach, and structure staff training to unify extension agent and credit agent roles.

The magnitude of organizational change implied by the new Project structure and geographic focus and the limited time left in the Project virtually require that outside technical advisors be available to guide, support, and analyze the areas mentioned above. Realizing that funds for this activity are severely limited, the most important elements in these technical areas should be identified and activities programmed. Ideally, assistance would be focused on these for at least one complete crop or organizational cycle to consolidate the gains in the aspects which have shown positive results. A local technical advisor would be preferable for the fourth area of extension-training assistance, since first-hand experience within the cultural environment is critical.

It is imperative that appropriate Project staff be assigned to the technical advisors, and that joint work plans be drawn up and evaluated periodically. Furthermore, a mechanism should be developed for interaction between Project staff and related ANACAFE technicians to minimize the program isolation, which will be inevitable to some degree by having a parallel extension and training structure in the coffee sector.

2.2 Project Implementation Responsibility

With the Project reorganization the lines of authority and responsibility become clearer. But this hardly means that all the pieces are in place and functioning. A major question concerns how the Project staff will interface with the ANACAFE structure, especially in reference to administrative and logistical support, overlapping work zones in the field with ANACAFE staff, and technical support in areas not presently provided by Project staff (e.g., training program for beneficiaries and monitors). To have an effective and nearly full-time field presence requires a capable central office administrative personnel with the authority to interpret and make decisions on routine procurement, payments and reimbursements without demanding prior approval by the Executive Director. Another area yet untouched is that of periodic data gathering, processing and management. These will be new experiences for the Project unit.

The previous dependence on ANACAFE's extension agents no longer should be an obstacle, although some degree of coordination still will be required. Will the GATs be reorganized to include only Project beneficiaries, or will GATs in a Project zone automatically be assigned to Project field staff? The small number

of extension agents contemplated will be hard pressed to cover the three newly defined geographic areas, plus attend to those beneficiaries already involved in Project activities who are spread throughout the country. A shift in methodology will be needed to stress effective group training instead of individual technical assistance.

Another change in methodology will be required to effectively integrate criteria and field work among Project field staff in the technical areas of production technology, credit use, processing and marketing. In practical terms, this integration will be feasible only in the geographic areas targeted for attention given the small number of technicians. Furthermore, few or none of them have been trained in the key aspects of all the technical areas.

A first step in this direction would be to have the extension agents become proficient in the level of financial planning needed to organize and analyze the credit application. This would free up the present credit agents to gather and process more of the baseline information required under the Project, but which has been largely ignored. The credit agent also will have to spend more time concerned with the business organization of the groups that have processing plants. The chances for mistakes and mismanagement are definitely greater in a group effort and could jeopardize the recovery of both the processing plant loans and the individual production loans.

These concerns can only be identified at this time. Field experience will determine the priority that different situations will demand, but the general operational strategy should be discussed and defined, as well as the degree of flexibility each field technician must assume to optimize his time and effectiveness.

2.3 Project Systems and Procedures

Despite the attention which has been given the areas of activity and strategic planning, evaluations, and information systems by outside consultants and the resident advisory team, little improvement can be seen from the situation described and analyzed in the 1991 Project evaluation. Effective and timely supervision is largely absent.

To ANACAFE's credit there have been planning exercises for programming activities in each of the last three years involving the regional offices' staff. However for planning to be effective, two pre-conditions need to be met: 1) a defined operational strategy with related objectives clearly established, and 2) an information system which provides the quantitative and qualitative data to target outputs to the objectives and then to match the resource requirements with those actually available.

Neither of these pre-conditions exist at this time, and therefore numbers produced are often suspect. Examples abound:

- almost all the annual outputs in the 1992/93 "Memorias de Labores" concerning the credit program are substantially different from those reported by the participating banks
- 1988 production data had to be used as a basis for establishing the focus of a Project activity, because more recent information was incomplete.

Yet information gathering can become a time-consuming task which does little to produce results. A balance must be sought, based on determining the minimum effort needed to obtain the relevant data.

The importance of information is not only for the purpose of reporting. With faulty information decision-making is at best impaired, and this situation makes supervision and evaluation nearly worthless. A relevant example of this would be that despite a formal decision by the Advisory Committee to the contrary, the large majority of production credits has been and continues to be for replanting instead of maintenance. A sample of loan documents at the central office provided conflicting information about field visits and even if disbursements had been made. This makes supervision impossible without contacting each of the credit or extension agents.

In reference to the importance placed on evaluations, it is noteworthy that very few people in ANACAFE's management, Board of Directors or technical office supervisors had read the previous Project evaluation. Another example would be that the proposed targeted outputs under extension and credit activities by the Technical Division for 1993/94 are less than those reported as obtained during 1992/93, bringing into question what program strategy was being considered. This may be the result of not using information to make strategy and operational decisions, and therefore not obtaining data with which to evaluate actions.

Nevertheless, some efforts have been made. Each credit application is preceded by filling out a lengthy "ficha" or questionnaire related to the individual's farm operations. This baseline information could be used to quantify and estimate Project impact, especially if a follow-up questionnaire (perhaps a shorter version) were utilized periodically. A second area of progress is that the first part of a Project "management information system" should be ready by the end of 1993. Project management should determine what the specific priority information areas are, such that these system applications can be finished first (if feasible to do so). A consultant's 1991 report on MIS structure lists a series of applications from which priorities can be determined.

2.4 ANACAFE Counterpart Funding

From Project initiation through march 1993, ANACAFE had been

utilizing the same set of percentage shares of expenses as being applicable to Project activities, either directly or indirectly. The only exception was last year when the Small Producers Unit (where the Project was housed) was merged into the Agricultural or Technical Assistance Division. The total accumulated contribution reaches 62 percent of the initial commitment of Q 10,122,300.

The following table shows the breakdown of the contribution charged to the Project through September 1993.

Budget Category	Contribution %	Accumulated Counterpart Aug.'89 --Sept.'93
Board of Directors	5	Q 303,445
General Manager	10	141,860
Assistant General Manager	10	39,573
Promotion/Communications	5	182,444
Data Processing	10	111,117
Social Welfare	5	23,388
Financial/Admin. Division	10	450,794
Commercialization Divis.	10	277,095
Agricultural Division	70	4,280,841
Administrative Expenses *	10	197,221
Office Space Rent **		239,806
ACCUMULATED COUNTERPART		Q 6,247,584
TOTAL COUNTERPART COMMITMENT		Q 10,122,300

* This budget item not charged prior to April 1993

** This item charged on a different basis as of April/93

As of April 1993 another budget line was added called "administrative expenses" (although most of the other budget categories are administrative in nature), and the office space rental was adjusted upward (probably to reflect the new ANACAFE office building). The net effect from these alone was an increase in the quarterly counterpart contribution by Q135,000 or nearly Q550,000 yearly. Undoubtedly the allocation of expenditures should be modified to reflect relative resource uses between the Project and ANACAFE programs. However there are three circumstances which

cast doubt on the equity of the contribution calculation:

- 1) no review of the validity of the cost-sharing percentages has been done since they were first established in 1989
- 2) 70 percent of the Agricultural Division's expenses are allocated to the Project: however 35 technical staff positions reportedly spend only about one-half of their time dealing with Project activities, and the other 14 positions have virtually no contact with the Project; therefore the Project share of Division expenses is overstated (also many of these activities are already directly paid by Project rather than ANACAFE funds, such as for training and publications)
- 3) during the three quarters of calendar year 1993, Project counterpart funding reportedly accounted for 32 percent of all ANACAFE operational expenditures (direct Project financing is maintained separate).

The conclusion drawn from the above is that to some unknown degree Project resources are used for general institutional support. It is difficult to envision how 32 percent of ANACAFE's operational budget can be reasonably considered as Project indirect costs, especially since supposedly there is little support required of or received from several of these offices, such as the Assistant General Manager, Promotion, Communications, and Data Processing. The Project basically takes care of its own needs in these areas, as well as absorbing some general institutional expenditures (e.g., staff training, computer equipment). Undoubtedly there are Project related direct expenses incurred by ANACAFE, but the administrative and financial systems do not permit the needed discrimination of expenditures.

When generous bookkeeping allowances are coupled with the AID's procedure of using the Q2.70 exchange rate to calculate contribution, the risk is present that institutional commitment to the eight-year project will be judged by the artificial monetary contribution level. This would severely understate the commitment to a level of activity and to the estimated outputs that were intended four years ago. However, ANACAFE should demonstrate its programmatic support of Project activities independent of any expense allocation by focusing on results obtained, which was the original intention of the signers of the grant agreements.

Quite apart from the obligation to have some way to quantify counterpart funding, the Project of ANACAFE should establish a simplified system to estimate the costs related to major Project activities or "cost centers" (credit servicing, production-related extension and training, design/construction supervision/operation and maintenance training in coffee processing, marketing services). Such information would be invaluable in determining the feasibility

and structuring a non-subsidized and sustainable technical assistance service to complement the trust fund for small coffee producer investment credit, independent of where it was institutionally.

2.5 General Recommendations

2.5.1 The evaluation team agrees with the reorganization of the Project unit to provide more operational independence and focus on Project targets. It is necessary to concentrate not only geographically, but also programmatically to consolidate those advances already achieved and those most desired. The tendency to spread must be withstood.

2.5.2 A formal mechanism for personnel selection should be established from the Executive Director level down, based on position description, qualifications, and selection criteria.

2.5.3 The need remains for long-term technical assistance in selected and very focused areas: financial and strategic planning, post-harvest processing and handling, export-targeted marketing, and applied extension/training/farm management techniques (this may be short-term). However formal counterparts must be assigned with the responsibility of participating in the technical area. Much more advisor/team coordination is required in the form of explicit joint work plans and periodic evaluation.

2.5.4 Priority attention should be given to clarifying the operational strategy and the administrative and methodological changes that are needed for transition to a semi-autonomous unit and program.

2.5.5 Attention should be given to establishing the minimum necessary tools and procedures for planning, supervision, evaluation, and a functional management information system.

Handwritten note: long-term technical assistance

Handwritten note: necessary & training to various individuals

USAID-ANACAFE
 Small Farmer Coffee Project (520-0381)
 Evaluation of Credit Program

by: José Gurulé

This is a summary of the evaluation made of the Small Farmer Coffee Project. My assignment was to review various facets of Credit Program Operations. The inclusive dates of evaluation are from October 4, 1993 to October 22, 1993. The following aspects of the Small Farmer Coffee Credit Project were reviewed:

I. What is the demand for credit of eligible small coffee farmers selected for financial assistance by the "Grupos De Amistad y Trabajo" (GATS).

II. Analyze the Farm Planning methods used for the approval of production type loans.

III. What impact have the improvements finances for the Small Coffee Farmer Credit Program had on the income and the economic level of the Borrower.

IV. Evaluate the quality of Supervision imparted to the borrower by the Extension Agent, the Credit Agent and the Participating banks.

V. Evaluate the loan making process from the initial identification of the applicant through the first disbursement of the loan.

I. EVALUATE THE DEMAND FOR CREDIT OF ELIGIBLE SMALL COFFEE FARMERS ASSOCIATED WITH THE GATS:

USAID and ANACAFE had anticipated in the project paper the approval of 3200 Small Coffee Farmer loans through the 1993 Crop year. As of September 30, 1993 ANACAFE's outstanding portfolio through the participating banks consisted of 1151 loans distributed as follows:

<u>Loan Type</u>	<u>Number</u>	<u>Amount Approved</u>	<u>Outstanding Balance</u>
Production	1043	Q 9,782,016	Q 5,538,844
Nurseries	104	447,877	401,769
Processing	<u>4</u>	<u>411,700</u>	<u>386,700</u>
TOTAL	1151	Q 10,641,593	Q 6,327,314

To date the level of past due and delinquent accounts is only 1.3% of the outstanding balance, Q 76,375 in BANDESA and Q 8,000 in BANCAFE. Only three loans totalling less than Q 25,000 have defaulted (because of natural disaster) and were written off from the Trust Reserve Fund.

During the 1993 crop year the Extension Agents organized 37

new groups consisting of 538 coffee farmers. They are currently supervising 228 groups made up of 3476 Coffee Farmers. Most of the Coffee Farmers that belong to the GATS are not indebted to the USAID-ANACAFE project. They, however, receive technical assistance from the Extension Agent through group and individual supervision. I reviewed 20 loans and all met size of unit (area) eligibility requirements.

Implementation letter No. 8, issued by the Agency for International Development on 1990, increased the size of farm unit eligible for financing. Preference is now given to coffee producers with farms up to fifteen (15) manzanas. Producers with farms up to thirty (30) manzanas can be considered as long as their number does not exceed ten percent (10%) of all project beneficiaries. However this has not raised noticeably the area being attended with credit, currently 947 mzs. for an average of 0.9 mzs. per loan. The large majority of loans is for replanting and not maintenance or improvement. I was not able to obtain information regarding the number of loans approved by ANACAFE for borrowers with units ranging in size from 16 manzanas to 30 manzanas. A control should be developed to insure compliance with this requirement of the agreement.

The loan making goals set by USAID-ANACAFE were not reached for a number of reasons. One limitation was the reduction of Extension Personnel. There are problems in loan processing and in the delivery of the loans. The makeup of the group is continually changing, as new coffee farmers join while others leave the Grupos de Amistad y Trabajo (GATS). I will point out some of the deficiencies noted.

The process is as follows: the Extension Agent is assigned to an area of work. He does his extension work in the assigned area working with farmers through the groups. Farmers are then brought in the Grupos the Amistad y Trabajo. There is a coordinator in each group that is the leader of the group and the principal contact point for the Extension Agent. The Extension Agent observes the potential borrower, learns about his farming ability, character, initiative, and credit history. The farmer, through the coordinator, requests financing from ANACAFE. A list of applicants are presented to the Extension Agent. Based on the past experience of the Extension Agent and Coordinator with the applicant the initial selection is made. The applicant must be eligible and a good credit risk. The Coordinator plays an important role by making his recommendation to the Extension Agent. The Extension Agent then submits the applicant list to the Credit Agent (Agente de Crédito) located at the Regional Office. The list then goes to the Participating Bank for a pre-application review. The application then goes through a number of actions at the levels of the GAT, Credit Agent, Extension agent, and Participating Bank for approval and loan disbursal.

I travelled to the field with an Agente de Crédito and met with Para-technicians (called "monitores"), Coordinators and farm borrowers. The Coordinator and Para-technician were both critical of the time it takes to obtain a loan funds. They need to have their funding available by no later than May of each crop year. When funds are not available on time they are not able to purchase the best quality plants from the nurseries for renovating. They also need funds to pay labor and other expenses when work is performed. When the loans are delayed, borrowers are not able to meet their commitments. The Coordinators and Para-technicians are reluctant to recommend a prospective coffee farmer because of the delay in getting his loan. A review of a number of cases in Table 1 shows a disbursement date of June, July and even September.

I also met with the BANDESA Regional Office in Guatemala City to discuss its activities in the making of Small Farmer Coffee Loans. The three employees I met with showed much interest in the program. They preferred the ANACAFE Fideicomiso to others, because of the Technical and Supervisory Assistance provided. Will the participating banks continue financial and supervisory assistance when these borrowers are ready to graduate to commercial sources? Providing supervisory and technical assistance to borrowers is expensive and should be limited to a reasonable time frame. When the borrowers are financially and technically able, they should be required to graduate from the Project to commercial credit sources.

The process for graduating borrowers to other credit sources should be initiated. A list of borrowers selected by the Extension Agent, Credit Agent and Coordinator that have progressed to the point of graduation should be developed. The list of successful borrowers would then be presented to Banks for financing with funds from other than ANACAFE.

The BANDESA Regional office in Guatemala City did not make any loans during the 1993 crop year from USAID-ANACAFE funding. The BANDESA office in Guatemala City is 1 of 4 participating BANDESA offices serving Region III. Region III approved 43 loans in 1993. The BANDESA Branch Office in Guatemala City had made an initial review of a list of 13 applicants from a nearby GAT submitted by the ANACAFE Regional Office. The applicant list was then returned on March 26th to the Regional Office for further processing. Seven months late the loan files still had not been returned to BANDESA for approval or rejection. There should be a record of the final disposition of this applications at ANACAFE.

ANACAFE statistics show that in 1993 crop year the 32 ANACAFE Extension and Credit Agents made an average of 10 loans. Some of the Regions made in excess of 23 loans per Extensionist and Credit Agent, while other Regional Offices made 4 loans on average. The reasons for the difference in the number should be determined (such as lack of funds, turnover of personnel, lack of initiative by

personnel, concentration of coffee farmers) and proper action taken by management.

An effort was made to obtain from a centralized source the number of applications pending at the beginning of the crop year, the number of applications received at Regional Office level, the number of applications approved and the number of rejected applications. I was not able to obtain this information, and therefore am unable to make even a preliminary judgement as to the demand for credit by eligible small coffee producers. There should also be information on applications pending. This information should be available to management so that applications can be tracked from reception to loan approval or rejection. Bottlenecks in loan processing and making can be detected and proper action taken to correct deficiencies.

Borrower files were reviewed to track the time it takes to process loan applications and determine the number of visits made to borrowers. The documentation in the borrowers file will not provide complete information to review the processing progress. Some of the dates documented were not in chronological order.

Table 1: Examples of Loan Supervisory Visits

Loan #	Date of Application	Date of Disbursement	1st Visit	2nd Visit	3rd Visit	4th Visit	5th Visit
1	7/4/92	6/9/92	12/91	7/92			
2	2/25/92	6/6/92	2/93	6/93	9/93		
3	2/25/92	6/6/92	7/92	8/92	2/93		
4	6/6/92	9/92	3/92	3/93	6/93		
5	12/6/91	3/11/91	3/92*	6/93*	6/93		
6	5/92	9/92					
7	No date	6/91	3/92	6/93			
8	4/26/93	**	3/93				
9	3/3/93	**	9/93				
10	4/26/93	**	9/93				
11	No date	7/91	3/91	6/91	7/91	1/92	2/92***
12	3/12/91	9/17/91	4/91	5/91	6/91	6/92	2/92

Note: * There is documentation of a group meeting.
 ** No documentation that funds were disbursed.
 *** An additional 1-4 visits were made.

The following observations are made:

- Loan # 1 indicates disbursement date is prior to the date in the application.
- Loan # 2 was disbursed 6/6/92. The first visit was completed 2/93 (8 months later).
- Loan # 5 was disbursed 3/11/92. First visit documented is 3/93 (1 year later).
- Loan # 6 was disbursed 9/92. There are no field visits documented.
- Loan # 7 was disbursed 6/91. The first visit documented was dated 3/92.
- Loans # 8, 9 & 10. There is no documentation that the loans have been disbursed.

Recommendations

To insure timely processing and more efficient use of their technical and loan specialists I recommend the following.

(1) Develop an Instruction to standardize the filing of loan documents. The "Secretarios" (the ANACAFE local office clerical or administrative assistants) would file and manage the records as per regulations. This would also include both approved and rejected applications.

(2) Develop a Card System (Tarjetero) for the management of loan making and loan servicing operations. The Card System, to be kept up to date by the Secretario, would contain the following information.

a) A loan processing card for documenting the completion of important steps of loan making. Information such as date of application, certification dates, approval dates would be shown. The Secretario would keep the documentation up to date.

b) A card for each group indicating planned meetings, supervisory and technical assistance planned. A space for actual date of accomplishment. The Secretario would keep the card up to date.

c) A card would be developed for each borrower indicating loan amounts, due dates, balance planned supervisory assistance, and actual accomplishments of supervisory assistance.

d) Additional cards can be added to the tarjetero to use in the weekly, monthly and annual planning of loan making and servicing activities.

The benefits of this card system include the following:

(1) Sophisticated computer software can be developed for the Management File (Tarjetero). The system would be kept up to date by the Secretario. The Management File would be used by

the Extension Agent and Credit Agent to plan their work of loan making and servicing. It would insure that loan making and supervisory assistance are done. The Credit Supervisor would make a oversight review and report deficiencies or problems to the Extension Coordinator. It would facilitate tracking all activities.

(2) The Management File would be used by national ANACAFE to make evaluation reviews to detect weaknesses and also progress of the program.

II. ANALYZE THE PLANNING METHOD USED FOR THE MAKING OF PRODUCTION TYPE LOANS

The loans made by ANACAFE are directed to a specific crop and a specific portion of the farm. The plan does not consider all of the land resources available to the farmer. I was informed there are borrowers that farm more than one tract of land with financing. A plan is developed for each individual tract directed at a specific portion of this unit, resulting in up to three loans for three mz. of land. The Credit Agent analyzes the income and expenses of the portion of the unit being financed. Family living expenses are not considered, however, average living expenses are used to determine repayment. The financial analysis is directed to a specific area financed. The Income Statement included in the files does not appear to include the total operation.

When BANDESA reviews the file, it analyzes the information submitted by the ANACAFE Credit Agent. He determines liquidity and solvency. I point out the following weaknesses:

(1) The majority of the budgets reviewed were for renovation of a portion of the unit. Since the renovation is expensive, principal payments are deferred for 3 years. The renovated portion will reach its maximum coffee production on the fifth year. Funds are advanced to meet operating expenses of the developed portion of the unit. Coffee farmers normally have more land than the renovated portion planted to coffee. The planning should include funds to improve and maintain the balance of the coffee farm. Such maintenance as pruning, fertilizing, weeding and shade management have almost immediate effect on the Small Coffee Farmer's Income, as the improved productivity could offset partially the initial drop in area for harvest.

(2) A planning field visit to the farm should be completed jointly by the Credit Agent and the Extension Agent. The plan should be completed in the presence of the farmer. The plan is then the farmer's Plan rather than the Extension or Credit Agent's Plan.

Recommendations

(1) The planning process for the directed or supervised credit ("Crédito Dirigido") is adequate. However, in addition to funds advanced for renovation, loan funds must also be included in the plan to improve and maintain the balance of coffee land not renovated.

(2) Program progress should not be measured by the number of loans made. It should be measured by the number of manzanas renovated or maintained. The progress should also be measured by the intensity of supervision provided by the Extension Agent and Credit Agent. The performance of the technicians should also be evaluated on the same basis.

(3) The planning method does not take into consideration all of the resources available to this farmer in determining feasibility. A financial analysis is not made of the total farm operation to determine cash flow. Due to the heavy demand on the small income of this farmer (medical, family living, emergencies, other debts), the selection of the farmer to be financed is the basis for a successful loan. There should be a complete understanding with the farmer at the outset regarding his responsibilities. ANACAFE should make collection-related visits when the crops are sold and money flows. BANDESA should not be depended upon to collect loans due with no assistance or forewarning by ANACAFE, even though collection of the loan is their responsibility. In the future, the success of the program will be measured by the number of successful borrowers with good repayment records. Only the Extension Agents and Credit Agents will be able to provide this type of servicing contact.

III. EVALUATE THE IMPACT THAT IMPROVEMENTS FINANCED BY THE SMALL COFFEE PROJECT HAVE ON THE INCOME AND ECONOMIC LEVEL OF THE BORROWER:

I reviewed a number of files and made some field inspections of farmers financed by the USAID-ANACAFE Project. You can see an immediate improvement on the appearance of the parcels improved. Even though some of the parcels improved are beginning to produce, they will not be in full production until the 5th year. To determine the impact on the individual farmer it is necessary to make an analysis of the initial and then the actual production and income. Findings would then be compared with the financial and income information when the application was made.

Recommendations

A number of borrowers should be selected at random for an analysis. Actual production and income figures are then obtained to determine progress. Increase in net income, new worth, assets and indebtedness could be obtained, as well as estimates of

increased farmer and family employment. The Coordinator of Extension is proposing to complete new "Fichas de Identificación del Pequeño Productor". Comparing the new "fichas" with the "fichas" completed initially would clearly indicate progress made by the borrower.

IV. EVALUATE THE QUALITY OF SUPERVISION IMPARTED TO BORROWERS BY THE EXTENSIONIST, CREDIT AGENTS AND PARTICIPATING BANKS

ANACAFE Extension and Credit Agents are utilizing the following tools to supervise loans advanced to Small Coffee Farmers financed with project funds. There is a difference in the intensity of supervision imparted and varies by the individual Extensionist and Credit Agent. The Credit Agent does not provide direct supervisory assistance to borrowers. He does not have loan approval authority and does not close loans. His functions are mostly administrative in the coordination of the loan application process from the extension agent to the participating bank that approves the loan. The credit agent should be assigned more responsibilities of loan processing, planning, supervisory assistance and servicing.

SUPERVISORY TOOL # 1: Group Meetings with GATS

This is an outreach method used by the ANACAFE Extension Agent to impart technical assistance and to inform GAT farmers of the USAID-ANACAFE Credit program. The Group meetings are used to impart technical assistance on pilot farms. All GAT members do not always attend meetings.

Recommendations

- (1) The meetings are conducted by the Extension Agent. Credit Agents should attend these meetings to discuss compliance with plans and repayment of debts.
- (2) All meetings should be properly documented so that personnel can get credit for the supervision. The documentation should be done in the "Tarjetero" and the running records of the case files.

SUPERVISORY TOOL #2: Credit Counseling

A "Ficha de Identificación Del Pequeño Productor" is completed one time only, with the applicant. This is done by the Extension Agent. When properly done, it provides the ANACAFE Extension Agent and the applicant with an analysis of his land, labor and capital resources. Credit and financial needs can be determined. The completion of this form is time consuming (Up to 3 Hours). There is some reluctance on the part of the personnel and applicants to complete the form.

Recommendations

This is an important supervisory tool and ANACAFE should continue to use the "ficha" and train personnel to insure that the fichas are properly prepared. ANACAFE personnel preparing the forms and the applicant should be convinced of its importance.

SUPERVISORY TOOL #3: Farm Planning

Farm planning was discussed more in detail in item II of this report. The Extension Agent has been developing farm plans in the past. When the farm plan is developed by the Credit Agent, the information for the plan is obtained from the "ficha". Usually the Credit Agent has very little contact with the applicant or borrower, sometimes not even knowing him.

Recommendations

- (1) The plan should be developed in the presence of the applicant or borrower.
- (2) The plan should require the implementation of new improved practices as a condition of the loan.
- (3) The improved practices should be documented in the management cards "tarjetero" and information used to plan field visits. Completed visits should also be documented in the running case record of the case file and the accomplishments of the tarjetero.

SUPERVISORY TOOL #4: Field Supervisory Visits

Field visits as a supervisory tool are made for farm planning purposes. Subsequent field visits are made to determine if planned improvements and improved practices are being done. Such visits are also made to provide technical assistance to borrower with any problems he is encountering. The Para-Technician makes visits to the individual farm units. Technical problems encountered by the Para-Technician that need the assistance of the Extension Agent are referred to the Agent for a future visit.

A review of the case filed indicated that the Extension Specialist is making the field visits. There is no documentation in the case file that the Credit Agent is making field visits.

Recommendations

- (1) The Credit Agents should make a field visit in conjunction with the Extension Agent for the completion of the Farm Plan.
- (2) The Credit Agent should attend Group meetings at which time he would discuss repayment of the debt with borrower. If found necessary by the Credit Supervisor, additional collection visits should be scheduled for the Credit Agent. Visits should be made when crops are to be sold and money

flows.

(3) Field visits should be documented in the borrowers case file and the management card "tarjetero".

V. EVALUATE THE LOAN PROCESS FROM THE IDENTIFICATION OF THE APPLICANT TO DISBURSAL

The outreach program of the Extension Agent at GAT meetings to promote the USAID-ANACAFE PROGRAM results in a list of prospective borrowers. The list is made up of GAT farmers that are interested in obtaining financing to introduce improved practices and is presented by the Coordinator to the Extension Agent. The initial list goes through a series of actions by the GATS, Extension Agent, Credit Agent and the Participating Bank. The following table indicated the number of actions taken to process the loan from the initial list to disbursement.

Number of Actions in Application Process by:			
GAT	Extension Agent	Credit Agent	Participating Bank
3	3	3	3

The loan process could be delayed at any point in this process. I was not able to obtain good information to determine time taken to process an application, from formal filing through disbursement.

The review of the files provided by BANDESA indicated that the four loans that I reviewed were approved within 30 days.

Recommendations

- (1) A tracking system has to be established to determine the processing bottle neck so that corrective action can be taken.
- (2) Oversight reviews have to be made by the Credit Supervisor to determine progress made in processing.

USAID/ANACAFE
Small Farmer Coffee Improvement Project
Evaluation of Extension Component

by: Edgar G. Nesman

EXECUTIVE SUMMARY

This evaluation comes at a mid-point in the life of the Coffee Improvement Project and at a time when it is evident that many of the expectations are being met, yet, that there are also modifications needed if the Project is to meet its goals. This study focuses on the extension program and its present use and possible transformation of the GAT model (Groups of Friendship and Work).

The methodology used in this study is based on an analysis of the Project delivery system. This approach looks at the interrelation between components and treats the Project as a total system. In the present study the following elements are considered for analysis:

1. the overall project purpose that gives the general parameters of what is offered for delivery, including the major components;
2. the expected project outcomes at the beneficiary level;
3. a definition of the target audience;
4. a description of the delivery mechanism that is used (or could be used) for each of the components;
5. a time frame for expected outcomes at the beneficiary level and at intermediate levels for the different components;
6. the mechanisms that are to be used for monitoring, feedback, and evaluation;
7. an administrative structure that can facilitate coordinated project operation;
8. mechanisms used for selection and training of personnel to assure project outcomes;
9. mechanisms for coordination and integration of the project components; and,
10. mechanisms to be used for replanning and changing the delivery system to adjust to evolving realities.

The present investigation has included a review of the literature; discussions with key informants in the Coffee Project itself, ANACAFE, USAID, ECOTEC, extension experts, and fellow evaluation team members; and personal notes from field visits and interviews with technicians and beneficiaries. The findings and recommendations are summarized following the format of the questions posed in the Extension Specialist Terms of Reference and found in the following paragraphs.

1. PROJECT GOALS What are the objectives and expected outcomes of the Project? The goals and assumptions appear to be as valid today as they were at the time of Project planning (See Annex I for relevant excerpts from the Project Plan). Questions related to the world coffee surplus and ANACAFE institutional will place some doubt on the possibility of making needed modifications.

2. IDEAL GAT How is the GAT supposed to function? The GAT groups continue to operate in much the same way as they have since their initiation over ten years ago -- in communities where 15-20 small and medium coffee growers can meet; with a monthly meeting; with a series of classes on improved coffee production techniques; with content based on a diagnostic study of the farmers needs and presented by an extension agent; with a demonstration plot that is used as a common practice area; and reinforced with field trips and other extension methods.

3. REAL GAT How is the GAT actually functioning? In spite of the positive outcomes, there are a number of things that are not working as well as expected: most current agents have had no training in the GAT methodology; most are working without information from a current diagnostic study; the same lessons are repeated year after year; many of the demonstration plots are not well cared for; there is little on-farm verification of practice adoption; and groups remain passive rather than taking the initiative to form associations for coffee processing and marketing.

4. GAT/EXTENSION RELATIONSHIP How does the GAT function in relation to the overall ANACAFE extension program? The extension program for larger growers has traditionally been based on individual farm visits. The extension program for small and medium-sized producers has worked through groups and with the GAT methodology. Up to 1992, the two programs were separate but they were combined at this time for financial reasons and now one agent has both responsibilities in his area of service. Almost half of the agents retained do not have GAT training and there is a higher failure rate in these groups.

5. GAT/CREDIT RELATIONSHIP How is the supervised credit functioning and how does it relate to the GAT methodology? The credit component of the Project was added to the regular production training program that was already a part of GAT activities. This combination of efforts and the new demands have not always worked out well.

6. GAT/CREDIT AGENT RELATIONSHIP What are the specific roles of the extension agent and of the credit agent and how do they work together? A regional credit agent has been added but there still remains some conflict in making the combined effort so that production/credit activities are coordinated and well supervised at the farm level.

7. COMPONENT INTEGRATION How are the different Project components integrated in the Project extension delivery system? As the Project moves on from production assistance to credit assistance and then to coffee processing and marketing, further coordination problems have developed. The groups that fit the criteria for GAT production training do not always meet the criteria for credit and in turn seldom are ready to form associations for coffee processing and marketing. It is evident now that there is not a single Project target group but several types of groups, each requiring a different extension method, or a modification in the present GAT model, if it is to be served adequately.

8. ADMINISTRATION SYSTEM What is the present administrative structure for the extension delivery system? What changes are proposed? The Project, with its focus on small and medium farmers, worked with the GAT groups through a parallel administrative structure up to 1992. During the last year, all extension activities have been integrated and the results have not been favorable for the Project. A restructuring is proposed for the coming year that will again give the Project more autonomy of operation.

9. GEOGRAPHIC CONCENTRATION What is the basis for the proposed geographical concentration of extension services and how would it operate? The GAT model has always worked in areas where there was a geographical concentration of small and medium farmers that could form a group. With the addition of credit, processing, and marketing, new geographical groupings have formed and these have been addressed in proposed changes for 1993-1994. (See Schwartz 1993)

10. PROGRAM EVOLUTION What changes in the extension delivery system should be contemplated in the future as present project goals are met and for sustainability after the Project is finished?

A number of suggested changes in the extension delivery system have been proposed in this report:

- new methods and materials;
- additional agent training;
- the use of behavioral objectives and field verification for teaching production practices;
- the integration of production/credit extension agent activities;
- the categorization of groups based on their needs, location, and maturity;
- increased focus on the family;
- more emphasis on natural resource conservation;
- the preparation of Project related literature for ANACAFE personnel and the public; and,
- working toward some kind of fee-supported extension service.

All of these suggestions can help but they need a person to carry them through and adjust them to the day-to-day realities.

For this reason, the extension related suggestions need to have the assistance of an extension specialist to work things through. This specialist will also need an effective evaluation/monitoring/information system to give the kind of feedback that can help the Project to be an ever-evolving one that is dynamic and has some chance of being sustained after the external assistance is ended.

EXTENSION SPECIALISTS REPORT

OCTOBER 1993

INTRODUCTION:

With the initiation of the second evaluation it is agreed that the Coffee Improvement Project has achieved a number of the expected outcomes, yet it is also evident that there are still many improvements that are possible. It is a good time to reflect on the starting point and the expectations and assumptions that were part of the planning in order to compare them with the present situation, then move on and make any necessary adjustments for the future.

The model that was conceptualized at the project planning stage was based on a rather uniform small producer that was already participating in one of the Groups of Friendship and Work (GAT) or who would like to join one of these groups in the future. It was also expected that credit would be available to them through the project so that they could afford to renovate one manzana and plant it to an improved coffee variety using improved technology that would come to them through the GAT learning groups led by the extension agent. It was also contemplated that these same farmers would be able to work together in the same GAT group setting and with the extension agent to establish their own simple coffee processing plants. In the same way, it was expected that additional technical assistance could be provided so that they could begin to market quality coffee. The net result being an increase in income with knowledge and skills to continue to improve their coffee production in the future.

As the Project has moved through four years of operation, many aspects have changed. This study will review these changes and the new realities that face the Project in the remaining four years of operation.

STUDY GOALS:

The desired product from this evaluation effort has been outlined in the Extension Specialist Scope of Work and which has been converted to a list of questions. These questions served as a guide in the investigation carried out during the two week period from October 4, 1993 to October 15, 1993. The questions are listed below and later serve as the format for the final section of this report entitled, 'Summary and Conclusions'.

1. PROJECT GOALS What are the objectives and expected outcomes of the Project?
2. IDEAL GAT How is the GAT supposed to function?
3. REAL GAT How is the GAT actually functioning?

4. GAT/EXTENSION RELATIONSHIP How does the GAT function in relation to the overall ANACAFE extension program?
5. GAT/CREDIT RELATIONSHIP How is the supervised credit functioning and how does it relate to the GAT methodology?
6. GAT/CREDIT AGENT RELATIONSHIP What are the specific roles of the extension agent and of the credit agent and how do they work together?
7. COMPONENT INTEGRATION How are the different Project components integrated in the Project extension delivery system?
8. ADMINISTRATION SYSTEM What is the present administrative structure for the extension delivery system? What changes are proposed?
9. GEOGRAPHIC CONCENTRATION What is the basis for the proposed geographical concentration of extension services and how would it operate?
10. PROGRAM EVOLUTION What changes in the extension delivery system should be contemplated in the future as present project goals are met and for sustainability after the Project is finished?

STUDY METHODOLOGY:

The methodology used in this study is based on a "Delivery System" framework as a conceptual base. This same framework can serve for functional analysis of the components for redesigning the Project as well as for monitoring and evaluation in the future.

The use of a delivery system approach is an attempt to recognize key elements that should be considered in designing and evaluating the mechanisms that are used for technology transfer. "Technology transfer" can best be defined as the transfer of available knowledge, attitudes, and practices that will produce changes at the target audience level. It assumes that material resources will also be available for the expected changes to take place. This process has most often been applied in rural extension education programs and it has used non-formal education techniques rather than formal education as a mechanism.

It is generally agreed that the Project delivery system through the Groups of Friendship and Work (GAT) is not working as well as expected for technology transfer. One of the reasons is because the Project is much more complex than just the delivery of production technology. Without a systematic approach to analysis and modification of the GAT model, changes will likely be opposed for fear of losing the positive aspects that are now operating and any result would be a 'patched up GAT' rather than a functional

delivery system.

The project has been analyzed many times and each time a slightly different list of recommendations has emerged. The "Extension System" framework proposed by Morales (1991) looked at the project as a combined effort that has specific functions that must be carried out if a final product is expected. This approach included nine basic function: administration, training, information, communication, personnel, credit, specialists (coffee processing and coffee marketing), supervision, and monitoring/evaluation. This framework was useful in that it looked at the project as a total system that had interrelated parts. The recommendations that came from this study have in turn been useful in making readjustments in project operations.

The "Delivery System" approach as recommended by Nesman (1990) and further refined here has much in common with the "Extension System" approach. It also looks at the interrelation between components and treats the Project as a total system. Perhaps the "Delivery System" approach is unique in that the starting point for analysis is really the ending point of the Project -- it begins with the end product or expected outcome and works backward to see what combination of components are necessary for this to be achieved. The approach is not unlike the PERT planning scheme and Critical Path analysis in this respect.

In the present study the following elements are considered for analysis:

1. the overall project purpose that gives the general parameters of what is offered for delivery, including the major components;
2. the expected project outcomes at the beneficiary level;
3. a definition of the target audience;
4. a description of the delivery mechanism that is used (or could be used) for each of the components;
5. a time frame for expected outcomes at the beneficiary level and at intermediate levels for the different components;
6. the mechanisms that are to be used for monitoring, feedback, and evaluation; and,
7. an administrative structure that can facilitate coordinated project operation.

For this project, there are three other elements that seem important to consider:

1. mechanisms used for selection and training of personnel to assure project outcomes;
2. mechanisms for coordination and integration of the project components; and,
3. mechanisms to be used for replanning and changing the delivery system to adjust to evolving realities.

These ten items were among those included in the Project Plan (USAID 1989) and have been considered as a starting point in the

present study. The most relevant statements of this document are found in Annex I of this paper.

The present investigation has included a review of the literature (see List of References); discussions with key informants in the Coffee Project itself, ANACAFE, USAID, ECOTEC, extension experts, and fellow evaluation team members; and personal notes from field visits and interviews with technicians and beneficiaries (see List of Informants).

Further refinements can be made in this kind of "system analysis" that might better serve the project in the future. For purposes of this evaluation, the "Delivery System" framework will be used to look at all of the component elements. The overall findings from the investigation are presented first. Following the findings, a list of recommendations for possible changes are presented. The findings and the recommendations are related to the goals and activities that were proposed at the time of project initiation (see Annex I). The findings represent the present situation at project midpoint with particular emphasis on problems. The recommendations represent suggestions for possible changes in future operation in order to better reach project goals. The list of study questions that were posed in the Scope of Work serve as an outline for the summary and conclusions.

FINDINGS:

Based on project reports, the preliminary results from the ECOTEC study of the GAT experience since its inception, and previous field visits, there is little doubt that the project has had a significant impact on improved coffee production and increased income for the small producer. It is also evident that the GAT methodology has been one of the factors in this improvement. Given this as a basic finding, it is also true that there are aspects that are functioning as expected and others that could be improved so that the project might move on to complete the remaining four years with even greater outcomes. The findings present here come from a composite of impressions. The findings from the forthcoming ECOTEC study will add much to the findings presented here. At this point they need to be considered as tentative. The following findings are listed as areas of concern:

-some GATS have been in existence for over 10 years and their program has changed little from year to year;

-most of the agents and many of the farmers would like to have something new added to the activities;

-many of the recommendations made by the extension agents have not been carried out by the farmers in spite of the repetition year

after year;

-many farmers lack sufficient financing to carry out the recommendations;

-the GAT groups are generally passive and dependent on the extension agent and do not have self initiative;

-only a few of the GATS have gone on to form legal associations or cooperatives;

-the technical package for coffee renovation is not seen as clear and understandable;

-there has been no clear means of farm level verification that is carried out systematically by the agents;

-there is no clear and consistent pattern of credit activities and nor coordination between the extension and credit agents;

-the effectiveness of the agents in some areas is based on the number of approved credit operations and for this reason the extension agent has pushed very hard to get credit approval, including carrying out some of the activities that only the credit agent has been trained to do;

-not all GATS are the same in the basic characteristics of the farmer members nor in the degree of maturity of the group yet the program shows little variation;

-there are no clear lines of responsibility and authority for some of the project components;

-most agents have little expertise to go beyond coffee production technology;

-some of the agents do not visit the GAT groups at scheduled times and often do not even advise the group of meeting cancellation;

-not all of the demonstration plots have been well cared for;

-the majority of the agents are presently working without the benefit of a diagnostic of their group;

-the lack of stability in the assignment to a given area gives little incentive for the agents to work for long range results that they will be accountable for in the future;

-there seems to be little connection with investigation and extension;

-there is little overlap of GAT groups with processing groups,

credit subjects, and marketing groups.

RECOMMENDATIONS:

The following recommendations are made in terms of modifications that should be considered.

-EXTENSION SPECIALIST: An extension specialist was contemplated in the project paper and has been included as a recommendation in most of the evaluations that have been made since that time. There is no best way to modify the GAT groups so that they can better meet the needs of the Project. There are some guidelines that can be given but it will take some one to work the details out and see how things fit. This person will need to help with operational planning of the extension/training system and supervise its operation as it is transformed. The utilization of monitors also needs to be worked out. Training the agents in extension methodology is also important as well as guiding the preparation of new teaching methods and materials. This should be a long-term position but could be on a periodic visit basis.

-EVALUATION, MONITORING, INFORMATION SYSTEM: There are a number of like tasks that need to be done that fall under this area of interest. Rather than have separated information and evaluation efforts, it would seem better that they be combined. As has been recommended earlier, the kind of information that is needed should not depend on the extension agents for collection. The establishment of a separate unit for this effort seems important.

-TARGET GROUPS: It is now evident that there is no one monolithic target group to which a uniform extension program can be applied. There is considerable difference in the target groups that are present and potential beneficiaries of the project. This has been taken into account in the proposed plan of operation that is presently circulating. It seems wise to go even further and document the differences in these groups with complete diagnostic studies as they were contemplated in the project paper under the heading of 'baseline studies'. If the evaluation, monitoring, information system is operating correctly, this can be updated and used for identifying group differences, their progress, and the need for program modifications that fit the changing needs. This will also better help in geographical grouping for more efficient coverage.

-TEACHING/TRAINING PACKAGE: As the different types of groups are identified, grouped together geographically, and organized according to the level of services that will be delivered, it also means that the teaching/training package needs to be prepared to fit each one. A standard program will not fit all. In any event the key practices need to be identified and the use of behavioral

objectives may help in the field verification of practice application. The training package should not be limited to production but should also include such things as entrepreneurship as well.

One of the weaknesses of the GAT methodology is that there does not seem to be emphasis on field verification. This may be due to a confusion between training and extension. Extension in the traditional sense is more service oriented at the farm level where a problem is dealt with and the application of the proper technology is used and verified on the spot. The GAT training program may be unconsciously treated like a training course that has a number of class meetings where information is given out but does not necessarily have to be carried out as changed practices in the field. The methodology may need to be modified so that the 'extension' field application aspect is as important as the 'training' knowledge transfer aspect.

-LEVELS OF GROUP MATURITY: Another aspect of group differences is the kind of organizational maturity that they have or can develop. In earlier reports it was suggested that training in group organization is needed if the groups are to move from 'passive' to active 'units'. This is particularly true if they are to move on to coffee processing or coffee marketing associations. The cooperative training organization has been helpful in some communities. This will not come automatically and it will be difficult for the extension agent to help with this training; in reality he may not even want it to happen. It is always a threat to a professional to have the client make demands and this is likely to happen if they develop more autonomy. This is also related to the question of the political will of ANACAFE as an institution and its commitment to providing assistance to small coffee producers.

There is an additional level of maturity that is possible for some of the groups. It is evident that no semi-public institution such as ANACAFE can offer technical assistance to all growers, on all subjects, and forever. The recent cutbacks in the number of extension agents gives good evidence of the limitations. One of the answers is the gradual preparation of the growers for a privatized extension service that they pay for. This requires preparation of both the technicians as well as the farmers so that they come to see technical assistance as a valuable input that is directly related to an increase in economic output.

EXTENSION/CREDIT AGENT ROLES: This has been well outlined in both the Morales (1991) report and in the recent proposal for project modifications. In general the extension agent is farm production oriented and the credit agent is bank oriented and they should have specialized skills to carry out those tasks. Yet, supervised credit should be an integrated action at the farm level. The proposal that the two agents make at least three joint visits yearly for planning and supervision seems to be a workable solution. If the number of credit applications is the only thing that

is used to evaluate the efforts of an agent, then there may be a strong incentive for the extension agent to 'go it alone' and try to do it all himself rather than wait for help from the credit agent.

-NEW TEACHING METHODS AND MATERIALS: All of the evaluations that have dealt with extension, training, and communication have found that there is a need for additional materials and alternative teaching methods. It would be best to have a person on the staff to carry out this task. If project funds do not justify the hiring of a specialist then this could be supervised by the extension specialist. As new methodologies are developed to meet the needs of different kinds of groups this becomes even more important. A number of things will need to be tried out before the right combination is found for each type of group and at each stage of their growth.

-EXTENSION AGENT TRAINING: This is also an on going recommendation. It becomes even more evident now because almost half of those serving GAT groups have not had training to work with groups yet they require quite a different approach than the traditional one-on-one approach. This also is one of the responsibilities that needs someone to oversee and try out new ways of getting the job done. Training through special seminars and workshops is important but it is only one of the aspects that results in good job performance. Along with adequate training, clear expectations, adequate supervision, fair evaluation, and just compensation are all necessary as well. At the present time there may be little incentive to do the kind of job that one will be held accountable for in the future because of the frequent changes and turnover. Each assignment may be but a brief stopping point on the way to some other employment.

-FARM VISITS: This has been mentioned previously but is worth repeating. It will not be possible to reach the desired outcomes if field teaching and verification if farm visits are not part of the training program.

-MONITOR PROGRAM: The goals that were set out for this component may not be possible to reach. Reports from the field indicate that there are few locations where this is functioning well. It should continue as an alternative and the successful situations may serve as models for others. This is worthy of a more complete evaluation study by itself.

-TRAINING ADMINISTRATION PERSONNEL: This is another aspect of training that needs to be considered. Previous experience indicate that administrative personnel that have come up from working as field technicians need additional training in management and supervision.

-ADMINISTRATIVE STRUCTURE: The recent proposal for project

modifications addresses this aspect of the delivery system. The movement to a separate administrative unit should help to insure that activities are carried out in a more timely fashion. I am not sure how the lines of responsibility and authority will flow through the regional offices in the proposed model. It may place the extension agent under two 'masters'. Administrative modifications are also closely related to the political will of ANACAFE.

-FOCUS ON FAMILY MEMBERS: The Banegas (1991) study suggested that other family members be considered for membership in the GAT groups and in the training program. I know that this is done already in some groups but it could be highlighted so that it becomes a desired goal of the project.

-CONSERVATION EMPHASIS: Additional emphasis on conservation of natural resources was also mentioned in the Banegas study as an area of needed emphasis. It is already a part of the technology training package but the need for more effort is evident in the field.

-PROJECT LITERATURE: There is a need for information on the project at all levels.

SUMMARY AND CONCLUSIONS:

1. PROJECT GOALS What are the objectives and expected outcomes of the Project?

There are no specific findings from this study to indicated that the assistance package as it was conceived in the planning stage was in error. The small coffee producer in Guatemala continues to need the assistance that the Project can offer and the present and potential outcome of Project activity have been positive.

Two questions have arisen in this investigation that could be pursued further: 1. Can the Project expense be justified in light of the present world coffee surplus? and, 2. Is there sufficient political will among the large coffee growers and institutional commitment in ANACAFE to assure that the needed modifications in the Project can be carried through?

It might be wise to get assurance that the answer to the two questions posed above are positive before moving too far ahead with efforts toward Project modification.

2. IDEAL GAT How is the GAT supposed to function?

The current GAT program follows the general guidelines prepared by PROMOCAFE/IICA (see Vejarano 1991) and the modifications that came from the Regional Seminar held in Antigua in 1990 (ANACAFE 1990). The methodology was adopted in an attempt to offer technical assistance to small and medium sized coffee producers. Communities were selected that had sufficient number of small and medium sized producers and with favorable physical-biological and socioeconomic condition for increased production.

The ideal group had from 15-20 voluntary members that were interested in improving their production. The organizational structure was simple with the selection of a local leader to serve as a contact person. Group activities were based on a diagnostic study of the membership to better understand the present level of coffee production as well as their social situation.

A key element in the teaching process was the demonstration plot that served as a laboratory to apply all of the things taught in the teaching sessions. The monthly meetings consisted of a teaching session based on the key practices for that time of the year. The lessons also included demonstrations and group applications practiced in the demonstration plot. Other teaching methods were used such as field trips to visit other areas, field days, and concentrated short courses. The cycle was repeated yearly with the addition of new material as the new plantings gradually reached maturity and needed pruning as well as the questions of credit, processing, and marketing.

3. REAL GAT How is the GAT actually functioning?

Generally, the application of the ideal method of GAT did make it possible to carry out the work with many small producers that were grouped together in communities. It was an efficient way of making contact with larger numbers of producers than would not be possible through the individual visit method that was being used by regular extension workers. The desired reinforcement from group learning was also possible in the training meetings. Improvements were noted in production as a result.

In spite of the positive outcomes, there are now a number of aspects that are not working as well as expected. The group diagnostic was an essential part of the ideal program and the basis for planning yearly activities. Today many, if not most, of the agents are working with no diagnostic of their groups or without one that has been updated. There is a vast differences between groups, yet the same general training program is applied everywhere, much the same as it has in years past, and with no termination period in sight. The farmers and the agents report that little has changed in ten years and yet both would like to see 'something new'.

The demonstration plot was also the center of the 'learning by doing' philosophy yet many of the plots are not good examples of the recommended improvement practices and some have been abandoned altogether. Too often the practices used on the farms do not follow the recommendations of the technological package and there is little time for the agent to verify the practices at the farm level.

The groups generally do not move on to take initiative but depend on the actions of the extension agent to continue. Few have organized as legal associations so that they can work together in coffee processing or marketing initiatives. There seems to be little overlap in the groups that are working well in new production techniques, those that have credit, and those that are being considered for coffee processing and marketing assistance.

The proposals that have been made for change take into account some of the group differences and different levels of possible outcomes. (see Schwartz 1993)

4. GAT/EXTENSION RELATIONSHIP How does the GAT function in relation to the overall ANACAFE extension program?

There was a fundamental difference in the GAT program and the traditional ANACAFE extension program. The GAT program was group centered and working with a large number of small and medium-sized producers while the ANACAFE program was focused on individual farm visits with a few big producers. Prior to the 1992 restructuring, there were at least two agents in each office and the work was divided with one working with groups and the other working with individuals. There was even some division in the supervision of the two agents.

In 1992, and largely for economic reasons, it was necessary to eliminate one of the agents and combine the two functions. As a result, about half of the agents working with GAT groups do not have any special group training although a large proportion of their work assignment is with these groups. This may account for the high proportion of GAT group failure which is found in those same areas. It is unknown just how successful the GAT trained agents are in working with the large producers on an individual basis.

5. GAT/CREDIT RELATIONSHIP How is the supervised credit functioning and how does it relate to the GAT methodology?

Many of the farmers that have not adopted all of the recommended improvement practices indicate that they do not have enough money to do everything. This is an important reason for the credit component to accompany the production training component. Yet, in reality, many of those that fit the profile of being eligible for GAT group membership do not meet the requirements for credit. For

this reason it has been necessary to include many in the credit program that are not members of the groups.

There is an additional aspect that makes the two components different. The regular GAT training program goes on month after month without farm verification to see how many of the practices have been applied. There is little thought given to the discontinuing the program if the recommendations are not followed. On the other hand, supervised credit must be supervised at the farm level and if the recommended practices are not applied, then the credit component will be discontinued immediately. This has implications in determining the way that the extension and credit agents should operate if they are to compliment each other.

6. GAT/CREDIT AGENT RELATIONSHIP What are the specific roles of the extension agent and of the credit agent and how do they work together?

As has been stated above, not all of the GAT groups are eligible for credit and not all of those who have received credit have been part of the GAT groups and received production training. Also, the difference in field verification needs have made new demands on the agents that supervise farmers with credit. Credit agents have been added in order to help in the new tasks that are required and that the extension agent is not trained for, yet it has not always been clear when the credit agent should carry out a task and when it remains with the extension agent. Because of travel and work schedules, it is often necessary to interchange activities to be more efficient. At other times the extension agent would rather maintain the direct relationship with the farmer rather than turn over credit tasks to someone else.

There are two further areas of concern that have implications for credit payback in the future. The first is the rapid turnover of agents that may contribute to a lack of long term commitment to help increase the farmers ability to pay back the loan. The second is related to the heavy emphasis placed on evaluation of an agents activity based on the number of new credit approvals in his area. These two aspects are related to the administrative structure of the Project.

7. COMPONENT INTEGRATION How are the different components integrated in the Project extension delivery system?

As has been stated above, the ideal pattern of having all GAT groups participate in production training and later use credit for applying new practices as well as work on processing and marketing, has not always been followed. Credit is a different kind of activity and has different requirements at the farm level if it is to succeed. In any event, who ever does it, and how it is combined with other activities, it is generally agreed that supervised credit must be an integrated activity at the farmer level. This

integration has been worked out in different ways, sometimes with joint visits by the two agents at set times throughout the year, or having those extension agents that have farmers with credit be the credit supervisor and furnish them with special training and with fewer groups to attend. Production and credit can not be fragmented and separate activities if they are to work.

8. ADMINISTRATION SYSTEM What is the present administrative structure for the extension delivery system? What changes are proposed?

There are two general patterns of administrative structure that have been characteristic of development assistance programs. An integrated structure uses the existing structure and attempts to bring about institutional change so that new programs can be instituted. The value of this approach is that it is expected to continue after the external assistance is ended. Unfortunately, it is very hard to transform the existing institutional structure when the additional resources are needed to maintain existing programs and little is left over for new initiatives.

The second pattern is to develop a parallel structure that has administrative positions and lines of command that go around the traditional structure. This is to insure that the new program does get the needed resources and has a clear mandate to set up new programs at the beneficiary level that can be successful enough to be copied by the institution later. Yet, this structure also has problems in that it often sets up 'little empires' that become ends in themselves or at least appear that way to those that do not have resources in the larger institution to do their job. The professional envy that evolves often becomes a destructive force that works against Project success and tries to prevent it becoming a part of regular institutional operations later.

The Project had some institutional autonomy before the restructuring that took place in 1992. At the time of restructuring it was almost completely integrated into the regular structure. There is little doubt that when the regular extension activities and the GAT groups both became the responsibility of the same agent, the GAT groups suffered. It is possible that the regular extension visits to the larger growers suffered as well. If this arrangement were to continue, it would be difficult for the Project goals to be met.

The institutional structure that is proposed for the future (Schwartz 1993) returns to the parallel type arrangement that gives more autonomy for Project operations. One aspect that is not clear is how the Project agents are to be supervised in the field by regional chiefs that are in the regular structure and at the same time be responsible to Project administrators.

9. GEOGRAPHIC CONCENTRATION What is the basis for the proposed

geographical concentration of extension services and how would it operate?

The original GAT model was developed so that one agent could serve many small and medium growers by working with them in groups. Even if the focus was only on the introduction of new production techniques, the model needed to be adjusted so that it could better meet the needs of different areas and different levels of technology. With the addition of credit, processing, and marketing, even more adjustments are needed. The proposal to classify groups by their different characteristics, needs, and by geographical location, (Schwartz 1993) is an attempt to efficiently serve the different groups in a way that insures greater results.

Some kind of regrouping is needed to make better use of Project resources. The needed regrouping will also require different levels and content in the training program. This can only take place if a more complete diagnostic is completed in each area and that this information be updated each year. It will also require new types of extension agent activities that will, in turn, require additional training and perhaps some new agents. It will require adequate supervision and rewards that give motivation to try out new things that may not be well accepted among other extension agents.

10. PROGRAM EVOLUTION What changes in the extension delivery system should be contemplated in the future as present Project goals are met and for sustainability after the Project is finished?

A number of suggested changes in the extension delivery system have been made in the previous paragraphs: new methods and materials; additional agent training; the use of behavioral objectives and field verification for teaching improved production practices; the integration of production/credit extension agent activities; the categorization of groups based on their needs, location, and maturity; increased focus on the family; more emphasis on natural resource conservation; the preparation of Project related literature for ANACAFE personnel and the public; working toward some kind of fee-supported extension service etc., etc..

These suggestions are interrelated with those of the other team members and must fit together if they are to be workable. Some compromises will need to be made if they are to become part of a workable delivery system. Also the upcoming ECOTEC evaluation will give further insights based on information from the field that must be incorporated. All of these reports and suggestions can help but they need a person to carry them through and adjust them to the day-to-day realities. For this reason, the extension related suggestions need to have the assistance of an extension specialist to work things through. This specialist will also need an

effective evaluation/monitoring/information system to give the kind of feedback that can help the Project to be an ever-evolving one that is dynamic and has some chance of being sustained after the external assistance is ended.

ANNEX I: RELEVANT GOALS AS OUTLINED IN PROJECT PAPER

1. The overall project purpose that gives the general parameters of what is offered for delivery, including the major components. There are a number of statements in the Project paper that serve to define what the project will offer:

"2. The project ("Project") consists of assistance to small coffee farmers through the provision of technical assistance, training and credit. Its goal is to increase small coffee farmer income by increasing production, productivity and product quality. The Project will comprise a grant (Grant) to the Government of Guatemala (GOG) and a Cooperative agreement with the National Association of Coffee Growers (ANACAFE). (USAID 1989, 1)

" The goal of the Project is to increase the participation of Guatemalan rural poor in sustained, real economic growth. The purpose of the project is to increase small farmer income by increasing production, productivity, and product quality." (USAID 1989, 16)

2. The expected project outcomes at the beneficiary level:

Goals The goals found outlined at the planning stage for this element are best stated in the following excerpts:

"Project funded activities involving coffee technification are designed to assist 8,100 small producers in the total renovation of old, low-yielding coffee plantings into high-yielding new plantations." (USAID 1989, 20)

"Based on the planned level of inputs and the project's implementation plan, the following project outputs are expected:

At the end of eight years, the following conditions should exist to indicate that the project purpose - to increase small coffee farmer income by increasing production, productivity, and product quality - has been achieved:

1. Approximately 8,100 manzanas of coffee will have been replanted to high-yielding, export-quality coffee, and new production practices will have been adopted by an estimated 8,100 small coffee growers.

2. At full production (o/a 4 years following renovation), farmers will be earning at least Q2,500 in net income per manzana of improved coffee per year, representing a five-fold increase over current annual net income (Q500).

3. Average annual small farmer coffee yields, on renovated manzanas in full production, will have increased from 7cwt/mz to 30 cwt/mz (parchment).

4. An increased percentage of small farmer coffee output will be marketed at the dry parchment stage, rather than at the lower-value cherry stage.

5. An effective small coffee farmer assistance program will have been institutionalized within ANACAFE, and evidence will exist to show that the program is being expanded to additional small coffee producers.

6. Small producer coffee renovation and production credit requirements are being met by private and public financial institutions in coffee producing regions of Guatemala; minimum 90% repayment rate can be demonstrated.

7. A pilot gourmet coffee export marketing and quality certification program will have been established and be functioning effectively to increase the sale of small producer output in the export market..." (USAID 1989, 40)

3. A definition of the target audience;

" During the first year, project participants will be selected from existing "Grupos".... individual farmer selection will be based upon available ANACAFE area profiles which take into account farmer characteristics, community organizations, media availability and other systems of communication. Eligibility criteria will require that participants have between two and ten manzanas of coffee, an annual production of less than 15 quintales per manzana, and more than half of their cash income derived from coffee production. Other specific selection criteria will include: soil types, slope of land, access to water, access to roads, availability of farm labor, educational level, and relative need." (USAID 1989,20)

"An individual producer will be eligible to participate in the technification program if he has a total of no more than 15 manzanas of land, of which no less than 2.0 and no more than 10 manzanas is planted in coffee; coffee yields of less than 15 cwt./manzana; and sufficient economic capacity to absorb the loss of income during the renovation period and meet the new obligation (i.e., annual interest payments) imposed by the terms of his bank loan. Preference will be given to farms capable of producing high altitude, high quality coffee, and all farmer participants will be members of Grupos de Amistad y Trabajo." (USAID 1989, 28)

4. A description of the delivery mechanism that is used (or could be used) for each of the components;

"The project will incorporate the successful aspects of the technical outreach program of ANACAFE (through its Grupos de Amistad y Trabajo) in organizing groups of farmers and providing assistance in new technology, supervision, training and follow-up activities. Project training programs will be designed to provide the groups with a standardized methodology for "institutionalizing" the process of applying and adopting new technology packages." (USAID 1989, 16)

"The project will provide for an expansion of existing staff of 36 extension agents to 60 over the eight years of the project.USAID will finance the purchase of approximately 42 vehicles for field staff participating in the project; ANACAFE will finance the purchase of an additional 32 vehicles." (USAID 1989, 20)

"The project will also provide short-term T. A. to assist in specific aspects of group formation and instruction."..... Perhaps the most important feature of a small farmer training program is the development of an appropriate system of communication with the farmers. The GAT extension model will be applied for each different teaching mode. The development of training material and curricula will be the responsibility of the extension advisor who will draw on short-term assistance in communications and in technical aspects of production and publication. Specialized short-term T.A. will also assist with the development and implementation of media and marketing information programs. AID will finance the services of a long-term (3 Years) extension specialist, short-term advisors, the purchase of specialized training equipment, and a portion of the additional operating costs associated with the training programs. ANACAFE will finance the balance of training-related operating costs." (USAID 1989, 21)

"Every three to four months, participating farmers will meet and visit the farms of the other group participants. The regional coffee agent and the Project para-technician will also accompany the groups.".....

"The training for participating farmers will include all essential phases in the selection of seed for the nursery, providing the nursery lay-out, transplanting the seedlings to plastic bags, controlling pests in both the seedbed and the nursery, removing old coffee trees, layout of the field to prevent erosion, planting new trees, applying proper fertilization, pest control and weeding techniques, as well as providing temporary and permanent shade management. As the trees come into production, farmers will receive training in proper techniques of coffee harvesting and processing." (USAID

1989, 21)

"Para-technicians will be selected from farm-leaders who are participating in the coffee renovation program themselves. They will be selected based on their dynamism, respected position in the community and ability to speak the dialect of the area as well as Spanish, if applicable..... They will work part-time to assist their neighbors in all phases of coffee farm renovation, and, together with the credit extension agents, provide guidance in the use of credit provided through participating banks." (USAID 1989, 23)

5. A time frame for expected outcomes at the beneficiary level and at intermediate levels for the different components;

"PROJECT YEAR FOUR. 6/93 Approximately 3,000 small coffee growers have adopted the technification methodology, received training in the application and proper use of modern technology, have been pre-qualified and approved for credit financing by local financial institutions, and are processing their harvests at their group processing facility.

"PROJECT YEAR SEVEN 4/96 Approximately 5,700 small coffee (growers) have increased their net incomes more than 50%, based on the production of one manzana of coffee, as a result of the project." (USAID 1989, 64)

6. the mechanisms that are to be used for monitoring, feedback, and evaluation; and,

"As part of the needs analysis to identify small farmer coffee processing alternatives, existing facilities will be reviewed to identify the possibility of increasing small producer access to effective processing, and small-scale on-farm processing plants. These studies will also define the additional extensionist required to supervise the installation and to advise with the operation of the plants." (USAID 1989, 25)

"The PMU will rely on the project's management information system for gathering baseline and ongoing project data on small farmers, disseminating research and analytical information to project extensionist and small farm coffee growers, and for serving as the project's institutional memory. In addition to financial management of the project, the MIS system will track progress toward achievement of projected outputs and provide a basis for objective project analyses for the benefit of project managers when serious shortfalls or problems arise." (USAID 1989, 58)

"The objective of the baseline data bank will be to establish information describing the characteristics of farms, farm households, and rural communities to be affected by the project and relevant to its goals and purposes: cropping and livestock patterns and yields; soil conservation and water use; household incomes, purchases, expenditures and consumption: credit and technical assistance received; marketing patterns; family characteristics, education, literacy, and the roles of women and children. The information will be used to (1) aid in the design of project technification and training activities best adapted to local circumstances; and (2) provide a data base against which subsequent changes effected by the project can be assessed by surveys as part of the final impact evaluation.....

"b. The baseline data gathering will be an on-going process and will be initiated during the first year of the project. A plan will be developed to determine the most effective schedule for any needed surveys to be undertaken in each of the project areas... The PMU, supported by project funded technical assistance, will assist in the design of the basic information instruments, data processing programs and analytical measurements in order to standardize them throughout ANACAFE, AID and possibly within the participating financial institutions as well." (USAID 1989, 88)

7. An administrative structure that can facilitate coordinated project operation.

"A new unit will be established in ANACAFE to manage the project. The unit will have the capacity to manage and oversee the project's extension (i.e., coffee technification, training and processing) and credit delivery components. The Project Management Unit (PMU) will be structured within ANACAFE to take full advantage of its existing staff capabilities in coffee technology, research and extension, as well as administrative support requirements. The PMU will be comprised of a project manager/administrator, an assistant administrator/coordinator, an accountant, a computer data specialist, and three clerical/secretarial support personnel." (USAID 1989, 18)

"PMU will perform a wide range of functions that are essential to the effective operation of the project. coordinating project activities, which include technification, training, credit, processing and marketing, will be the primary responsibility of the director of the PMU. The working relationships developed by the PMU with the Board of ANACAFE, BANDESA, private financial institutions, and AID project management, and PMU's strategic planning of project events and follow-up supervision and monitoring will be essential to the

success of the project. The PMU will also be responsible for procuring all project related equipment and vehicles (except for BANDESA equipment)...." (USAID 1989, 59)

8. Mechanisms used for selection and training of personnel to assure project outcomes;

"Observational visits to the two successful projects in Honduras and Costa Rica are planned for at least 20 ANACAFE technicians during the second and third years of the project. Moreover, all extension agents will benefit from on-going training courses and conferences. The PROMECAFE program will be extremely beneficial in augmenting the training activities planned under the project. The project will finance the cost of sending ten technicians per year to workshops and courses sponsored by the PROMECAFE program in Guatemala."

"The Project will assist in upgrading the technical skills of the staff working with small farmers by funding four technicians in the U.S. or Latin American graduate schools for degrees at the M.S. level. They will be programmed over years two through six of the project so as to not deplete the technical staff excessively during any one year." (USAID 1989, 23)

"Training for agricultural extension agents of ANACAFE.... in coffee production technology, credit, effective communications strategies, and coffee processing and marketing.

2. Long-term training at the M.Sc. level for four ANACAFE technicians in agricultural economics and marketing; agricultural extension, agricultural mechanics, and tropical crops/pomology with specialization in coffee.

3. One-week observational trips by 20 ANACAFE technicians to coffee projects in Honduras and Costa Rica.

4. Training related to the specialty/gourmet coffee mechanism for processing and marketing.

5. Various other regional sponsored training programs under PROMECAFE/IICA and CATIE programs.

6. Local workshops, 1-2 day seminars and informal classes between extensionists and small farmers." (USAID 1989, 67)

9. Mechanisms for coordination and integration of the project components; and,

There are no specific guidelines for this activity in the Project Paper except for those included under

'administration'.

10. Mechanisms to be used for replanning and changing the delivery system to adjust to evolving realities; .

This is also assumed under the general area of 'administration' but not emphasized as an important activity.

USAID-ANACAFE
Small Farmer Coffee Project Evaluation
Sociological Aspects of the GAT Extension Methodology

by: Robert Clyne

Introduction

This study was the sociological component of a multifaceted study of the A.I.D. Small Farmer Coffee Improvement Project. The project consists of assistance to small coffee farmers through the provision of technical assistance, training, and credit. The goal of the project is to increase the participation of Guatemala's rural poor in sustained, real economic growth. The purpose is to increase small coffee farmer income by increasing production, productivity, and product quality.

The project's two primary components are:

- 1) The transfer of a technology package and the necessary expertise for the production of high yielding, export grade coffee. The transfer of the technology package will be carried out through the agricultural extension methodology of ANACAFE's Grupos de Amistad y Trabajo (GAT).
- 2) The establishment and operation, through the commercial banking system and the GOG Agricultural Development Bank (BANDESA), of a credit fund to finance the production and investment needs of the target group.

The goal of this study is to evaluate the effectiveness of the project from the perspective of the GAT members and to make suggestions on possible improvements. The evaluation will be based on data gathered from field research conducted among GAT members. The data mainly focuses on their perceptions of the appropriateness of the technology package, of the GAT as a methodology for technology transfer, and the credit offered for technology implementation. It was assumed that studying the degree to which people had accepted and implemented the technology package would not only indicate GAT members' perceptions of its effectiveness, it would also shed some light on the GAT as a mechanism for technology transfer. Furthermore, as the USAID/Honduras GAT case suggested, it was believed that credit would play a central role in implementing the technical package and that it should be studied.

Methodology

The basic methodology was to examine numerous GATs and to write up GAT members' perceptions in the form of case studies on the four most informative groups. The criteria for choosing the GATs initially were geographic location, ethnic composition, perceived success, frequency of change of ANACAFE technicians,

status as an active or inactive GAT, and quantity of land under cultivation. However, as the study progressed, it was decided to focus on those groups which were most unique because of their success, failure, or separation from ANACAFE. This criterion was chosen in the hope that it would provide the greatest diversity of perspectives in the short time allotted for the study.

The main investigative tool was a formal interview based on a questionnaire. This interview was conducted with all available members of the chosen GATs. The questionnaire design was originally developed by ECOTEC personnel and was modified by the AID contractor. The other investigative tools were informal discussions and participant observation.

Summary of Conclusions

1. The project appears to be approaching its goals. Technology is being transferred, GAT members are implementing it whenever it is economically possible, and they seem optimistic about the results. For many it is the first and possibly only exposure to the techniques of modern agriculture. While the technology may not always be implementable or appropriate for their needs, they seem fairly regarding its potential for increasing production and income.
2. Based on the members' perceptions of the implementability of the technology, the project seems to have some important obstacles. The largest problem facing GAT members is their economic inability, for the most part, to completely implement the technology package. It appears to be far too expensive for most people to implement without financial assistance, and credit is often insufficient or unavailable.
3. If ANACAFE wishes to continue assisting GAT members who are not eligible for credit, then an alternative, less-capital-intensive package should be developed. Moreover, to address the needs of all people who find it economically impossible to implement the entire package, a system of prioritization could be used to help them most effectively utilize whatever funds they have available. This would allow people to make the most effective spending decisions.
4. Success or failure of the GAT methodology seems to depend more on the individuals occupying key roles than anything inherent in its structure. Therefore, institutional attention should focus on identifying these key roles and the reason why some individuals have been exceptionally successful in occupying them. Because the GAT methodology is so strongly influenced by the characteristics of its participants, it is difficult to say whether the GAT methodology would provide an appropriate organizational structure for an expanded membership and scope of activities, other than that of technology transfer. This

would depend entirely on the skills and abilities of its participants.

Case Study 1: Grupo Atitlan

The grupo Atitlan is a GAT located in the town of Santiago Atitlan. It was established in 1991. It was chosen because of the following characteristics: it is a successful group, the ANACAFE personnel had been changed frequently, it has a large area of land under cultivation, its population is largely indigenous, and it has maintained active contact with ANACAFE.

The original interviews were carried out over a two day period. Eight members of the Grupo Atitlan were interviewed. In the majority of the cases the interviewers were assisted by a translator. The group was also revisited by one of the interviewers. Informal interviews were conducted with both the group coordinator and the ANACAFE technician as they conducted their rounds of the coffee plots.

The Appropriateness of the ANACAFE Technology Package

All members stated that they found the techniques learned from the ANACAFE technician to be useful (*util*). Three fourths of all informants applied these techniques to all or most of their land. Only two applied it to less than one quarter of their land. Those who applied the techniques to less than all of their land stated they did so due to lack of funds. These findings suggest that all of the GAT members believe that the technology package, if applied, would achieve desirable results. It was implemented by all producers who could afford to do so. Where it was not adopted, it was perceived as useful by the producer, but excessively expensive.

In short, all members found the technology package useful. A clear distinction should be made between "useful" and "implementable". Useful means that the technology, if applied, can achieve the desired result. Implementable means that people believe they have the knowledge and the means to put the technology into practice. Although all respondents in the GAT study found the technology useful, not all found it implementable.

People's beliefs about the technology package can also be seen in their perceptions of their coffee production. The vast majority of members had experienced an increase in production in recent years. One quarter of the respondents attributed this increase solely to the implementation of the ANACAFE technology. About one half attributed the increase to both the technology and having more land under cultivation. Only one fourth of the informants did not feel technology transfer played a role in their increased production. This would indicate that most people not only abstractly perceive the technology as useful, but when they implement it, they perceive this to lead to desirable results. Also, it should be noted that these Atitlan farmers perceive the

them to be openly critical. No one felt the need for elections and some openly stated they felt this way due to their satisfaction with their coordinator. Furthermore, from what the interviewers could observe, the coordinator was competent and in control of the group.

The other important aspect of the GAT is group cohesion. The respondents were asked whether any members were able to take better advantage of the technician's visits than others. This question was developed as a means of detecting any favoritism. Everyone denied this. They were then asked whether there had been any problems with group unity. Most people said there were not. Those that said there were claimed there were problems in the past but that they no longer existed.

The analysis of these elements of the GAT suggest that the methodology seems to be working. However, it is working due to the fact that the group has the good fortune of having exceptional people occupying its key roles, rather than as a result of any institutional policy per se.

The clearest indicator of the effectiveness of GAT as a mechanism of technology transfer is that people appear to be receiving the technology and implementing it. The degree to which this is occurring is best answered by the agronomists.

Credit

All people interviewed had been awarded credit; yet all the people expressed frustration over the credit situation. Two people used the credit to technify all of their land. Six other did not because they claimed the credit was insufficient so. People claimed that the bureaucracy surrounding the loan was extremely troublesome, and that the banks would not tell them all the loan criteria at once. Instead they insisted the people make several expensive trips in order to bring additional information which had not been mentioned previously.

Another complaint was that the loans were always tardy. Apparently, the technicians's recommendations could not be implemented on schedule as the money was not always available. In some cases, the money was released long after it could be of any use, and was returned to the bank.

In summary, the morale in this group is the highest of any group interviewed. The GAT as a methodology seems to be working as does the technical package. However, this has more to do with the people involved than any other quality inherent in the methodology of the GAT. While there are important problems with the credit package, they do not seem to be crippling. The technical package is implementable because of the credit. The main potential problem of the group is that its success depends on the superior abilities of both their technician and their coordinator, rather than on an effective institutional structure. If anyone less capable were to replace them the degree of success could drop precipitously.

Case Study 2: Grupo Pensamiento

The Grupo Pensamiento was a GAT located in the town of Costa Cuca. It was founded in 1991. This group was chosen for the study by ECOTEC, because it was believed to have a long standing relationship with their technician, a significant amount of land under cultivation, a largely Ladino population, and an active relationship with ANACAFE. Ten members of the group were interviewed.

The Appropriateness of the ANACAFE Technology Package

All the respondents stated that they found the technology package to be useful. However, most only applied it to a fraction of their land because they said the package was extremely expensive. A few others claimed they did not apply it to very much land because they were still experimenting. This can be explained by the fact that most people received credit for replanting eight cuerdas a year ago. It seems the technology was only implementable to eight cuerdas due to its expense both in implementation and the lost revenue incurred. However, it was implemented to some degree. The usefulness of the technology package will be more clear in two to three years.

These coffee grower's perception of the package could also be gleaned from their ideas about their coffee production. All the respondents stated that they had experienced an increase in production. Almost all the respondents attributed this increase solely to the application of the technical package.

These data would indicate that people perceive the package to be useful. Not only do they perceive it as abstractly useful, they also claim it to be the sole cause of gains in production. This is a bit curious since many are replanting and the technology is leading to an initial decrease in production. New maintenance techniques on their other lands seem to be improving yields enough to increase production in spite of replanting.

The producer's ideas about production costs and profit are also curious. Almost all the members had increased production cost using the new techniques. Half had experienced substantial gain in profit, half had not. It is surprising that members are claiming substantial profit gain given that most are replanting. Maybe they are experiencing substantial gains on the rest of their crop or else they are anticipating substantial gains. Those who claim they are not sure yet are providing the more expected answer.

The package seems to be working well. People seem to perceive the technology package as useful enough to take the risk of implementing costly renovation which not only requires substantial capital but temporary losses in income. Even with the renovations, people claim that production is going up and in some cases profits are substantial. They attribute both these qualities to implementation of the technical package. This could be an exaggeration due to an optimistic outlook, or the result of the non-renovated lands producing substantially more due to the new

techniques. Either way it displays confidence in the package.

The GAT as a Methodology for Technology Transfer

As in the case of Grupo Atitlan, indicators in addition to the technology package were analyzed to understand the perception of the GAT as a methodology. The following elements were analyzed: the technician, the coordinator, the curriculum, and the group themselves.

All of the member described the technician as qualified and accessible. When asked how the training could be improved, more than half of the people suggested they either needed more specific classroom instruction or hands-on instruction in the field. One stated that he specifically needed help understanding plant diseases, one wanted a soil analysis, another person wanted low cost alternatives to the recommended insecticides and fungicides. He felt the recommended brands were too costly and more appropriate for large coffee producers than people like himself.

These data suggest satisfaction with the technician, but possible problems with the curriculum. They appeared to have more specific questions than was covered in their training. Among other things, this could mean that the training is too general or that it is patchy, both in the field and in the classroom. If either of these are the case then the situation could be improved by applying a clear training curriculum and more structure to the GAT. By "clear" it is meant that the training courses go from the very general to the more specific, so that relevant materials were covered adequately both in terms of breadth and depth. Relatedly, there could be a greater systematization of field instruction and visits to each farmer's plot. It seems that time and technicians are limited and greater effort should be placed in making their transfer of technology more efficient. This seems only possible with a greater degree of well thought out structuring. While people are not loudly complaining at present, they may in a few years if they do not perceive a clear direction in their instruction, or else they may just quit. Furthermore, whether the people complain or not, it seems the goals of the project would be more effectively achieved if the transfer of technology were more efficient.

Not enough time was spent in the field to develop much of an impression of the coordinator. However, one half of the respondents felt that there should be regular elections. This may or may not indicate serious friction between the coordinator and the group. Whether or not it does, there should be some standardized mechanism for group members to evaluate and critique their coordinators and change them in a non-crisis driven fashion.

There may be problems within the group as well. Half of the group stated there had been problems organizing the group initially due to ego conflicts. Furthermore, some people had left the group due to lack of money to implement the technology. There had also been some tensions whether to sell the coffee in the form of cherry or parchment. However, it was claimed that this was no longer a

problem.

Credit

Most people claimed the credit was inadequate in that they wanted to technify more land. However, they did receive it and use it to implement the technical package. Thus, it seems to be serving its intended purpose, albeit in a small scale.

Case study 3: Grupo El Volcan

The Grupo El Volcan is a GAT located in the village of San Yugo Jalapa. The GAT was formed in 1991. It was chosen because ECOTEC believed it to consist of the following characteristics: an inactive relationship with ANACAFE (this was not the case), constantly changing technicians, little land under cultivation, and an indigenous population (this was also not the case). Twelve people were interviewed.

The Appropriateness of the ANACAFE Technology Package

All members of the group stated that they found the technology package to be useful. A little over half of the group applied the techniques to most or all of their land, and one quarter did not apply the technology to their land. Those who did not apply the technology to all of the land claimed they did so for economic reasons. It is surprising that the technology was being used so frequently since only two people received credit. It would be interesting to note which techniques were applied and to what degree.

Almost all of the group claimed to have experienced an increase in coffee production. However, most people attributed this to increased land under cultivation rather than technology transfer. This can be explained by two factors: close to half of the group joined in the last year, and the lack of credit. One can assume that technology will play a greater role with time and if more credit becomes available.

The fact that only one fourth of the people claimed they received "significant" profits from the use of the technology can also be explained by the newness of most members and the lack of credit in the group.

The GAT as a Methodology for Technology Transfer

Most people felt the technician was extremely knowledgeable, well prepared for his lectures, and accessible. Most felt the training could be improved by more field training and/or more visits, which suggests that people may have some difficulty understanding what is being taught. People are contradicting themselves, on one hand saying the technician is accessible and then most displaying some frustration over the infrequency of his

visits. This can, in part, be explained by the fact that saying anything negative about a technician may result in him coming less often and may result in him not recommending the person for credit. The power relationship between the technician and the group probably does not encourage the frank exchanges of information nor does it allow them to particularly make demands.

Nine of the twelve respondents felt there should be changes in the coordinator every so often. This suggests that there may be problems with the coordinator and the rest of the group. Once again, whether or not this is the case, ANACAFE should consider putting mechanism into place which address group member's grievances and allow for changes in leadership without it being driven by or resulting in a crisis situation.

The vast majority of people stated that there were problems integrating the various members of the group. One member suggested there was extreme favoritism practiced by the technician in awarding credit. This same person mentioned that the group had nearly disintegrated due to the lack of credit and perception that favoritism played a role in distribution of the small amount of credit available.

The GAT as a methodology seems to be challenged in this group. There are possible problems with both the coordinator and the technician. There appear to be definite problems with the group morale, and the availability and distribution of credit.

Credit

Only two out of twelve applicants were awarded credit. It was perceived rather strongly by one respondent that favoritism played a role in who was awarded credit. Whatever the case may be, it would seem more credit needs to be made available for this group to succeed. Furthermore, the credit must be distributed in a way that seems just or it will serve as a strongly divisive force in the group.

Case Study 4: Grupo San Luis

The Grupo San Luis was a former GAT located on the Finca San Luis in Escuintla. This group was founded in 1980. It was chosen because it had been terminated by ANACAFE but continued to function. It was hypothesized that such a group would offer more frank opinions on the merits and the shortcomings of both the GAT as a mechanism for technology transfer and the technology package. Five people came to be interviewed.

ANACAFE originally stopped visiting the group two years ago because of the low attendance of the group. When asked about this low attendance, two explanations were offered. Members worked on shifts on the farm and were not always available. Secondly, limited credit led some people to believe that the package would be unimplementable and they stopped coming. The group is presently working with FEDECOCAGUA and they claim this organization is giving

them both technical assistance and credit.

The methodology used for this group was a mixture of questionnaire and open-ended interview. The goal was to elicit more narrow, detailed information that might not be obtained by a more regimented interview.

The Appropriateness of the ANACAFE Technology Package.

All the respondents said that the ANACAFE technology package was capable of achieving desirable results, but was nearly impossible to implement due to the high costs. When asked whether the cost could not be reduced by emphasizing less capital intensive techniques, one respondent claimed they could but by no more than about thirty percent. He felt that even with this reduction, people would find it too expensive. The same respondent was then asked if the coffee land could not be technified in small increments without incurring excessive costs. He acknowledged that it could, but believed it was too lengthy a process to be satisfactory. He then mentioned that some people had tried to partially implement the technology and had lost their whole crop. He was not able to explain in detail how this occurred, but was adamant that it had occurred on at least two occasions.

Two other respondents concurred that the package was too expensive to implement. They agreed that some non-capital-intensive techniques could and were being used (pruning, shading, and homegrown seedlings). However, these practices only increased production a small bit. They claimed the major fixed costs of fertilizers and insecticides were unavoidable and beyond their means.

These two respondents were then asked what made the ANACAFE technology package useful if it were so difficult to implement. The respondents stated that although the package was extremely expensive, it had obvious merit. First, it was an introduction to the techniques of modern agriculture and to concepts like nitrogen, potassium, phosphorus, trace minerals, nematodes, and so on. Secondly, the techniques did significantly improve their production in many instances. They were confident that if they could implement the technology it would increase their production and improve their economic situation. This opinion was probably shared by all coffee growers interviewed in this study. Even when members believed that the particular technical package was not exactly appropriate for their needs, they believed that there were benefits to this scientifically driven technological approach.

The GAT as a Methodology for Technology Transfer

Other evidence of the GAT as a mechanism for technology transfer was observed as the study focused mainly on the group and the technician.

Everyone felt that the techniques from ANACAFE were useful. Moreover, everyone more or less perceived the technician to be knowledgeable, well prepared, and accessible. However, one person

made an interesting qualification. He stated that the technician was well trained in theory, but his practical suggestions were only useful around seventy percent of the time. A coordinator from another group made a similar observation about another technician. This could mean, among other possibilities, that the technician has inadequate field training or that he is indiscriminately applying a technical package which may or may not be appropriate for the area.

This group was different in that all the members had full-time jobs and grew coffee in their spare time. People were not always available because of scheduling conflicts. Furthermore, when they heard only a few members would be awarded credit out of group of over fifty, many lost interest. This group might not have been the best candidate for a GAT.

Conclusions:

People in the GATs are all learning technology to which they would not otherwise have access. Furthermore, they pay no fees for this instruction. For the most part, they appear to be grateful and generally not willing to be extremely critical. For many it is the first and possibly only exposure to the techniques of modern agriculture. While the technology many not always be implementable or appropriate for their needs, they seem fairly confident in the general approach.

Relatedly, the power relationship between GAT members and ANACAFE does not lend itself to frank discussion. People are more likely to stop attending meetings than they are to complain. Therefore, extremely frank opinions were neither expected nor received, although it was often solicited.

Nevertheless, the project appears to be approaching its goals. Technology is being transferred, GAT members are implementing it whenever it is economically possible, and they seem optimistic about the results. The degree of success is difficult to determine, yet it is occurring.

However, on the basis of members' perceptions on the implementability of the technology, the project seems to have some important obstacles. The largest problem facing GAT members is their economic inability, for the most part, to completely implement the technology package. It appears to be far too expensive for most people to implement without financial assistance, and credit is often insufficient or unavailable.

The largest complaint was lack of credit to effectively implement the technology package. Initially, it was thought that people had the impression that they were entitled to credit and were complaining over violated expectations. Then various people were asked why they believed so vehemently and universally in the need for credit. While some people acknowledged that technicians had promised them credit, this did not appear to be the main impetus for their request. Rather, they claimed, it was virtually economically impossible to implement what they were learning from

the technician without financial assistance. This belief was probably universal. One person estimated it cost as much as six thousand quetzales a manzana to maintain their land according to the technological package. This is a substantial amount of money where the average agricultural day laborer is paid ten quetzales a day. Even if the actual expense were one-fourth this, this is probably far beyond what most campesinos could afford without financial assistance. Moreover, even with financial assistance, it will be a challenge for people to implement the package in its present form.

In short, the present technological package must be made less expensive so that people will find it less difficult to implement. Furthermore, if ANACAFE wishes to continue accepting GAT members who are not eligible for credit, then an alternative, non-capital-intensive package should be developed.

Moreover, to address the needs of all people who find it economically impossible to implement the entire package, a system of prioritization could be used to help them most effectively utilize whatever funds they have available. This would allow people to make the most effective spending decisions.

In analyzing the technology package it seemed important to make the distinction between it being "useful" and it being "implementable". Most people found the package useful in that it could achieve desired goals if implemented. However, many found it unimplementable due to economic constraints. In other instances, the technology package may have been implementable but not completely appropriate for where it was being implemented. In analyzing the effectiveness of the technology package these two concepts must be studied. Not understanding the difference jeopardizes the success of any meaningful technology transfer.

Capital is clearly important to increase the level of technology package implementation. If owned capital is unavailable, then credit should be made available to more people where possible. However, care must be taken in its distribution. People should be issued the credit in time to maximize its impact. Releasing credit late jeopardizes its effectiveness and peoples ability to repay it. Furthermore, the criteria for credit should be as impartial as possible and made known to the GAT members. It is very important that obtaining credit appear just to the members of the GAT. Otherwise, it could become a very divisive force to the group. If there are more people eligible than credit available, care must be taken that the resolution of this dilemma appears to be fair.

For the GAT methodology, success or failure seemed to depend more on the individuals occupying key roles than anything inherent in its structure. Therefore, institutional attention should focus on identifying these key roles and why some individuals have been exceptionally successful in occupying them. For example, the particular coordinator and the technician seem vital to the success of the group. The characteristics and leadership styles of the more successful coordinators and technicians should be studied and isolated, so that there can be an institutionalization to encourage

such behavior on a broad scale. In this way, the best teaching techniques and the best leadership styles are achieved by policy rather than chance.

Because the GAT methodology is so strongly influenced by the characteristics of its participants, it is difficult to say whether the GAT methodology can be used for larger projects. This would depend entirely on the skills and abilities of its participants.

USAID/ANACAFE
Small Farmer Coffee Project
Evaluation with Regard to Post-Harvest Practices, Quality
and Environmental Impact Caused by Coffee Mills

by: André Helfenberger

EXECUTIVE SUMMARY

The overall goal of the project is to increase the income of the small farmer by raising productivity and improving the quality of their product, while at the same time protect the environment caused by the effluent of the coffee processing plants.

Factors determining the quality of coffee were described and the positive influence of given varieties, in particular Typica and Bourbon where emphasized on the basis of the experience of ANACAFE's Quality Department.

The lack of a precise high level policy on the use of these varieties to be used for true "Gourmet" coffees was stressed, and the negative effect on quality by mixed populations of different varieties on farm and regional levels was pointed out.

The decision to restrict the major activities to three zones, and in particular to the Atitlán, revealed the need for a new strategy because the targeted growers are different from the graduated GAT. They still grow a large amount of Typica and Bourbon, which require a different technology as the one utilized in the GAT models in which the planting of new higher yielding varieties, such as Caturra and Catuai are an important component.

Recommendations were given to make a thorough evaluation of the situation to evaluate the need of improving a technological package for the cope with the new circumstances.

With regard to Post-Harvest, practices the innovative technology developed and designed by the technical adviser of the project is considered revolutionary, functional and highly adaptable for processing relatively low volumes of high quality coffee. Its production cost is significantly lower, easier to operate than with the traditional mills, more water and energy efficient and more environmentally friendly. However, it does not solve the contamination problem caused by the pulp, and some research related to it is recommended.

Unfortunately, the recommendation made in the last evaluation of September 1991 to make a thorough study of the needs and requirements for building and/or remodeling coffee mills, as well as quality tests of the different varieties and areas, were not undertaken. This resulted in a rather haphazard choice of mill sites rather than a well conceived strategy. A divorce between the recommended technology of the Section of Post-Harvesting of ANACAFE and the one recommended by the technical adviser of the Project was observed. A publication on the subject sponsored by ANACAFE, AID and the GOVERNMENT of GUATEMALA clearly showed that the new technology was not even acknowledged. The same was confirmed in talks held with the technicians of above mentioned section.

The fact that their still is no competent counterpart for the

adviser on Post-Harvest practices was stressed as one, if not the major constraint to the success of this component of the Project.

Seven mill sites were visited and comments made as pertinent in each case. The total capacity of these mills in which the Project has intervened, is calculated at around 32.500 qq of dry parchment coffee for the season 1993/94, which is not very large yet.

Out of the eight mills completed, under or initiating construction, only three are located in the Pilot Area of Atitlán, in which there are a large number of small farmers but only three GATS. None are yet established in the area of Santa Rosa and Huehuetenango. Nevertheless, several small mills are being helped to make improvements.

All of the mills visited will properly dispose of the waters from the fermentation tanks, but none of them has a fool proof solutions for the pulp.

The advantages of this new processing facility with regard to reducing the contamination by the effluent in the mill are also described.

A possible new marketing channel for high grade coffee was suggested, with the understanding that a uniform quality must be produced before being offered.

At this point there is no coffee to be certified. Two years ago an intent was made and a series of samples were analyzed at the Quality Department of ANACAFE. However, no results are available.

In an appendix examples of the effect on the outcome of agricultural projects in relation to the genetic material used are mentioned. This part also includes suggestions as to the possibilities of converting the coffee pulp into a valuable organic fertilizer.

I. EVALUATION OF POST-HARVEST PRACTICES, COFFEE QUALITY AND THE ENVIRONMENTAL IMPACT CAUSED BY THE COFFEE PROCESSING PLANTS

PROJECT GOALS

The overall goal of the project is to increase the income of the small farmer by raising productivity and improving the quality of their product, while at the same time protect the environment from the effluent of the coffee processing plants

II. THE SCOPE OF THE STUDY

The scope of this study is primarily:

- a. To review and evaluate post-harvest practices as they relate to coffee quality, and analyze the strategy of the post-harvest component of the project to improve the quality and price of small farmer coffee.
- b. To review and analyze the policy and technology with regard to

- building new or remodeling old coffee mills as well as its functionality to process high coffee.
- c. To evaluate the outlook of the program to certify the quality of Small farmer coffee.

III. THE QUALITY OF COFFEE

1. Factors involved

The determination of the quality of coffee begins by making the choice of the right variety to be planted under correspondingly appropriate agro-ecological conditions. If the technological package contains adequate components to provide the coffee plant with optimal nutrition, and the fruits are harvested at the correct stage of ripeness, the basis for good quality is established.

2. The evaluation of the quality of coffee

The evaluation of the quality of any given coffee is done by an experienced coffee taster who analyzes a series of components, such as:

- a. The physical appearance of the dry parchment and the yield of the green beans.
- b. Observations on the cleanliness of the sample, color and the size of the beans.
- c. The consistency in color, uniformity and brilliance of color after roasting.
- d. The intensity and purity of aroma after grinding.
- e. The body, quantity of solids, determined by sedimentation, aroma, flavor (also measurable in terms of time length it is perceived in the mouth) and acidity.

The balance of all factors involved will determine the quality. Any experienced coffee tester will certify that all coffee varieties improve at higher elevations and show differences at the same elevations in areas with pronounced dry seasons versus areas with well distributed rainfalls the year around, and that there are distinctive differences between varieties grown under equal conditions. Thus, the varieties Typica and Bourbon will show a superior balance of all factors concerned, and that this balance is distinctly superior to the one obtained by the new varieties caturra and catuai.

All these varieties have different requirements with regard to roasting, and it therefore makes quality evaluations more difficult.

3. Constraints for the production of quality coffee

The fact that these varieties are planted in mixed populations without an organized pattern, and that the mixtures are different

from farm to farm, has a negative impact on the resulting quality:

- a. Uniform fermentation is more difficult to obtain.
- b. Quality of roasting is reduced and a desirable uniform color cannot be achieved.
- c. These varieties ripen at different times, which further contributes to the variability of quality at different stages of the harvest season. For the best results the different coffee varieties should be picked and processed separately. This is, however, difficult, at best, and often impossible on very small farms, on which the pattern of varietal interplanting is very irregular.

These three factors make it practically impossible to obtain a uniform product within a season and from different coffee mills in the same area. This lack of uniformity, which is of primary importance, makes it extremely difficult to gain access to an increasingly exacting quality-oriented market.

Conflicting signals with regard to the importance of the coffee varieties in relation to quality are still clearly visible and have not changed much since the last evaluation of September 1991. At that time, a series of recommendations were made to determine the areas planted with each of these varieties, and their locations, as separate or mixed units. This was deemed necessary to establish a set of priorities for the building and/or remodeling processing plants. Parallel to this activity, samples from each of these areas and the different varieties were to be analyzed by the Quality Department of ANACAFE.

No policy statement on the matter has ever been made, nor was the survey undertaken. The choice of the sites to construct and/or remodel coffee mills was not done on the basis of this previous study, but rather haphazardly and mostly in response to requests. Indeed there is no good guess as to the number, processing volume and location of the literally thousands of wet mills thought to exist in Guatemala. Nor are the conditions for the production of quality coffee, and integration of techniques to conserve natural resources and avoid serious contamination of the environment known. The program of analyzing the samples was only partially executed and conclusions are unavailable; except that many of them were of very low quality due to poor processing practices. Nevertheless, some fundamental changes seem to have emerged which will have profound implications on the outcome of the project.

CONCENTRATION OF MAJOR ACTIVITIES IN THE HIGHER ALTITUDE AREAS OF SANTA ROSA, ATITLÁN AND HUEHUETENANGO

Among the three regions, Atitlán was selected as a pilot area, because most the coffee is produced by small farmers and at elevations where hard and strictly hard beans are produced. Furthermore, there are still large areas planted with the old varieties Typica and Bourbon.

This change of scenario has the following implications:

- a. The focus on a more concentrated area will make it easier to achieve the proposed goals.
- b. By choosing Atitlán as a pilot area there is a divergence to a degree from the originally planned activities of the Small Farmer Project, based on the GATS with their technological package, in which the planting of new, higher yielding, but inferior quality, varieties was one of the important concepts. These new varieties have very different requirements, particularly with regard to pruning.
- c. The area of Atitlán is mainly cultivated by small farmers, but to contains few GATS. They still predominantly grow the old varieties, Typica and Bourbon, which increase the possibility of producing true "Gourmet" coffee.
- d. From observations made while visiting the coffee mill sites in the area it seemed that the technology applied to the surrounding plantations was, generally speaking, of a very low standard, and that in some areas the new varieties, Caturra and Catuai were interplanted with the old ones. Whether these observations are representative for the area is, of course, subject to verification.
- e. It is usually assumed that the traditional varieties (Typica and Bourbon) are not as cost-effective as the newer ones. However, the search for reliable field data on cost and production with well designed technological packages adapted to the growing of Typica and Bourbon, as compared with the results obtained with Caturra and Catuai, were not found.

4. Recommendations

In view of the re-orientation of the project the following recommendations are made for these concentrated zones:

- a. A survey should be made as to the areas planted with the different varieties, separately or in combination. Evaluate the level of technology applied, particularly with regard to the old varieties.
- b. If above mentioned observation on the low level of technology with the old varieties is confirmed, it would be absolutely necessary to consider developing a technological package for the old varieties, improved cultural practices in existing fields, as well as growing nursery plants from certified seeds. If such seeds are not available, which is suspected, some local selections of appropriate varieties should be made. By these measures, an increase of productivity would be assured.
- c. As soon as one or more of the coffee mills of the area in San Juan, San Pedro and Santiago are in operation, where ever possible, well processed samples of each of the main varieties, Typica, Bourbon, Caturra and Catuai, separately and of the naturally occurring combinations as they arrive at the

mills, should be sent to the Quality Department of ANACAFE for evaluation. Each time, a representative sample of the area should be included for comparison.

- d. Mid-term through the harvest season the results of these quality tests should be critically analyzed as to the possibilities of categorizing the samples into a number of grades apt, for the various market segments.
- e. Quantify the amounts of coffee for each category that could be produced and send samples to prospective buyers.
- f. Prepare a quality certification mechanism, based upon the results obtained.
- g. Identify locations where other coffee mills could be built and/or modified to increase the total production of high quality coffee.

IV. POST - HARVEST PRACTICES

Basically, the processing of coffee is very simple, and high quality coffee can be obtained with very small processing volumes. The purpose of wet milling coffee is to mechanically remove the pulp, and separate it from the bean with its parchment and mucilage. The latter will then have to undergo a process of fermentation to break-down the mucilage and then separate it from the parchment-covered bean by washing it thoroughly. This is followed by a carefully monitored drying process of sun-drying, mechanical drying or a combination of two.

1. The processing plant

The poor quality of small scale operations is usually associated with the lack of proper technology and expertise, rather than the availability of simple and efficient equipment.

Over the decades, and particularly during periods of high prices and in times of little concern about the depletion of natural resources and contamination of the environment, sophisticated and expensive processing technologies using costly and energy consuming equipment have been developed. These were combined with use of large amounts of water, and the effluent of mills, such as the pulp and the water from the fermentation tanks were simply let into the watershed close by. These mills use excessive amounts of water to transport the fresh coffee, and new equipment was introduced to compensate for defects in harvest practices, such as separators for green, unripe fruits.

Compact mills of this nature are being manufactured in Costa Rica and elsewhere and assembled in about a week to 10 days, if the infrastructure was correctly finished before. They contain a stone remover, green fruit crusher, two pulpers, two sieves, one pump and one thresher. It occupies an area of less than 20 sqm and has a height of close to 4 meters. It is driven by a motor of 21 KW (28 HP) and can process 5.000 Kg of fresh berries (22 qq dry parchment coffee) per hour. It also requires a level of water pressure not

usually obtained by gravity alone to transport the coffee through the whole process. It utilizes from 1.000 ltrs to 4000 ltrs of water for processing per qq of dry parchment coffee.

In contrast, the adviser to the coffee project has developed an innovative technology to process the equivalent amount coffee which:

- a. Consists of 2 pulpers, 1 sieve, a stone remover, 1 pulp remover, 1 pump and two motors of 2 HP each.
- b. Reduces the amount of water to move the berries through the mill to between 100 to 150 lt/100 lbs of parchment coffee and which flows by gravity only, no pressure is required.
- c. Reduces the energy required to operate the equipment and move the coffee through the mill to the drying area.
- d. Simplifies the process throughout the course of the wet process.
- e. Permits re-circulating the water, letting it flow through a simple and inexpensive decanter, in which the solids settle out during the entire process, allowing the replacement of the water every 4 to 6 hours, after which it flows into an oxidation tank, considerably mitigating the contamination of the environment considerably.
- f. Reduces the time of installation to two days.
- g. Lowers equipment costs to about one-fifth of those of the traditional wet mill as described above.
- h. Requires infrastructure which cost the same as traditional models.
- i. Permits size of the mills as designed by the adviser to the project, to be easily varied process lesser quantities, which is more difficult to do with the traditional compact wet mill.

After separating the parchment coffee from the pulp, the latter is immediately moved out of the mill, as is done in any processing plant. Neither in this nor the classical system of the wet processing has a satisfactory solution been developed to dispose of this contaminant. One possibility has been described in the evaluation of the project under Appendix C in September 1991.

2. Drying facilities

Parchment coffee can either be sun dried, dried by artificial means or a combination of the two.

2.1 Sun drying

Sun drying is done on a drying floor, the size of which depends on the amount of coffee depulped and the facility for artificially drying included in the process. The quality and cost of the drying floor is the same as for the traditional and innovative system designed by the adviser to the project.

2.2 Artificial drying

In three of the coffee mills, Yupiltepeque, Renacimiento and Fraijanes, traditional artificial driers were installed. The coffee mill at Pacaya will also have an artificial drier for the forthcoming season. At Rancho K, San Pedro la Laguna and Santiago Atitlán, a novel system of solar boxes will be used.

3. Constraints in the Post - Harvest Program

Following are some of the constraints in the Post - Harvest Program:

- a. By far the most worrisome constraint of this program is that the technical adviser has been acting as an executive director, as well as dealing with the daily running of the program, all the way down to purchasing small insignificant items and battling with a slow and cumbersome bureaucracy. He still has no competent counterpart, which is a very dangerous situation. If for any reason he should no longer be able to continue with the program at the stage it is in, it would simply collapse, or at best slowly fade out of the picture. It is often difficult that new and innovative technologies be accepted and established, particularly if they are simple and became very clear when interviewing the technicians in charge of the Post-Harvest Department in ANACAFE, who STILL HAVE NOT adopted this technology in their plans.
- b. The lack of a clearly defined policy in relation to quality, varieties and production makes it difficult to set priorities in the building and/or remodeling coffee mills in strategic production and marketing areas.
- c. Mixed populations of varieties make the equipment graduation for depulping more difficult and reduce the yield in the mill by increasing the amount of second grade coffee at the expense of first grade ones.
- d. Since this is not yet an accepted and a well known system, the purchasing of the equipment and the manufacturing of parts has to be done in a series of establishments spread out over a relatively large area, which makes it time consuming.
- e. Observations at the different mill sites have made it clear that it is difficult to enforce the strict adherence to all essential recommendations made by the adviser. Some members of small cooperatives cannot understand the need for the technical aspects of their installation and therefore do not want to spend the money. This may result in poor functioning of the mill, which will then reflect negatively on the performance of this new system.

4. Recommendations

- a. It is an absolute must to find a qualified counterpart for the processing adviser who either already has the technical

knowledge required or the capacity to be trained in the time remaining in the advisory contract.

- b. Make an in depth study along the lines already mentioned in Section III, 4: a,c,d and e, concerning the areas planted with different varieties, their quality characteristics as determined by testing, and expected volumes.
 - c. Find a mechanism to induce the cooperatives or farmer associations to accept and execute all the recommendations made by the adviser.
5. Observations regarding the coffee mill sites.

The decisions to work with the mills now in operation and/or under construction were not made on the basis of a global evaluation in pre-selected coffee areas, but rather at the initiative of interested mill owners who approached ANACAFE and/or personal of the Project for Small Farmer Coffee Project.

A first hand appreciation of the exact status of each mill with regard to the choice of the location, construction and maintenance of the mills was through visiting each of them.

At the time of the evaluation of the project in September 1991, the first wet processing mill with its component for drying was initiated in Yupiltepeque.

5.1 Yupiltepeque [October 1, 1993]

The choice of the site was based on the apparent entrepreneurial capacity of a existing twenty member GAT in the area. This unit was built according the instructions and supervision of the adviser and financed by the project. The initial budget was established at Q 150.000.00, but the final cost increased to over Q 200.000.00, at least partially due to the excessive infrastructure.

Based on the information gathered by the members of the cooperative this processing unit had been designed for 1.500 qq dry parchment coffee per season. However, the quantity delivered for the crop seasons 1991/92 and 1992/93 were of only 750 qq dry parchment. The first crop was of excellent quality and sold at a premium of 20 % over the normal price, principally because of the personal attention given by the adviser of the project. The second crop was no longer of the same standard and quality. It contained several lots of fermented coffee, mainly due to delays between harvesting and processing; and the coffee could no longer command a premium. The cause of this decline in quality can easily be ascribed to the necessarily reduced direct supervision by the adviser. At the time of the recent visit, it showed signs of neglect in maintenance and general upkeep, which should never occur, much less so close to the forthcoming harvest season.

The chances of increasing the volume of fresh coffee to be processed in this mill are rather remote, because the GAT members are reluctant to accept new associates.

So far this mill only services GAT members.

5.2 The Cooperative "San Vicente" Pacaya, Escuintla [October 5, 1993]

This processing plant was constructed in 1992 with a capacity for 5.000 qq dry parchment coffee with the technical assistance provided by the project, but entirely financed by the Cooperative. It is now being enlarge to a capacity of 12.000 to 15.000 qq of dry parchment coffee. They have so far processed one crop of 5.000 qq dry parchment coffee and the quality obtained was excellent.

Unfortunately, this Cooperative was unable to or did not want to borrow money for a properly constructed drying floor, as per recommendations of the adviser. As a consequence the entire drying floor has to be rebuilt after only one harvest season.

This serves eight GATS and other small farmers.

5.3 Rancho K [October 8, 1993]

This coffee mill has been designed and is constantly supervised by the adviser, who has at his disposal the necessary equipment for civil engineering and an engineer who is responsible for the correct execution of the plans. It will serve as a showcase of how a coffee mill should look and process a high quality coffee, with an excellent yield in the mill, without unduly contaminating the environment.

Interesting to note was the fact the in three areas some important corrections had to be made, which did not exist in the plans, but which were immediately recognized by the adviser. This unit also includes novel solar driers, which will be thoroughly tested.

This mill should be in operation the coming crop season, and while will serve a didactic function, it does not serve small farmers at this stage, perhaps it may do so in the future.

5.4 Fraijanes [October 5th., 1993]

This mill has been closed for two years because it contaminated the near by watershed. It has been re-designed by the adviser, but will not be financed by the project. The previous deficiencies with regard to the contamination of the environment will, of course, be corrected. It is designed for a capacity for 5.000 qq dry parchment coffee, and should be in operation for the coming season.

The mill will serve GATS and small and larger coffee growers.

5.5 "La Voz que Clama en el Desierto", "San Juan La Laguna", Solalá, [October 6th., 1993]

This unit was designed and financed by the project and has practically been re-built from scratch. It will have a capacity of 2.500 qq of dry parchment coffee and will be inaugurated this month, and will serve the small farmers of the cooperative. They are also producing organic coffee.

It is surrounded by plantations containing mixtures of Typica, Bourbon and Catuai.

5.6 "San Pedro La Laguna", Solalá, [October 6th., 1993]

With the experience gained through the planning and construction of the other mills, and the different problems associated with running them, the idea of a modular wet processing plant was born. It is based on the same principles as the traditional mills, but uses tanks and canals made of fibre glass, rather than of concrete.

This prefabricated coffee mill with a capacity of 4.000 qq dry parchment coffee per season and has a price tag of Q 186.197.00, including land preparation, nylon and accessories for the drying floor and transport. Out of the total amount Q 161.370.00 can be recovered, should it be convenient or necessary to move the mill to an other location.

The foundations have been completed and it should be installed in October, 1993. It has been designed by the adviser and is paid for and will be operated by the staff of the Project.

At the end of this harvest season it could be purchased by the group in San Pedro, or des-assembled and taken to another area, where it would serve the same demonstration and teaching function.

5.7 Santiago de Atitlan [October 6th., 1993]

This is an old mill to be remodeled according to the recommendations of the adviser of the project. It will have a capacity of 5.000 qq of dry parchment coffee per season. It was learned from a group of people, including some of the GAT members, gathered at the site that the mill was to be bought by a small GAT of only 12 members, who, however, could not afford to do so. It has since been purchased by a director of ANACAFE with the understanding that the GAT will be the principal, if not the sole supplier of coffee to the mill.

Evidently, this mill could not operate with this one GAT alone, which produces about 1200 qq dry parchment coffee per year. The question is: Where does the difference come from? The fact is that these same GAT members will also function as "coyotes", since they are already trying to get surrounding small farmers to sell their coffee to the mill. It also seems that there is a particular interest in Bourbon coffee, which at these altitudes, and with proper processing could be sold as a "Gourmet" coffee.

This does not exactly seem the way as contemplated in the project, but if it is legally and morally acceptable, it may hasten the production of "Gourmet" coffee in the area.

This mill will be served mainly by the coffee of small farmers.

Since the harvesting season had not yet started at the time of the visits of these mills, they could not be observed in operation.

5.8 Renacimiento 59 [This mill was not visited]

The mill was remodeled on the advice of the project in 1991/92 and has a capacity of 10.000 qq dry parchment coffee.

6. Total milling capacity in qq dry parchment coffee

Following are the projected and actual productions of dry parchment in the mills assisted of the project:

LOCATION	CROP YEARS					
	1991/92		1992/93		1993/94	
	ESTIM./	CALCUL.	ESTIM./	CALCUL.	ESTIM./	CALCUL.
YUPILTEPEQUE	1.000	750	1.000	750	1.000	ND
PACAYA	-	-	5.000	5.000	12.000	ND
RANCHO K	-	-	-	-	3.000	ND
FREIJANES	-	-	-	-	5.000	ND
SAN JUAN	-	-	-	-	2.500	ND
SAN PEDRO	-	-	-	-	4.000	ND
SANTIAGO	-	-	-	-	5.000	ND
RENACIMIENTO	10.000	10.000	10.000	10.000	10.000	ND
Totals	11.000	10.750	16.000	15.750	32.500	ND

As can be seen from the table above, the total capacity of the mills in which the Project has intervened is not very large yet.

Out of the eight mills which have been finished or are initiating construction only three are located in the Pilot Area of Atitlán, where there are a large number of small farmers, but only three GATS. None is yet established in the area of Santa Rosa or Huehuetenango.

All of the mills visited will properly dispose of the waters from the fermentation tanks, but none of them has a full proof solution for the pulp.

7. Visit to the Post-Harvest Department of ANACAFE

To clarify the information about the post-harvest program of ANACAFE, the Department Head explained the procedure to improve existing facilities of coffee processing mills in the Section for Post-Harvest.

Upon request from coffee mill owners this Section makes a site survey, illustrated by photographs and then designs plans and calculates costs for the changes to be made.

Twenty such requests were submitted but none of the plans made adjustments in line with the innovations recommended by the technical adviser on coffee mills of the project. This was further confirmed by the publication " Beneficiado Húmedo", in which only the traditional methods are described. This publication was written and sponsored by ANACAFE, AID and the GOVERNMENT OF GUATEMALA. Such incongruity within an institution is rather baffling.

So far only four of the requests have been approved; the others are awaiting the signature of the technical adviser on Post-Harvest of the Project, according to the Head of the Section on Post-Harvest of ANACAFE. He also said it takes about five months between the approval and the beginning of the execution of the works.

8. Environmental impact caused by the coffee mills

In May 1992 a study was made on the impact on the environment caused by the waste products of the coffee mills. It concluded that the Small Farmer Coffee Project would only have a beneficial effect and mitigate the contamination of the watersheds, since access to credit was linked to the efficient disposal of the liquid and solid wastes from the fermentation tanks and the solids as well as of the coffee pulp.

The innovative technology of the wet process as designed by the technical adviser of the project reduces the amount of water and therefore helps preserving a valuable natural resource. It permits the recirculation and a slow but continuous gravity flow of the water through a decanter of simple design in which most solids from the fermentation tanks will settle before reaching the oxidation tanks which provide for filtration and evaporation of waste water.

Theoretically, this is a cheap and efficient way of disposing of this part of the waste of the wet process of the coffee mill, if the correct choice of terrain is made, and the size is appropriate. For a more precise evaluation of this method, the process should be observed during a milling season.

In all mills the problem of the pulp persists, and will do so while there is no way of converting this waste material into a compost of economic value. In other words, if the pulp is left to degrade it will take one or more years to do so, if it is aerated from time to time the process can be accelerated and may then take up to six months, and if some activator is used in combination with aeration, time of de-composition can be reduced to three months.

The common denominator of the outcome, however, is that large quantities of the degraded pulp are required to obtain minimal results, and the amount per hectare ranges between 10 to 40 MT, quantities which will most likely not pass a cost/benefit analysis. More research has to be done, particularly with mills producing small quantities of less than 3000 qq dry parchment, since these will have to be treated with aerobiosis.

There are possibilities to inoculate the pulp with highly active and dense populations of micro-organisms, which in addition to reducing the time of decomposition to two or three months, will also reduce the amount of product required per hectare to only one to four MT, obtaining visible results in weeks or a few months, depending the crop it is used on.

Whatever the steps taken for mills within the boundary of the villages and/or the vicinity of watershed and lake, as is the case with the three mills in area of Atitlán:

THE PULP MUST BE REMOVED ON A DAILY BASIS.
THE QUESTION IS: WHERE TO?

9. Commercialization

When the coffee Trademark "AMIGOS" [Haavelar] appeared on the shelf of the best known and largest Super Market chain in Switzerland, MIGROS, customers were willing to buy it at a higher price, because it was advertised of coming directly from Small Farmer Cooperatives in the highlands of Central America, thus getting a fairer share of the retail price. Nevertheless, in many overheard conversations in the consuming country a concern as to an uneasy feeling that the price difference might not really wind up in the pocket of the small farmer. Most people are familiar with the term of highland coffee and usually associated it with high quality. However, some of these and other coffees making similar claims did not show the characteristics in color pattern of a high grade coffee. These are, of course, only observations, and not based on formal study with statistical analysis. However, they very likely truthful, knowing the idiosyncrasy of they Swiss people well.

The rumors heard here in Guatemala that one coffee export firm who furnishes the coffee to Haavelar, (sold at all MIGROS super markets throughout Switzerland as "AMIGOS") receives money to finance the small farmers at 5 percent, but lends it to them at between 35 to 42 percent, would more than confirm the concern expressed from the customers. Would they know the true story, they would certainly be outraged.

An example of a possible new marketing channel would be if the Project for Small Coffee Growers could take advantage of this situation and contact a smaller cooperative in Switzerland, offer a better quality coffee and work out a clear channel to one or more local small farmer cooperatives.

To achieve this goal, and stop going around in circles, the samples of the various coffee mills in Atilán and other areas properly processed and tested by the "cupper" of ANACAFE should be sent to prospective buyers abroad, accompanied with fairly accurate production figures.

APPENDIX

EXAMPLES OF THE EFFECT ON THE OUTCOME OF AGRICULTURAL PROJECTS IN RELATION TO GENETIC MATERIAL USED

It is believed that Guatemala could learn from the following examples, in coffee and cacao:

1. Blue Mountain coffee in Jamaica

With the geographically defined area of Blue Mountain, 85 % of the coffee grown is Typica and 15 % is Geisha. In spite of the pressure from outside experts to introduce new higher yielding varieties such as Caturra and Catuai, coffee authorities there refuse to do so and strictly control the nurseries within the Blue Mountain area. Any non-traditional variety will be destroyed. They have improved their technological package, particularly with regard to spacing and pruning and obtain good yields, and with the higher prices they obtain, pay the farmer between 50 and 100 % more than a Costa Rican farmer receives for his efforts.

95 % of the Blue Mountain coffee is sold to Japan, where a cup of coffee without refill [containing around 10 gr of roasted coffee], is sold at between 8.00 to 15.00 \$US. The "Gourmet" Market in the USA has practically no access to the Jamaican coffee, it is reasonable to think, that part of that demand could be supplied by Guatemala, even though it might not be exactly the same, if the right variety, planted in the correct agro-ecological environment is properly processed.

2. Cacao on the island of Grenada

All of the cacao grown in Grenada has been clonal for decades and due to its unique flavor and uniformity has been sold at a premium to mainly Rowntree in England. Here again, outside experts have exerted pressure to change their clonal plantation to "Hybrid Seeds". Some chocolate manufacturer have even spread the rumor that it was not true that the Grenadians ever received a premium. Fortunately they did not surrender, had they done so, they would not only have lost the premium, but would have produced less cacao per area, as has been proven true with these so called "Hybrids".

3. Cacao in Costa Rica

Some years ago Official Institutions, Government Agencies and the Banks in Costa Rica have promoted the cultivation of cacao as a solution for small farmers with the so called improved "Hybrid Seeds".

It turned out that these were genetically so heterozygous, segregating to a degree that 30 % of the trees therefrom produced

between 50 to 70 % of the crop. This variability equally affected the quality, because the mixtures contained beans with fermentation requirements varying between two to eight days, which made it totally impossible to obtain a uniform product.

Credit to plant cacao was linked to the use of these seeds. When the truth of this problem surfaced, the small farmers filed a law suit against the producers of the seeds, the Banks and the National Bureau for seed certification worth 1.800 Million Colones. Nothing has happened, but the great majority of cacao farmers were ruined, never could pay back their loans, and most cacao trees have been cut down. Total cacao production has since dropped from 7.000 MT to an all time low of about 2.000 MT, while the demand from the local chocolate manufacturer is around 12.000 MT.

POSSIBILITIES OF CONVERTING THE COFFEE PULP INTO AN ORGANIC FERTILIZER

In the evaluation of the project in September 1991, the possibility of converting this pulp into a valuable organic fertilizer has been described. Assuming that particular micro - biological ferment, or something similar, can be manufactured in Guatemala, and will then be readily available, a highly efficient soil conditioner could be manufactured with the coffee pulp. To obtain results, particularly in poor soils, no more than two MT per hectare are required. Since this is based on anaerobiosis it would only be useful for wet mills with a minimum of 3.000 qq parchment coffee per season. Smaller mills should use compost pits and add some activator and/or add chicken manure or similar materials to accelerate the process and avoid bad odors and flies.

The composts obtained should be analyzed and tested in small plastic pots at different concentrations and planted with corn, so as to obtain an indicator of its value and usefulness as an organic fertilizer in a months time.

USAID/ANACAFE
Small Farmer Coffee Improvement Project
Evaluation of Training Program

by: Technical Team of ECOTEC --
Empresa de Consultoría en Ecotecnología

1 INTRODUCTION

This project evaluation will report on the training component of the Project to Aid the Small Coffee Grower. The project, developed by ANACAFE with the support of the United States International Development Agency (USAID), attempts to utilize the Work Friendship Groups (GATS) created by ANACAFE to reach the small coffee grower in Guatemala.

This evaluation is one of five interdisciplinary reports that ECOTEC and five other USAID consultants have produced to complete the second overall evaluation of the project.

Included in this evaluation are the outlines of the project as originally conceived, an explanation of the decision to utilize the GATS, a glossary of terms used in the project paper and key aspects and recommendations of the first evaluation, followed by a report on the current status of the training program, its successes and areas that need improvement.

The evaluation also includes a description of the groups of small coffee growers targeted by the program, their training needs and the qualifications required of training personnel.

Finally, the report offers a series of recommendations for the creation of a training program for use within ANACAFE.

The methodologies used to produce this report included a full investigation of information on the project's background and history; a comprehensive review of previous evaluations; interviews with training personnel, outreach workers and personnel from other departments within ANACAFE; and a review of ECOTEC evaluative data on the GATS.

2 THE PROJECT'S TRAINING PROGRAM

2.1 THE WORK FRIENDSHIP GROUPS, OR GATS

The project examines the GAT methodology, employed with success in other coffee-producing nations such as Colombia, Honduras, Nicaragua, and others, to bring available technology to the small grower. In accordance with PROMECAFE guidelines the GATS focus on community-based groups made up of individuals that share common interests and needs - be they agricultural, organizational, or related to infrastructure, health or education - who believe their problems could be better dealt through group cooperation.¹

The GATS can be described as follows:

- They are made up of 15-20 men and women, usually from the same community;
- the members' main occupation is agriculture (coffee production in the case of ANACAFE);
- participation is free and completely voluntary; commitment is the individual's prerogative; decisions are made by the group;
- the GAT begins as an informal group, but can evolve into a formal association;
- group discussions, agendas and plans originate from the group's members. Technical issues make up only a part of the group's dialogue;
- group structure is simple. Organizational issues like meeting times, places and responsibility for coordinating the meetings is decided by the group;
- the group includes an outreach worker, whose role is to offer technical assistance.²

The GATS' goals can be summed up as follows:

- 1 To offer an opportunity to members of small communities to meet, talk about issues that concern them and propose solutions to common problems;

¹ The Work Friendship Groups, a Strategy for the Transfer of Technology to Small Coffee Growers in PROMECAFE, by Gilbert Vejarano, PhD, Outreach and Communication Specialist, Tegucigalpa, Honduras 1991.

² Ibid.

- 2 To bring together individuals that have similar problems and needs that require a group approach;
- 3 To provide and gather information;
- 4 To promote the most efficient and effective use of available resources.

2.2 THE TRAINING PROGRAM DEFINED AS A PART OF THE OVERALL PROJECT

The project paper presents the basic outline of the project in terms of its training component. To summarize the main points:

GOALS AND PURPOSE OF THE PROJECT

"The goal of the Project to Aid the Small Coffee Grower is to promote real and sustained economic growth in the rural population."

"The purpose of the Project is to increase the small grower's earning potential by increasing his production and yields, geared toward the export market."¹

DESIRED OUTCOME OF THE PROJECT

"The highest possible yields of export-quality coffee."

"An effective assistance program for small coffee producers organized under ANACAFE."²

PROJECT COMPONENTS

Production and processing technology

ANACAFE "will furnish assistance to the target population of small coffee growers with the objective of improving their production and processing technology."

"ANACAFE will offer the necessary training to the small coffee grower, using an approach suiting the requirements and educational levels of the growers. To facilitate the growth and expansion of the program, additional outreach workers, technical assistants and credit specialists, will be trained, outside of the country when necessary."

¹Funding agreement between Guatemala and the United States to Aid the Small Coffee Grower, International Development Agency, Project No. 520-0381, July 27, 1989.

²Ibid.

Beneficiaries of the program will be recorded and "evaluated periodically to determine the efficiency with which they adopt and use the new technologies."

Pre-market processing

"the program will also advise and supervise the installation and initial operation of the processing facilities for the small growers."³

TRAINING BUDGET

The International Development Agency (AID) will donate US\$1.346 million to finance the training program.

"ANACAFE will provide the administrative, accounting, and technical services required for the project and will direct the program to offer new technologies to the small coffee grower in the GATS by offering direct technical assistance, training, and supervision to all of the targeted growers.

AID will also contribute US\$2.188 million to the budget, which ANACAFE will use to provide technical assistance. ANACAFE will contribute an additional \$455,000 toward the training program.

2.3 RECOMMENDATIONS FROM THE FIRST EVALUATION

Although the project's first evaluation didn't include a section devoted specifically to the training program, relevant observations and recommendations worth mentioning were made:

OBSERVATIONS:

- "The majority of the individuals interviewed were not familiar with the new technologies offered by the project"
- "Said individuals did not have any literature on the technologies, or literature promoting the technologies"
- "The training program, while its structure was defined, was not studied by the team."
- "What should the GATS' role be after the transfer of technology is completed?"
- "What kinds of relationships between the GATS and other organizations are productive?"

³ibid.

- "The workplans were well laid out, but we lacked the mechanisms for comprehensive supervision and evaluation."
- "We observed that the role of the technical assistants in the GATS was restricted to helping the men with cultivation technologies. There was no emphasis on developing the abilities of the group to run itself and find solutions to other community problems on its own..."

RECOMMENDATIONS:

- It is recommended that the GATS be classified as follows:
 - Type A: Recently formed, working with seeds and seedlings;
 - Type B: Implementing technologies as the group becomes ready for them; offering demonstrations; introducing credit;
 - Type C: Applying the technologies to increase production; applying for credit; offering new opportunities for processing and marketing.
- The project provide a sociologist or social worker who can help the groups with the potential to become formal associations make that transition;
- "We believe it would be useful to pursue formal training."
- A manual describing the project be created that includes the project's philosophy, objectives, and goals; that a way to distribute the manual to coffee growers and technicians be set up."
- It is suggested that specific projects be set up to complement each of the demonstration parcels that have been active for six to eight years.

2.4 THE TRAINING PROGRAM AT WORK

ANACAFE's training unit reports directly to the Technical Assistance Coordinator (although a previous interview says the unit reports to the Project Director) and is made up of three individuals:

Mynor Velasquez, agricultural engineer, unit leader;
 Carlos Ovalle, technician
 Mainor Vasquez, technician

These individuals have the following responsibilities:

To create the annual, trimestral and monthly training plans; formulate the unit's budget; prepare and obtain audiovisual materials; support training in the interior of the country; distribute instructional materials; and evaluate the effectiveness and development of the program.

While the official training program plan was not made available to us, we were able to obtain workers' journals and a list of activities planned for the program for the 93-94 coffee season.

The journals showed workers' desire to define strategies to achieve the program's goals, however, **in practice, these strategies were not implemented.**

The journals reported training activities with the targeted small growers, consisting of tours, discussions, and demonstrations; and classes on general coffee growing, plant grafting, maintaining spray equipment, general management, and other topics; without dealing with their qualitative aspects. The 92-93 report showed training programs being offered and promoted to different classes of growers, however, the classes only covered coffee growing aspects of the program.⁴

The 93-94 program plan offers only a list of planned training activities - 108 activities coordinated to benefit 4315 individuals. These activities each call for an average budget of Q1324.00, which translates to a cost per person of Q33.14.

According to our estimates, the annual costs of the training programs are as follows:

Original budget for available training funds:

AID contribution (US\$1.346 million x 5)	Q6,730,000.00
ANACAFE contribution (US\$455,000 x 5)	<u>Q2,275,000.00</u>
TOTAL	Q9,005,000.00

Investment 1989-1990	Q 91,912.25
Investment 1990-1991	Q 340,884.26
Investment 1991-1992	Q 328,821.22
Investment 1992-1993	<u>Q 776,442.56</u>
Total Investment:	Q1,538,060.29

Available: **Q7,466,940.80**

⁴Worker's Journals, Coffee year 1992/1993 Assistant Technical Management-AID/ANACAFE project, Outreach Unit

This budget does not include Technical Assistance monies.

According to this information, it seems that the funds available for the training program, even without the ANACAFE contribution, are sufficient to operate and develop the program for the next four years.

It is the general opinion of ECOTEC that the training procedures employed so far have omitted the following:

- 1 the use of the GATS' methodology and incorporation of existing GATS;
- 2 planning the training program around the main goals of the project;
- 3 and following the recommendations of the previous evaluation.

To continue this investigation, an analysis of key aspects of the training program should be conducted that identifies the most effective aspects.

2.5 Achievements

In this section we will mention only those achievements that relate directly to the training program and its objectives. These are:

- 1 Training and outreach activities conducted so far have provided valuable experience and information for the continuing development of the program.
- 2 The small coffee growers that participated in the activities have mastered useful techniques for improving their production.
- 3 The accumulated experience has allowed ANACAFE to create a classification system for the groups served and develop policies based on this system.
- 4 Activities with the GATS have led some of them to develop into independent, formal associations capable of managing themselves.
- 5 On the institutional level, a training unit has been created that serves the small grower's training needs.

2.6 Problems

Some of the more serious problems encountered in the training program are:

- 1 There is still no set definition of the training program that takes into account the overall project's goals and the social, economic and cultural realities faced by small coffee growers.
- 2 The training program lacks a planning strategy that includes short and long term goals, increasing the efficiency of the program's resource use, instituting follow-up measures and conducting a self-evaluation of the program's performance.
- 3 The program lacks a permanent corps of training personnel, evidently not taking into account the fact that personnel usually learn and improve with experience. Most of the training falls into the hands of technicians, who must share their time with other responsibilities like the credit programs, administrative duties, work in other locations, etc.
- 4 The technicians do not adhere to any regular, systematic format in offering the training, which may discourage growers from helping and participating in the groups.
- 5 There is no organized workplan for the training groups, under which the members are to define the structure of the group, its focus, and special activities they wish to undertake.
- 6 Training offered so far has focused exclusively on coffee production aspects, ignoring important subjects like business management, organizational aspects, etc.
- 7 No plan has been created or put into place to evaluate the training program or its effectiveness at achieving its goals.

3 REDEFINING THE TRAINING PROGRAM

3.1 REACHING THE TARGET POPULATION

3.1.1 TRAINING AS AN APPROACH TO IMPROVING THE PERFORMANCE OF THE ENTIRE PROJECT

Training and education in general have the capacity to serve the goal of the entire project: to help the small coffee grower confront the concrete problems he faces in obtaining his livelihood. Training is seen by ANACAFE and the project as a key way to help small growers increase their production and productivity of the target population; eventually improving the conditions for society in general.

In accordance with the agreement under which the project is supported, the underlying goal of the project is to "support the increase of the rural population's participation in real and

sustained economic growth."¹

It is evident that for the project to achieve this goal, the small grower must learn to produce and market his product on his own, without becoming dependent on funds and assistance administered in these beginning phases of the project. As the project continues, the growers should become responsible for their own economic and social development.

It has been amply demonstrated that the traditional development approaches used in this country that isolate the farmer from useable problem-solving techniques, from understanding the problems he faces, the possible solutions and their application, and from examining and learning from past experiences often fail to foster independent, economically productive activity. Many of these approaches do not promote the idea of group problem-solving, tending to focus on individual development rather than the often necessary productive power inherent in cooperation that can help individuals surmount the obstacles that face them.

To achieve the project's stated goals, training must play a major role. At this point we must differentiate between technical assistance and training: technical assistance should be offered by technicians trained in their area of expertise, while generalized training should be left to teachers. In the former case the goal is to deal with specific problems through the application of available technology; in the latter the idea is to teach the target population to deal with problems on its own.

In accordance with the above, the project's training program should foster small growers' abilities to work together to increase their production, market their product, and deal with problems they face on the way themselves. Ultimately, the project contemplates social change as a result of increased independence and self-reliance on the part of small growers and their communities.

ECOTEC does not see this happening under the current program.

In general, the program appears to be incoherent and loosely organized, producing incoherent and scattered results. ECOTEC believes it is necessary to create concrete definitions for the following aspects:

- 1 To begin with, a concrete analysis of the small coffee grower's needs should be conducted, and with the goals of the project in mind, a definite training program plan created.
- 2 The objectives of the program should stress the thoroughness

¹Funding agreement between Guatemala and the United States, Project No. 520-0381, attachment no.1, pg.1

with which training should be conducted.

- 3 The strategies that are most effective should be relied upon to achieve the program's goals.
- 4 Definition of the target population.
- 5 Creation of a methodology to define procedures, techniques, and instruments to plan, execute, and evaluate the program.

To follow up on this ECOTEC will recommend criteria to define the abovementioned aspects based on our research for the current evaluation.

3.1.2 CHARACTERISTICS OF THE SMALL COFFEE GROWER THAT DETERMINE TRAINING PROCEDURES AND TECHNIQUES

3.1.2.1 SOCIOECONOMIC SITUATION

ANACAFE has classified the country's coffee growers as small, medium, or large, the first of which receives special treatment by the institution. According to ANACAFE literature, a small coffee grower is defined as one who produces an estimated 50 or fewer quintals of coffee (gold) annually.¹

Guatemala's small coffee growers belong to a category of small farmers who grow traditional crops using traditional methods. The economic problems suffered by this group are generally due to the small size of their arable lands, which are generally of lower quality due to natural conditions or degradation resulting from poor cultivation methods.

On the national level, the small coffee grower accounts for 85.7% of total coffee growers, cultivating an average of 2.18 manzanas (1.53 Hectares). This sector is responsible for 11% of national production and farms 16.3% of the nation's land under cultivation.

According to the ECOTEC investigation on the GATS², the majority of small growers own their own land, while some rent or labor under tenancy agreements.

The abovementioned figures mean that most small coffee growers

¹Regional seminar on project results: Generations, Adaptation and Transfer of coffee technology to small and medium-sized producers, Antigua Guatemala, September 1990.

²Evaluation and Analysis of ANACAFE's Work Friendship Groups, by ECOTEC, October 1993

number among the rural poor. For most, coffee cultivation is their sole source of income. The widespread poverty in the target population has proven to be a substantial obstacle to the understanding and adoption of new production techniques, because:

- 1 Resistance to moving away from traditional methods is common. Many believe change will mean lower productivity and income, threatening their already precarious existence.
- 2 The technology offered requires a relatively high investment in material inputs and labor, for which many do not have the resources.

With small coffee growers, cost is usually the determining factor when it comes to accepting or rejecting new technology. Coffee production development strategies should offer short-term financial gains for the recipients, or face probable rejection. Interest will be highest in those techniques that do not require pecuniary investment.

3.1.2.2 TRADITIONAL PRODUCTION METHODS

Adopting the new technologies and methods for cultivation, harvest, and management offered by the project demands substantial changes to the traditional methods most small coffee growers are accustomed to. In general, small growers in Guatemala use methods handed down by their parents.

Using these methods, the small grower produces his crop at the margins of modern production techniques, learning from trial and error. The fact that these methods have worked for generations helps account for widespread distrust in change and modern technology.

Experience has shown that this distrust can be gradually overcome by helping the grower achieve visible improvements in his production. The most convincing improvement, we have found, is an increase in income.

In this sense, some of the most effective training is done in the form of demonstrations that let growers see for themselves the benefits of adopting the new technologies.

It should also be noted that many small growers consider their traditional methods a part of their culture. Technical assistants and training personnel should be very careful not to judge existing methods and practices, as this can be interpreted as a judgement of the growers' culture and way of life. This kind of interpretation can result in friction between the grower and project personnel, passive resistance to the project on the part of the grower, and can only have a negative effect on the program's success.

Finally, it should be noted that younger growers are generally more receptive to change than older ones. This fact should be kept in mind, at the very least, when selecting individuals for demonstrations.

3.1.2.3 THE LEARNING PROCESS

The Guatemalan campesino does not have access to formal schooling. Small coffee growers generally number among the 50% of Guatemala's population who are illiterate. Illiteracy is even more likely for indigenous growers, as the illiteracy rate for indigenous peoples in Guatemala reaches 80%.

Consequently, most small growers receive their education at home, where knowledge is handed down from generation to generation. This education forms the base of the individual's knowledge.

For many small growers, the training offered through the project is the only formal training in coffee production they have had. While some have had access to information and training from other non-governmental organizations and the government, they are definitely in the minority.

It is vital to remember that most small growers have learned all their lives through hands-on interaction and demonstration. To attempt a formal training approach, that is, with a teacher who speaks and students who listen, often proves ineffective. This approach can cripple the grower's creativity and ability to grasp concepts, effects that run contrary to the program's goals.

Cultural sensitivity is key to successful training. Within most groups of small growers are individuals of different ethnicities, with different cultural norms and patterns. While language is usually the most obvious barrier between program personnel and the growers, other aspects should also be considered, such as religious beliefs, attitudes and beliefs about nature, personal relations within the group, the way individuals use and organize their time, etc.

It should be noted that the small grower is an adult, and while often illiterate, he possesses a strong, practical interest in the material. The training process is often best facilitated by taking advantage of this interest and working with the grower's ability to learn through hands-on experience.

Experience has shown that the group teaching process espoused by this report has its positive and negative aspects. To foster the desired group learning and working environment, it is often necessary to convince the growers of its advantages and to facilitate the process of integration and cooperation. This yields more than just the immediate benefits for the training component of the project - it also introduces the group environment from which

the growers can collectively produce their crops, obtain credit, and market their product more effectively.

Facilitating groups of growers who know each other and come from the same communities engenders greater participation on the part of the growers.

Theoretical discussions should be kept to one hour, maximum. The use of visual aids and group participation and motivation techniques is extremely important.

In keeping with the learning process the growers are accustomed to, evaluation methods that allow the growers to rate their successes and understand their mistakes are most effective.

3.2 ADAPTING CURRICULUM AND METHODOLOGY FOR THE TARGET POPULATION

3.2.1 PROGRAM CURRICULUM

3.2.1.1 NEW TECHNOLOGIES: SPECIFIC TOPICS

The new technologies selected by ANACAFE dictate much of the training program's curriculum, some of which has been problematic:

- 1 Cultivation techniques.** ANACAFE promotes many practices and techniques that require a measure of technology. Training in these areas has not had much effect as most growers argue they don't have the resources to obtain the technology required.

It would be useful if ANACAFE would select practices and techniques that were better within reach of the small growers. For techniques requiring outside inputs that prove indispensable, ANACAFE should facilitate the growers' access to these inputs.

- 2 Coffee bean processing.** This topic, and its technological aspects, is rarely mentioned in the existing training program. In practice, small growers cannot afford their own processing facilities, however, the concept of collective processing should be discussed.

The focus should be on the advantages of collective processing and the actual means of setting up such a system.

- 3 Management techniques: credit, marketing, and cost control.** Although the program recognizes the importance of teaching management techniques, this topic has been left out of the curriculum.

This topic should be included, broken down as follows:

- **Credit management:** Along with learning the basics of credit management, the growers should learn how to evaluate credit risks, be able to determine when credit is advantageous, and be able to list available credit sources, the advantages and disadvantages of each.
- **Product marketing:** It is important that the small grower learn to obtain the best price possible for his product through knowledge of marketing options, market conditions, experiences of other growers, external and political pressures that affect the market, etc.
- **Cost control:** Although most small growers have their own systems for budgeting that in most cases has proven effective for them, it is still important to impart knowledge of simple, effective cost control techniques and that the growers understand that it is on cost data that many decisions should be based.

3.2.1.2 DETERMINING CURRICULUM

Curriculum is established by regional directors and outreach (training and technical) personnel, based on input from the latter. At the end of the coffee season the directors and outreach personnel meet and discuss which aspects and topics deserve more focus, which need less, etc.

After working out the curriculum, they define the next year's training plan.

To achieve the goals of the project, ECOTEC believes that the curriculum should adhere to the following guidelines:

- 1 The program topics should take into consideration the realities of the target population;
- 2 The program topics should balance the goals of the project with the interests of the small growers;
- 3 The program topics should be specific, and adjusted to the different external and internal realities and conditions that affect each group, for example, market conditions.

3.2.2 TRAINING METHODOLOGY

3.2.2.1 GROUP TRAINING

The goal of the project is that by its end some 8100 small coffee growers will have adopted new production practices that enhance their productivity. This is an optimistic goal; it will not be reached solely through contact between program staff and small growers. To reach this goal it is necessary that growers who receive program training act as teachers themselves and spread the information to others.

To accomplish this, the training administered by the program must be comprehensive and taught well enough that its recipients be able to train others. This necessarily calls for a group process, as has been outlined, utilizing the GATS.

The program has, for the most part, focused on individual training thus far. This is partly due to the fact that technical outreach personnel have not worked to foster group training environments, and partly due to lack of group-oriented planning within the training program.

In ECOTEC's opinion the project's training program should be given equal emphasis as is given the production component.

In this case, the training program's focus should be shifted toward group education, with activities, demonstrations, and workshops appropriate for groups.

3.2.2.2 TRAINING MATERIALS

ANACAFE's training department is responsible for preparing and editing technical training materials for use by technical outreach personnel in their training efforts.

Taking into account the observations of this report as far as the small grower's specific needs, characteristics, approaches to learning, and the necessity to work in groups, it becomes clear that a definite teaching method be established. To do this, it should be kept in mind that it is necessary to:

- 1 Resolve language-barrier problems;
- 2 Develop activities that combine the theoretical component with practical, hands-on experience. As such, the training program's topics should coincide with the stage of the coffee season the group is in when the training is offered;
- 3 Theoretical material should be presented with visual aids, ties to actual experience, demonstrations, etc. Training should be structured so that theory-intensive classes aren't scheduled more often than twice per day and don't exceed one hour.
- 4 During demonstrations and hands-on work, all members of the

group should be able to participate.

- 5 Continuity of curriculum should be maintained.
- 6 The introduction of new topics should be preceded by a quick review of the previous topic.
- 7 Presentations should be flexible enough to involve all group members to participate and allow time for issues not included in the material, such as the debunking of popular myths on the subjects, discussion of past mistakes, etc.
- 8 Full participation should be strongly encouraged.

3.3 ADAPTATION OF TEACHING TECHNIQUES

3.3.1 RECOMMENDED TEACHING TECHNIQUES

Recommended techniques for training groups of illiterate adults:

- Use simple, easy to understand vocabulary and language;
- Use audiovisual aids and other physical demonstration aids whenever applicable;
- Use motivation techniques to facilitate group participation;
- Pay attention to, and work with, group dynamics.

3.3.2 SKILLS AND KNOWLEDGE TRAINING PERSONNEL SHOULD POSSESS

- Group organization skills;
- Application of technologies to coffee cultivation and processing;
- Administrative and business skills, with a focus on credit management, marketing and cost control.

While we do not expect training personnel to become overnight experts on coffee cultivation, we believe a broad, general knowledge of the subject is necessary in order to facilitate the training and quell any doubts the growers may have. For detailed technical help, it is expected that training personnel be able to go to the technicians.

3.3.3 PERSONAL QUALITIES

Traditionally, the teacher assumes the position of the keeper of truth and knowledge, imparting wisdom to passive, spellbound students who memorize and repeat. Information flows in only one direction; communication is one-sided. This dynamic not only offers the students benefits far inferior to our proposed group interactive model, but prevents the training program from serving as an instrument to collect information as well, one of the stated goals of the project.

The training process sought by this project is one of two-way communication; of continuous interaction between teacher and student, problem and solution, knowledge from outside and the situational reality of the coffee grower. The process culminates with the fusion of the latter two and leads the grower to affect his own problem solving in his community.

Key to this process is opening lines of communication between teacher and student. A relationship between teacher and student must be developed that the student feels he can speak frankly. To be avoided are:

- Authoritarian postures;
- Inflexible thinking;
- Paternalistic attitudes.

4 RECOMMENDATIONS

ON THE PRINCIPLES OF THE TRAINING PROGRAM:

Based on extensive experience in the development-oriented training field, ECOTEC believes the training program should be restructured to be:

- 1 INTER-COMMUNICATIVE. It is necessary to establish two-way communication between training personnel and grower, in which the trainers impart their knowledge and techniques and the growers share their experiences and beliefs.
- 2 THOUGHT-PROVOKING. The training should provoke reflection on possible problem-solving methods and inspire action to carry them out.
- 3 INTEGRATED. The training should approach problems from a broad perspective, taking advantage of the intelligence and abilities of the growers.
- 4 PRACTICAL. The training should remain firmly grounded in reality, maintaining a close relationship between the material taught and the actual needs of the growers.

- 5 DYNAMIC. The program should be flexible enough to adapt to the growers' changing needs.
- 6 INCLUSIVE. The program should leave space for the breadth of experiences its members will encounter, seeking to incorporate knowledge and experience into the program whenever appropriate.

ON THE TRAINING SYSTEM:

ANACAFE should develop a training system that defines the interdependent processes and mechanisms required to facilitate the program. These should be:

- 1 NEEDS ASSESSMENT. Should define the target population and its specific needs, which may vary from group to group.
- 2 PLANNING. Activities should be planned based on the needs assessment.
- 3 EXECUTION.
- 4 FOLLOW-UP. Assisting the growers in applying the knowledge and techniques learned.
- 5 EVALUATION. Of each of the abovementioned steps.
- 6 PROGRAM ADJUSTMENT. Based on the results of the evaluation.

To create this system ECOTEC recommends conducting a study to evaluate the needs of the project. However, we offer below some basic guidelines for such a system.

NEEDS ASSESSMENT.

A systematic method of obtaining and presenting information (an instrument) on the various target groups is required for the needs assessment. The data should be based on and/or complemented by information gathered in quick studies of the target groups taken by training personnel. The instrument should allow for classification of target groups as follows:

- Individual members' characteristics: age, language(s), literacy, writing ability, mathematical abilities (addition, subtraction, etc.), and schooling.
- Training received by the group in the last two years, topics

covered, time, place, length of training, institution that gave it.

- Concrete needs, recorded as follows: goals intended for the group, required knowledge and experience to reach these goals, existing knowledge and experience relating to said goals within the group, and the difference between the latter two, i.e. the group's training needs.

With the information from the needs assessment it is possible to categorize the groups, from those with very basic abilities to those who need very little help, based on the training they require.

From there, it is possible to create specific training modules for each group.

EXECUTION.

Training should incorporate the required curriculum within a specific time frame that should be made clear at the beginning, with the caveat that flexibility will be maintained to deal with special situations.

The sequence of topics should follow the needs of the small coffee grower, that is, topics should be introduced as the grower will need to put them into practice. It's probably most effective, then, to begin with production and organization and finish with topics like business administration and credit management. The training cycle should follow the coffee production cycle - three or four years.

Development topics, or units, should be organized in a special file that defines the objective, teaching technique (dynamic, discussion, demonstration, etc.), teaching materials (audiovisuals, posters, cards, etc.), and the time frame for each.

Training sessions and activities should be scheduled for the entire year so that the growers know the schedule beforehand. Program personnel should follow this schedule meticulously. Measures to inform growers of schedule changes in case a session must be canceled should be developed.

The training program should be structured so that new groups

It is recommended that for each of these evaluation processes procedures, instruments, time frames, etc. be developed.

ON THE USE AND AVAILABILITY OF RESOURCES.

On the subject of resources, ECOTEC recommends paying special attention to human resources, especially field personnel. Training personnel should be well-aware of the program's goals. We cannot overemphasize the importance of training personnel with both teaching skills and experience in the countryside. Technical outreach personnel should perform technical assistance; only if and when they acquire sufficient teaching skills should they work as training personnel. In any case, ECOTEC does not recommend that technical and training aspects of the program be performed by the same person.

It is recommended that training personnel receive special training themselves before going out into the field, so that they can be prepared for their role in the program and familiarize themselves with the program's goals.

A study of the program's organization and methods could prove useful in defining the number of groups best allotted to each member of the training staff. This study, along with an analysis of the goals set for the individual and the resources available, could well serve to efficiently determine the optimum number of staff, groups, and members of the target population the program could serve.

This last aspect depends on the role played by the monitors. Given the positive results obtained through the use of monitors so far, it is recommended their use be continued and they be further incorporated into the project's framework.

On the subject of economic resources, this report has ascertained that the project has sufficient funds to provide the intended services. As the planning component of the project has been a relatively low funding priority so far, it is recommended that a more aggressive development course be pursued in the future.

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