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FINAL EVALUATION
EASTERN CARIBBEAN COCOA
REHABILITATION AND DEVELOPMENT PROJECT
(USAID GRANT No.538-0140.2)

USAID/BARBADOS
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FINAL EVALUATION REPORT: EASTERN CARIBBIAN COCOA
REHABILITATION AND DEVELOPMENT PROJECT (EC-CRDP)

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FINAL EVALUATION REPORT
EASTERN CARIBBEAN COCOA REHABILITATION AND DEVELOPMENT
(CRDP) PROJECT ¹/

I. EXECUTIVE SUMMARY.

A. Purpose of Project.

The purpose of the CRDP Project is "to increase the annual export revenues from sales of cocoa using intensified management practices".

B. Purpose of Evaluation and Methodology Used.

This is the final evaluation of the CRDP in compliance with terms of the EVALUATION PLAN specified in the USAID/PADF Cooperative Agreement (CO/AG). The evaluation was conducted by Fred L. Mann, University of Missouri from May 6 to June 1, 1991.

Evaluation methodology included review of secondary information and data sources made available from RDO/C files, from the PADF field headquarters office in Grenada, and from participating countries institutions. Informal interviews were held with USAID staff members, in-country implementing institution office and field personnel (both PADF and host country) and farmer beneficiaries. A list of persons contacted and their institutional affiliation is shown in Appendix C. Because of limited time and manpower assigned to this evaluation (25 person days over a 30 day period), it was not possible to conduct formal surveys (either as case studies or as representative samples).

Several Contract Demonstration (C-D) plots, the Research Demonstration (R-D) field, as well as individual farms were visited by the evaluator. All activities were carried out in RDO/C Barbados and the participating countries.

PADF long term advisors were asked to provide, on formats prepared by the evaluator, quantified information on inputs and intermediate outputs for each project component. Resulting information is presented in Appendix E, Tables E-2 through E-10.

¹ USAID Grant No.538-0140.2. Funds were obligated under Ccooperative Agreement (CO/AG) No. 538-0140-G-00-6061-00 between RDO/C and PADF, signed and acknowledged on August 31, 1986.

C. Evaluation Findings and Conclusions.

1. Project Assumptions -

The original project design included some explicit and implicit assumptions that were invalid and others that were inappropriate and/or unrealistic.

The assumption of no major cocoa price declines was invalid for bulk cocoa prices. Low bulk cocoa prices have adversely affected Grenada's cocoa industry throughout much of the project period. A review of historical production and price trends and forecasts during project design could have anticipated imminent price declines.

Assumptions related to improvements in marketing strategy and procedures were both inappropriate and unrealistic, given that: a) the design study had detected these as long-standing constraints, b) there were no planned interventions on the horizon to address them, and, c) such constraints do not spontaneously disappear.

Similar conclusions can be drawn regarding assumptions related to adequate credit and producer/investor readiness to considerably expand production investment under existing cocoa industry conditions.

2. Approach and Strategies -

A number of weaknesses were detected in the design approach and strategies. These include:

a. Strong emphasis on promoting a major shift to hybrid seedlings, as opposed to alternative propagation methods. This position was and continues to be highly controversial and contrary to clear preferences of participating countries. Supporting arguments were weak, and counter-arguments were inadequately considered.

b. As found in the Mid-Term Evaluation, targeting large farmers as key grower-beneficiaries was based on the unsubstantiated premise, subsequently recognized by PADF to be in error, that these farmers would be the most responsive. This error could have been avoided with appropriate inquiry into large farmer characteristics at the design stage.

c. Establishing joint ventures between large growers and outside investors proved to be impractical, again largely because of incompatible characteristics, motivations and outside interests of large growers.

d. Focussing project efforts primarily on production problems, with only minor attention to processing, marketing and institutional and managerial limitations, reflects inadequate prioritization of constraints during project design. Resolution of quality control and improvement problems through improved on-farm processing has not resolved processing constraints, especially among smaller growers.

e. Lack of design focus on protecting and enhancing high-flavor characteristics and market niche did not reflect participating country needs and interest. Failure to accord sufficient importance to this aspect of the sub-regional cocoa industry could have jeopardized benefits of high flavor. Fortunately, PADF advisors recognized this short-coming and participating countries have continued to insist on the importance of maintaining their high-flavour status.

3. Implementation and Funding Arrangements -

The system of management and control by PADF/Grenada of resources targeted to field activities inhibited local initiative and tended to accord inadequate weight to local needs and interest. Permitting more direct local decision-making and management of resources, with appropriate monitoring, can be an important incentive to stimulate local initiative and greater dynamism for in-country activities.

Given the modest levels of technical sophistication required to satisfactorily implement project components, the proportion of total project resources required to defray cost of PADF Headquarters plus field advisory personnel and support (estimated at more than 80% of total grant funds), clearly was disproportionate; of this, less than 2% was for short term consultancy costs. More extensive involvement by less experienced, junior in-country personnel in administrative, promotional and monitoring roles could have been a more cost-effective alternative compared to the assignment of two senior expatriate long-term advisors who dedicated a considerable amount of their time to these tasks.

Additionally, greater use of short term consultants in lieu of long term advisor permits flexibility both in range of specialties that can be accessed and in timing. For example, with flexibility to bring in a wider range of specialists, CRDP could have focussed relatively more expertise on the resolution of processing, marketing, institutional and management constraints relative to production technology transfer materials and facilities development.

Major portions of PADF advisory time were spent on administrative and rather routine technical matters (such as

monitoring of C-D plot progress and R-D field operations), and on preparation of routine extension materials best handled by an agricultural editor. These could have been carried out quite competently by carefully selected more junior local contract and/or counterpart personnel, supplemented by intermittent backstopping from short term specialists, many of whom could have been provided from the region. An added advantage to this approach is that when training input for local personnel is combined with on-the-job implementation experience, many of these persons will emerge as experienced professionals dedicated to and knowledgeable about agricultural development.

4. Appropriateness of Project Components -

Resolution of processing, marketing and institutional and managerial constraints is critical to cocoa industry development in all participating countries. Absence of a component in CRDP to directly address these constraints was a major design failure. The absence of a subsequent explicit restructuring of the project to shift resources into actions designed to assist in resolving processing, marketing and institutional constraints was a major oversight by project implementation management and the Mid-term Evaluation.

5. Planned Input and Output Achievements -

Planned project financial inputs by AID were achieved. Also, CIDA provided programmed inputs to Grenada under the Cocoa Rehabilitation Project-Phase I (CRP). Planned grower/investor inputs probably fell considerably short of those planned, although this cannot be determined since no monitoring system was put in place for measurement.

Annual dry bean production actually dropped during the LOP. Thus, the major quantified output target of a 30% End-of-Project (EOP) increase, specified in the CRDP Log-Frame in annual increments, was not achieved. This target is inappropriate for measuring CRDP achievements. Most factors influencing rapid output growth were largely outside the control and influence of CRDP. Thus, the 30% production increase EOP target should be ignored as a measure of project achievement.

Two joint ventures were planned. None are expected to be in place by the PACD of July 31, 1991. This planned output was not based on appropriate design inquiry into the characteristics of large growers who were expected to become managing joint venture partners.

Planned numbers of C-D plots, as specified in action plans, were achieved while acreages fell short. Enough plots and acreages were established to permit them to serve a major role as sites for field training events and observation. For C-D plots to become a reliable source of accurate cost and returns data to date. To become so in the future, data specification and collection procedures will require substantial improvement.

Considerable short term training was accomplished and an impressive volume of extension materials in the form of publications and slide presentation packages were produced and distributed. Some videos now are being prepared. Institutional weaknesses limit the extent to which in-country extension services can effectively utilize the extension materials and internalize knowledge gained from training. Cultural characteristics of extension staff and farmers, who rely primarily on personal observation and verbal communication to acquire and/or transmit information and knowledge, raises questions about the appropriateness of publications as the primary means of technology transfer by PADF.

C-D plots and extension staff training probably constitute the most potentially useful activities of the project, within the limited scope of the interventions specified in the CO/AG. However, it is not possible to evaluate appropriate technology change impacts of these interventions to date because of lack of a base line and of an organized monitoring system to measure changes in farmer practices. Available information on production and yields suggests that there has not yet been significant quantifiable impact.

6. Major Conclusions -

- a. CRDP design analysis correctly determined that cocoa has major technological and economic potential for production expansion and productivity improvement, and as a viable diversification alternative to bananas. This determination appears to have been and continues to be valid for the following reasons:
- 1) Significant economic comparative advantage appears to exist,
 - 2) A guaranteed-access, premium price niche market exists,
 - 3) Considerable acreages of productive and potentially productive cocoa stands already exist,
 - 4) Farmers and agricultura extension personnel are familiar with cocoa, and

5) Improved production and processing technologies exist that are not now being extensively applied but that appear to be appropriate for the sub-region.

b. Original design analysis identified both production technology transfer constraints and a number of processing, marketing and institutional constraints to more rapid and effective cocoa industry development. Nevertheless, CRDP interventions were restricted by both project design and implementation actions almost exclusively to direct generation of production technology transfer materials and training events (i.e., C-D plots, extension publications, slide packages, short courses, seminars and extension/demonstration meetings). The only exceptions were establishment of one Research-Demonstration field and creation of two joint ventures (the latter not achieved).

During implementation, the Senior Cocoa Outreach Specialist (SCOS) also provided some design assistance for fermenting boxes and solar drying as well, as training for on-farm processing.

c. Significant changes in emphasis and/or corrective measures taken during CRDP implementation were to : 1) drop St. Vincent from participation, and 2) shift target beneficiary focus from large estate farmers to small/medium farmers.

d. A disproportionate share of CRDP grant resources were dedicated to technical assistance personnel, logistic support and administration costs. Of this, only a minor portion was for specialized short-term consultancies.

e. Improved production technologies promoted by CRDP were appropriate to the sub-region. Nevertheless, several technology related issues raised during design and specified for resolution during implementation remain unresolved, e.g., 1) preferred propagation methods and plant materials, 2) preferred pest management methods and systems, 3) preferred windbreak/shade species, and 4) sources of high flavour characteristics, their relative contributions and interrelationships. It was not realistic to expect the R-D field to achieve definitive research results on these issues during CRDP implementation.

f. Except for failure to establish joint ventures, CRDP achieved satisfactory intermediate output (i.e, outputs that serve as inputs to achieve EoP output status) levels, such as number and acreages of C-D plots established, number and range of training events held and number of persons trained, number of extension publications and slide packages prepared and distributed. Of these intermediate outputs, only C-D plot

numbers and acreages were specified as quantified planned targets. The two final planned output targets were not appropriate or realistic in relation to the nature and magnitudes of CRDP interventions.

One final output target (i.e., a 30% increase in total production) was not achieved and the other cannot be measured (i.e., investors contributions to rehabilitation/expansion of cocoa stands) because of lack of a base line and failure to institute a program of data collection for progress indicators.

g. Opinions of some persons are that significant positive on-farm technological changes have occurred as the result of CRDP interventions. These opinions cannot be objectively confirmed in the absence of baseline and relevant progress indicators data. Nor was the evaluator able to subjectively confirm these opinions on the basis of a limited number of farm visits.

D. Principal Recommendations.

1. That the project be terminated as planned on July 31, 1991 and remaining funds be de-obligated.

2. That a Cocoa System Improvement Activity (CSIA) be designed as a priority agricultural diversification effort for implementation in St. Lucia, Dominica, and possibly with some activities in St. Vincent and Grenada, to assist participating countries to improve productivity and expand output by improving technical and operational management in all cocoa sub-system. Thus the design should examine the entire cocoa production, processing, marketing and demand (PPMD) system and prioritize problems and constraints amenable to solution through AID-type interventions. This likely will mean a major shift in focus towards resolution of processing, marketing, institutional and management constraints. Any support to production technology transfer likely should focus on overcoming institutional and system weaknesses in the transfer of technological knowhow, including farm management improvement systems for accessing appropriate inputs and investment capital in a timely manner and post-harvest handling.

There appears to be little justification for continuing primary emphasis by AID on Grenada because of the major inputs and broad scope of CIDA/CRP Phase II. However, project design should analyze potential benefits from continuing some well-targeted and complementary institutional strengthening and management training through short term technical assistance and on-the-job training to the GCA Technical Division and the Fermentary.

3. That CSIA be designed jointly with participating countries to assure that external technical assistance supports and supplements their respective Cocoa System Improvement (CSI) priorities and plans. To strengthen intra-regional linkages and collaboration in CSIA and to be cost-effective, maximum use should be made of the considerable regional sub-regional technical knowhow and talent for both technical assistance and training. Additionally, a sub-regional organization might be selected for managing USAID resources. Because of high complementarity between the TROPRO project purpose and areas of emphasis in agricultural diversification and those of the proposed CSIA, RDO/C should examine the practicality of incorporating CSIA into TROPRO. OECS/ADCU, as a sub-regional organization already managing a major share of TROPRO resources, appears to be an attractive option for managing CSIA resources. Short term management and operating systems technical assistance and training specialists may need to be sought for extra-regionally use of the "International Executive Service Corps" and "Project Sustain" can be extremely cost-effective in accessing these talents.

4. That CSIA provide technical assistance and on-the-job training to complement proposed use of ESF funding in Dominica to construct, equip and provide start-up resources for a privately controlled commercial fermentary/marketing enterprise. This should initiate operations by November, 1991. Future cocoa development support could assist in assuring effective organization and management, and efficient operation of this enterprise.

5. That de-obligated funds from CRDP be re-obligated to TROPRO to fund a Cocoa System Improvement Component (CSIC). CSIC start-up should begin immediately upon termination of CRDP. Because of delays to be expected between de-ob and re-ob, RDO/C should seek to obtain interim funding from existing TROPRO obligations.

6. CSIC should be funded for at least five years. De-ob funds are projected to be somewhere between \$400,000 and \$600,000. These amounts likely will fund no more than one-two years of an activity of sufficient magnitude to have significant development impact. Thus, substantial resources from other AID sources (e.g., ESF, new D.A. funds), other donors, and counterparts should be sought. Options to obtain WFC, HFC and other participation in providing inputs into CSIC should be pursued.

E. LESSONS LEARNED.

1. Project Design Implications.

a) This project amply demonstrates the pitfalls of designing a production improvement project by limiting interventions to the production sub-system or, worse yet, to technology generation and transfer within that sub-system. The context of and constraints in the overall PPMD system, as well as the institutional framework that makes technology into a productive tool, should be considered in any design analysis for production improvement.

b) An effective in-country project locus is needed for regionally based projects to be effective. Projects of regional scope with in-country activities should make arrangements to assure that in-country advisory linkages exist on a continuing basis.

c) Country-specific substantive involvement should be initiated during project design and not left to the implementation stage. To avoid what happened to CRDP in the case of St. Vincent, a substantively collaborative relationship should be forged with all participating countries during project.

2. Broad Based Implications -

a. Given the high costs of senior long-term external technical assistance personnel, special care should be taken to maximize the utilization of local contract personnel to carry out administrative, monitoring and promotional activities. Short-term external consultants should be used in lieu of long-term advisors whenever possible to maintain flexibility as to the type and range of expertise that can be brought to bear, and to reduce carrying costs.

b. A key caveat should be respected in all agricultural development projects: a farmer will not adopt output and productivity enhancing technologies unless he clearly perceives a ready market at profitable prices that is at least as attractive as other production alternatives. Before resources are committed to promoting improved production technologies, designers should carefully examine the target farmer's perception of the market and price situation, and be assured that pending constraints of market access and price stability are being satisfactorily addressed.

II. PROJECT IDENTIFICATION DATA SHEET

- A. COUNTRY: Eastern Caribbean: Grenada, St. Lucia, Dominica.
- B. PROJECT TITLE: Eastern Caribbean Cocoa Rehabilitation and Development Project.
- C. PROJECT NUMBER: 538-0140.2.
- D. PROJECT DATES: August 31, 1986 to JULY 31, 1991.
1. First Project Agreement: August 31, 1986.
2. Final Obligation Date: FY88 (Actual)
3. Most Recent Project Assistance Completion Date (PACD): July 31, 1991.
- E. PROJECT FUNDING:
1. AID Bilateral Funding (Grant) US\$2,973,000.
2. Other Major Donors US\$6,250,000.
3. Host Country Counterpart Funds US\$ 600,000.
TOTAL US\$9,823,000.
- F. MODE OF IMPLEMENTATION: Cooperative Agreement with Pan-American Development Foundation.
- G. PROJECT DESIGNERS:
1. Price Waterhouse.
2. Louis Berger Int'l, Ltd.
3. Development Associates International.
4. ECAD.
5. USAID/BARBADOS.
6. Agriculture Venture Trust.
- H. RESPONSIBLE MISSION OFFICIALS:
1. Mission Directors: James S. Holtway
Aaron Williams
2. Project Officers: Jonathon Sleeper
Rebecca Niec
- I. PREVIOUS EVALUATION: Mid-Term Evaluation by Donald R. Fiester, through PADF, November, 1989.

III. FINAL EVALUATION OF EASTERN CARIBBEAN COCOA REHABILITATION AND DEVELOPMENT PROJECT-DETAILED REPORT

A. BACKGROUND.

The Eastern Caribbean Cocoa Rehabilitation and Development Project (CRDP) was designed as one of four major sub-projects under the High Impact Agricultural Marketing and Production (HIAMP) Project. CRDP was the only sub-project design completed and approved at the time of Mission approval of the HIAMP Project Paper on February 13, 1986.

The HIAMP Project Paper (HIAMP-PP) anticipated major technical advisory input on a sub-contract basis by the Hershey Food Corporation. It also anticipated that while awaiting AID/W Project Authorization, Project implementation would be initiated through the Pan American Development Foundation (PADF) under an existing AID-funded OPG activity based in St. Vincent.

The calendar of events and documentation leading to funding approval and obligation, and active implementation of the Project, is as follows:

1. HIAMP Project Design- 9/85 to 2/86.
2. HIAMP-PP - approved by RDO/C on 2/13/86. Annex J of the HIAMP-PP is a fully developed Sub-Project Paper(S-PP) for CRDP, with 50 pages of text and 46 pages of appendices.
3. Based on an unsolicited proposal that had been submitted by PADF to RDO/C on December 2, 1985, RDO/C amended, in March 1986, an on-going OPG (Project No. 538-0147) with PADF, providing interim funding to establish and staff an office in Grenada and initiate implementation of the CRDP for up to six months.
4. A Chief-of-Party/Senior Cocoa Advisor (COP/SCA) was assigned by PADF to the project beginning on April 1, 1986. The COP/SCA arrived in Grenada to initiate field operations on April 13, 1986.
5. A Request for Grant Application (RFGA NO.538-014) was issued on June 27, 1986 with a closing date of August 4, 1986. This was presented to three not-for-profit organizations known to have some expertise in cocoa production in the region. Two responses were received, one from PADF and the other from Agricultural Cooperatives Development International (ACDI).
6. The HIAMP Authorization was signed on July 15, 1986.

7. A Cooperative Agreement-CO/AG (No. 538-0140-G-00-6061-00) was signed on August 31, 1986 between USAID/BARBADOS and PADF to provide support for implementation of CRDP from that date to July 31,1991.
8. The COP/SCA (who had been medically evacuated on July 25 because of injuries sustained in an automobile accident) returned to Grenada on September 7 to initiate his duties under the CO/AG. A second long-term advisor, the Senior Cocoa Outreach Specialist (SCOS), arrived in Grenada on September 20,1986.
9. A Letter of Agreement, approved on October 31, 1986 between Hershey Foods Corporation (HFC) and PADF, committed HFC to provide eleven weeks per year of HFC specialist staff time in: 1) farmer/agent training, 2) processing/marketing/shipping, and, 3) management assistance, as well as training at the Hummingbird-Hershey, Ltd. Farm and Training Facility in Belize, for up to 160 hours per year.

PADF agreed to pay all direct expenses (except salaries) for staff time and all costs, including instructors, for training.
10. Memoranda of Understanding (MOU's), as called for in the CO/AG, were signed between PADF and participating countries as follows:

-St. Lucia on 12/18/86

-Grenada on 12/31/86

-Dominica on 8/05/87
11. On July 17, 1987, PADF was authorized to contract local staff to monitor the Project in participating countries.
12. Peace Corps Volunteer was assigned to the Project as Communications Officer in December,1988.
13. A Mid-term evaluation was undertaken from October 12-November 10, 1989 (See "A Mid-term Evaluation of the High Impact Regional Cocoa Rehabilitation and Development Sub-Project, by Donald R Fiester, November, 1989).
14. The Project currently is fully funded at \$ 2,973,000, with a schedules termination date of July 31, 1991. Funding tranches were committed as follows:
 - a. US\$ 1.0 million upon signing the CO/AG on August 31 1986.

b. US\$ 1.0 million on March 27, 1987.

c. US\$ 973,000 on November 13, 1987.

Total actual and projected expenditures to July 31, 1991 are estimated at about US\$ 2.5 million.

15. Field work for this final evaluation and report preparation took place from May 6 to June 1, 1991. This evaluation builds upon the Mid-term Evaluation, confirming its findings and conclusions where they continue to have validity.

B. GOALS, PURPOSES AND TARGETS OF PROJECT.

Since the CRDP is a Sub-Project of the HIAMP Project, it is expected to contribute to the HIAMP Project goal and purpose. These are:

1. HIAMP GOAL - "Achievement of a growth-oriented sustainable, private sector-led agricultural production, marketing and export industry in the Eastern Caribbean". (HIAMP-PP, p.24).
2. HIAMP PURPOSE - "To increase the contribution of the agricultural sector and agricultural enterprises to GDP from US\$89 million in 1984 to a minimum of US\$152 million (in real terms) in 1995." (HIAMP-PP, p. 24). This would be a five percent annual compounded rate of growth.

The CRDP Sub-Project goal and purpose originally were stated to be:

1. GOAL - "To move the cocoa industry in Grenada and the Eastern Caribbean to a new plane of productivity managed by the private sector and towards sustained growth in a market place subject to marked price cycles." (HIAMP-PP, Annex J, p.8).
2. PURPOSE - "To increase annual export revenues from US\$2.2 million in 1984/85 to US\$5.8 million by 1990/91". (HIAMP-PP, Annex J, pp.8-9). These export figures presumably refer to cocoa dry bean exports.

The CRDP Logical Framework Matrix (HIAMP-PP, Annex J, appendix A, p.1) ²/provides a somewhat different goal and purpose:

² The CRDP Sub-Project Logical Framework Matrix (HIAMP-PP, annex J, appendix A) as modified and approved by RDO/C and PADP on March 17, 1987, is attached to this Report as Appendix D.

1. LOG-FRAME GOAL - "To move the cocoa industry in Grenada and the Eastern Caribbean to a new plane of productivity and sustained growth managed by the private sector."
2. LOG-FRAME PURPOSE - "To increase the annual export revenues from sales of cocoa using intensified management practices".

The Program Description (Attachment 2) of the CRDP CO/AG includes no goal statement and only slightly modifies the purpose statement, as follows: "to increase the annual export revenues from sales of cocoa from the Windward Islands using intensified management practices" (p.1). Quantified End-of-Project (EOP) achievement targets were provided only for Grenada. These are specified in the CRDP CO/AG (Attachment 2-Program Description) as follows:

1. GLOBAL TARGET - For Grenada, a 30% increase in pounds of dry cocoa over 1986 production (p.6).
2. JOINT VENTURES TARGET - For Grenada, two joint ventures to be established using 100% hybrid seedlings for developing new cocoa stands (p.4; also discussed in HIAMP-PP, Annex J, p.14).

The CRDP Sub-Project Paper also specified a target that 25% of key (large) farmers in Grenada (based on a total of 530) would be using technologies introduced by the Project (p.13 of Annex J).

The Mid-Term Evaluation includes an extensive discussion of whether or not this global target was realistic, and concluded that it was not. The conclusions and reasons given still are valid.

It should be noted that Grenada production decreased from 3.8 million pounds in 1986 to 3.2 million pounds in 1990. However, due to a combination of factors largely independent of CRDP, 1991 production is projected to exceed 4.0 million pounds. If this occurs, it will signify a 25% increase over 1986. Multiple reasons for the expected 1991 rebound in Grenada production are:

1. Especially favorable climatic conditions,
2. A severe drop in nutmeg prices, the primary competitor with cocoa for farmer management, capital and labor attention, and,
3. Generally increased interest in cocoa by farmers, brought about by a) the uncertain future for bananas, b) the WFC guaranteed price, c) increased availability of planting

materials, d) the CIDA-CRP engendered reorganization of technical services of the Grenada Cocoa Association (GCA), and e) the demonstration effect of C-D plots and other CRDP activities.

No joint ventures have been established to date and none are likely to be established by the PACD, despite efforts to achieve this objective by PADF long-term advisors and by HIAMP Staff. The joint ventures component appears to have been unrealistically included at the design stage because of an erroneous conclusion concerning characteristics of so-called "Key Farmers", i.e., the 530 cocoa farmers with more than five acres each. The original design assumed that these producers were full-time farmers (see CRDP Sub-Project Paper, Annex J, p.13) and, as such, would be most likely to adopt intensified management practices.

Although no quantified data was made available, PADF and GCA personnel consulted during final evaluation (as well as personal observation) strongly suggest that a large number of large estate farmers are absentee owners, have other businesses that capture their primary interest, and/or are employed elsewhere, often as professionals. Thus, management of these larger farms usually is delegated to a labor foreman who has little authority and even less incentive to intensify management input.

The Sub-Project Paper Log-Frame specified quantified outputs, targets for contract-demonstration plots of 200 acres by 6/88. About 65 acres had been achieved by 12/88. However, in the last two years of the project, sufficient C-D plot acres were established to meet the Log-Frame target. The sub-project paper specified EoP targets as follows:

1. 300 rehabilitated acres yielding 1,000 lbs./acre (all yields are quoted in lbs. of dry beans/acre).
2. 300 planted/replanted acres, yielding 1,200lbs./acre at full development.

Estimates provided by PADF long term advisors indicate that acreage targets have been amply exceeded (see Table 2, Appendix E). They report that a total of 510 acres have been replanted and 474 acres rehabilitated as a result of the influence of the CRDP. However, PADF advisors reported planned targets (apparently in annual activity plans) of 1,076 acres and 687 acres, respectively (see table E-2).

Yield targets have not been achieved. Average yields in St.Lucia are about 300 lbs/acre on harvested acres. Rehabilitation C-D plots vary in yield from 300 to 800 lbs./acre.

New and replanted stands will not be in full production for another 2-5 years. Thus, comparison of actual yields with targets would not be meaningful at this time. Discussions with knowledgeable persons throughout the Windward Islands indicate that the targets of 1,000 lbs./acre and 1,200 lbs./acre, respectively, during the Project period (from a base of 200-500 lbs./acre) during the Project period, are not realistic. Such high levels are not even likely averages for the closely monitored C-D plots.

A number of non-quantified objectives were specified in the HIAMP/CRDP Sub-Project Paper (S-PP) and in the CO/AG. These are summarized below:

1. DEMONSTRABLE PRODUCTION INCREASES - in participating countries other than Grenada (CO/AG, Attachment 2,p.6). St. Lucia production decreased from 104,500 lbs. in 1986 to 94,100 lbs. in 1990. Dominica production decreased from 12,600 lbs. in 1985 to 4,480 lbs. in 1989, increasing to an estimated 5,000 lbs. in 1990.
2. SHIFT RESPONSIBILITY FOR PLANT PROTECTION FROM A CENTRALIZED SYSTEM TO FARMERS IN GRENADA - by sponsoring farmer application certification training and inspection using the Consortium for International Pest Control. This has not been accomplished.
3. MARKETING/FERMENTATION/DRYING- Generalized purchase of wet-beans and more careful scheduling and monitoring to avoid over-fermentation. Although some efforts have been made to assist in establishing a commercial fermentary in St.Lucia and to up-grade a private farmer's fermentary in Dominica, little visible progress has been made. Neither has it yet been possible to improve GCA fermentary operations in Grenada.

There has been a marked inability to achieve consensus in any of the participating countries as to the type of equipment, design of facilities, institutional arrangements, and even the importance of, generalized wet-bean purchases as opposed to on-farm fermenting and drying. The net result has been little apparent progress. However, several actions are proposed for the near future: A follow-on CIDA-CRP Phase II(1990-1994) provides for modernizing the Grenada GCA fermentary; St. Lucia has purchased some equipment and is discussing ways of organizing to construct and operate fermenting/drying facilities; Dominica has developed plans to establish a fermentary and is seeking financing.

Without the substantial reduction of risks associated with market access and quality control of the fermenting and drying process, the favorable guaranteed WFC price is largely

illusory. Until these risks are removed from the farmer's shoulders, it is not likely that response to efforts to improve on-farm production/productivity will be encouraging. Processing/marketing aspects of CRDP achievements are discussed further in a later section of this report.

Finally, the CRDP/S-PP pointed out a need to improve stocks management in the marketing process. However, CRDP does not focus attention on this aspect. Grenada is holding considerable stocks (especially of lower grade beans) awaiting improved prices in order to increase net returns. It is unlikely that price increases will be rapid enough to offset carrying costs and quality deterioration associated with long-term storage, especially when the stored product already is lower grade.

In conclusion, CRDP did not include specific interventions designed to alleviate processing, marketing, storage and processing problems even though these were identified in the S-PP. Although the SCOS Advisor did provide some technical advice for on-farm fermenting and solar drying facilities, as well as commercial fermentary design, these same problems persist five years after CRDP was initiated.

C. VALIDITY OF ASSUMPTIONS IN ORIGINAL PROJECT DESIGN.

The original S-PP design made assumptions related to achievement of Project goal, purpose, outputs and inputs. Stated assumptions are summarized in the Logical Framework Matrix (see Appendix D). The following discussion focusses on those major assumptions that events have shown to be unrealistic or inappropriate.

One assumption was that there would be no major decline in cocoa prices. Events proved this assumption to be invalid for bulk cocoa prices. These dropped by nearly 40% from 1986 to 1990 (see Table E-1 in Appendix E, Columns 4 and 6). However, prices paid for flavored cocoa dropped by only 5% in the same period.

Grenada, which continues to sell two-thirds of its cocoa outside the WFC agreement, has been seriously affected by the major price decline for bulk cocoa, especially for lower quality beans. They currently are holding in storage a number of bags of lower quality cocoa beans, hoping for improved prices. First quality Grenada cocoa enjoys a premium in traditional markets of around US\$0.15/lb. (about 25% at current prices). This does not approximate the premium paid by Worlds Finest Chocolate Company, Chicago, Illinois (WFC), which currently is approximately double the world price.

Except for cocoa that enters into domestic and inter-island trade through Hucksters, all St. Lucia and Dominica dry cocoa beans are exported to WFC. Since the current WFC agreement to pay US\$1.25/lb. runs through 1995 and covers volumes far exceeding projected output, both of these countries have been and will be shielded from negative price impacts in the medium term.

Other assumptions from the Log-Frame that merit discussion in this final evaluation are:

1. The GCA will improve its marketing strategy and procedures;
2. GCA will improve its wet bean buying and fermentation practices;
3. Private Agricultural enterprises are prepared to expand or seek to develop new ventures;
4. Sub-project components are sufficiently viable to induce lending from intermediary financial institutions.

It is difficult to understand the reasons for including the first two assumptions given the identification and discussion of constraints in the CRDP/S-PP and the strategies stated in the CO/AG.

The S-PP identified as serious problems GCA marketing procedures and fermentation practices, and pointed out the lack of generalized wet bean purchases, as well as fermentation problems on other islands. Addressing these problems was a concern of the S-PP. This concern was carried over to the CO/AG as one of five strategies to be employed by PADP, i.e., "encourage expanded private sector involvement in processing and market development so as to increase the vitality and growth potential of the industry".

However, none of the five components specified in the S-PP and the CO/AG provided a vehicle either for addressing the marketing/fermentation problems or to implement the strategy specified in the CO/AG. It was not realistic to relegate the resolution of these critical problems to assumptions since they so heavily influence farmer response to promotion of improved production practices. This approach to dealing with processing and marketing problems severely compromised the ability of production technology improvement interventions to achieve increased production targets.

In conclusion, treating resolution of the processing/marketing constraints as assumptions was a serious design shortcoming. This shortcoming apparently was not detected during project

implementation since no steps were taken to re-adjust the focus of AID grant resources to redress the situation.

The PADF team response to the stated marketing/processing strategy was to offer training-demonstration to farmers and extension agents, and specific advice and assistance to some individual farmers, on how to improve on-farm fermentation and drying. Also, at the express request of St. Lucia, the SCOS provided assistance in designing a commercial fermentary, and Dominica also received advice on the design of a proposed commercial fermentary.

Except for some pilot examples, advisory efforts have shown no measureable results in resolving issues related to on-farm processing, nor are there any changes apparent in the availability and/or efficiency and quality of commercial processing and marketing services. In conclusion, the critical issues related to cocoa processing and marketing that existed at the time of initiation of CRDP continue to await resolution.

Based on conversations with several knowledgeable persons during final evaluation, it appears that a vertically integrated approach to processing and marketing is required. Such an approach can shift processing/marketing risks away from the farmer. This would remove a major obstacle to increased and more rapid adoption by farmers of improved technologies to increase output and improve productivity of cocoa, and to reduce their unit costs of production.

The third and fourth assumptions referred to above (willingness of farmers and investors to invest and willingness/ability to obtain credit for expanding cocoa production/productivity) similarly attempt to resolve serious problems by assuming them away.

The Mid-term Evaluation found that most of the original target group of Grenada farmers (the 530 largest cocoa farmers) are not willing to make significant equity investments in rehabilitation, replanting, new planting or intensified technology and management(see pp. 6-7 and p. 20). It appears that this finding should have been possible at the time of project design by analyzing the characteristics of these large farmers.

Neither the original project design nor the Mid-term Evaluation discussion of investment and credit constraints properly identify the nature of the problem. Thus, proposed solutions are of doubtful value. The Log-Frame assumed that these constraints would resolve themselves, thereby exonerating the project from responsibility. The Mid-term Evaluation provides conventional insights into the nature of the problem

i.e., commercial credit is not available to farmers, interest rates are too high and collateral requirements are too stringent (pp.22-24). The reality is otherwise. Banks in the Windward Islands have had relatively high liquidity for the past five years. If financial and economic analyses of cocoa profitability are reasonably accurate, it follows that farmers should be willing to borrow and banks should be willing to lend to finance cocoa investments.

While it may be true that some large farmers and many smaller farmers lack collateral, the core problem is: Risks involved with cocoa credit are too high. Cocoa farmers and bankers not only perceive and discount the level of potential income for production and climatic risks, they also perceive high marketing and price risks. These perceptions, although possibly overdrawn, have considerable merit.

Because of the perceived and real cocoa risk structure, farmers are unwilling to commit themselves to a credit repayment schedule that cannot be met if perceived risks become a reality. For similar reasons, bankers are not willing to rely on cocoa returns or other farm income to amortize a loan for cocoa production.

Thus, both farmers and bankers discount heavily for these risks. Farmers and bankers both also discount heavily for time. In other words, the longer they must wait to realize a return on their investment (or loan), the more heavily they discount potential income. Cocoa must wait three (rehabilitation) to six (new plantings) years to realize positive net returns.

Assuming that the available economic information on cocoa production costs and returns is reasonably accurate, the ability to attract needed investment resources requires a credit scheme that can neutralize heavy farmer/banker discounting for risks. A Senior Vice-President of Bank of America proposes the following scheme: an interested investor (e.g., a bank or marketing/processing enterprise interested in obtaining increased supplies of raw materials) would cover the cost of initial plantation establishment, possibly including a "living cost" share of labor input in the case of small farmers. When harvesting starts, the farmer begins to amortize the investment (including a return on that investment) through a check-off system from harvest income.

In the EC context, such a scheme could operate through a commercial processing/marketing organization, which would borrow required funds, providing future marketing contracts as collateral, and, in effect, becoming the farmers' investment partner. Such a scheme may require insurance against major insurable risks (e.g., climatic disasters) in order to shift

such risks to a broader level. Addressing the issue of credit/investment in cocoa plantations requires consideration of this type of option to shift and/or reduce overall levels of risk.

The Mid-term Evaluation discusses two implied assumptions not expressly stated by project designers. These are: 1) existing extension services have the capacity to fulfill their assigned role in cocoa production improvement, including an existing capacity to assume the additional role of supervising C-D plots, and 2) costs of production inputs will not increase. The Mid-Term Evaluator found that these assumptions were not valid and that the ability of the Project to achieve its objectives thereby was compromised. That finding remains valid.

Another implied assumption from the design has created considerable uncertainty in the Project: The design team stated that hybrid seedlings should become the major source of plant material for propagation. They also concluded that Grenada had been placing too much emphasis on the genetic factor (p.36 of Annex J) and that on the other islands, there is no good reason why the dominant propagation technique should not be seedlings (p.37, Annex J).

The design team did concede that there should be more examination of the matter. However, a number of arguments were made to support the case for superiority of hybrid seedlings. Many of these arguments do not appear to be entirely relevant or accurate:

1. Over-fermentation can destroy high flavor characteristics; therefore high flavor is the result of the manner of fermentation. During this evaluation, knowledgeable persons consulted consistently maintained that a number of factors contribute to high flavor, including plant propagation material and growing conditions, and that the manner of processing can enhance or detract from high-flavor potential,
2. Clonal rooted cuttings cost ten times more than seedlings. (However, a 1990 cost comparison from Jamaica indicates that rooted cuttings cost about three times that of seedlings. These estimates do not consider a number of other plant material variables that affect establishment costs).
3. Hybrids are higher yielding. (Again, knowledgeable persons contacted by the evaluator questioned this as a general conclusion for the sub-region).

The rooted cuttings/seedlings controversy continues. CRDP and in-country experiences during the LOP cast considerable doubt on the design team assumption that hybrid seedlings are the superior propagation method for the sub-region. The issue becomes even more complex if one adds a third propagation method preferred in St. Lucia: clonal budding or grafting.

A final observation is in order: It seems to be generally recognized that the "high-flavour" characteristic comes from a combination of, 1) the genetic material native to the region, 2) the caribbean production environment, 3) proper fermentation, and 4) proper drying (perhaps including use of sun drying). Because competitiveness by participating countries in the cocoa market depends on the premium priced "high-flavor niche", any probable genetic material contribution to that "high flavor" should be protected. Thus, any doubts should be resolved in favor of the most reliable "high-flavor" plant propagation material.

D. PLANNED APPROACH AND STRATEGIES.

Approach and strategies are specified in the CO/AG, as PADF "responsibilities", "means" and "strategies".

1. RESPONSIBILITIES -

- a. Accelerate the transfer of improved propagation, management, processing and marketing technologies to key growers,
- b. Promote private sector involvement in production, processing and marketing of cocoa, and
- c. Seek joint venture investors to use advanced cocoa production technology.

2. MEANS -

- a. Introduce superior (hybrid) growing stock,
- b. Apply improved establishment and management production technology,
- c. Apply improved post-harvest handling and processing technology, and,
- d. Adopt improved marketing methods.

3. STRATEGIES -

- a. Concentrate early outreach on a few large growers,

- b. Establish viability of recommended practices through on-farm demonstration plots,
- c. Emphasize staff training for technology transfer and outreach organizations,
- d. Explore economic and financial feasibility of applying "hybrid" technology and encourage a shift, if appropriate, and
- e. Encourage expanded development of private sector processing and marketing.

Earlier discussion pointed out weaknesses or confusion in the original design in terms of :

- 1. Recommended propagation materials, i.e., hybrid seedlings,
- 2. Targeting large farmers as key growers,
- 3. Promotion of on-farm processing, and
- 4. Establishing joint ventures in cocoa production.

These design weaknesses/confusions have impacted negatively on two of the specified RESPONSIBILITIES (a,b), three of the MEANS (a,c,d), and three of the STRATEGIES (a,d,e). In their efforts to be responsive to assigned RESPONSIBILITIES, MEANS and STRATEGIES directives of the CO/AG, the PADF team encountered considerable host country resistance:

- 1. St. Vincent refused to sign an MOU and was dropped from the Project;
- 2. Dominica delayed signing an MOU for one year, and
- 3. progress in many areas of effort have been disappointing both in Grenada and St.Lucia.

This suggests that perhaps insufficient attention was accorded to a guideline statement in the CO/AG, Program Description: "particular attention will be paid to special and unique social, technical and economic conditions in each country, so that implementation activities will be CLOSELY FITTED TO LOCAL NEEDS AND INTERESTS <emphasis added> while at the same time responsive to the program purpose" (p.1 of Attachment 2).

E. PROJECT IMPLEMENTATION AND FUNDING ARRANGEMENTS.

All Project resources were granted under the CO/AG to PADF. Field implementation has been managed through a PADF field office in Grenada, with express responsibilities for providing management support, outreach and coordination services for all participating countries.

Backstopping responsibilities of PADF headquarters in Washington D.C., included: 1) procurement, 2) accounting, financial control and reporting, 3) guidance and direction to field staff, and 4) liaison with AID and other interested organizations.

In the CO/AG, as is normal practice for these types of grants, AID expressly specified its intention to exercise substantial involvement in implementation of the Project. This was justified because of administrative complexity of the program and the extreme importance to successful implementation of coordination with a number of organizations and persons in the participating countries, as well as the need to maintain contacts with regional centers of cocoa expertise. The CO/AG expressly called for documentation of RDO/C-PADF understandings related to program direction and management through periodic Memoranda of Conversation (MOC). Apparently, this was handled as a part of routine correspondence between RDO/C and PADF.

Working relationships and program responsibilities between PADF and participating countries were formalized through Memoranda of Understanding (MOU's). As indicated in the BACKGROUND section, MOU's were agreed to between PADF and three participating countries: Grenada, St. Lucia and Dominica. St. Vincent declined to sign an MOU. Under the MOU's, PADF established formal working relationships with: 1) the Grenada Cocoa Rehabilitation Project (CRP) Board (later to become the Technical Division of the GCA), 2) the St. Lucia Agriculturalists' Association (SLAA) and the Ministry of Agriculture (MOA) of St. Lucia, and 3) the National Development Foundation of Dominica (NDFD) and the Ministry of Agriculture (MOA) of Dominica.

PADF also was charged with arranging the following agreements and/or working relationships:

1. With HFC to provide technical expertise and training programs. The resulting Letter of Agreement is summarized in the BACKGROUND section.

2. Cocoa Research Institute, University of West Indies (CRI/UWI). Informal relationships were established. Access to technical experts from CRI/UWI has been through a contract with CIDA-CRP.

3. With farmers for establishing C-D plots. In practice, although PADF approved farmers selected, agreements were signed by the farmer, the relevant extension officer and his supervisor. More than eighty C-D agreements were signed.

4. Other informal relationships as appropriate. These have included the Grenada Cocoa Association (GCA), the Sunshine Harvest Cooperative of St. Lucia, Unionvale Estate (the WFC cocoa estate in St. Lucia), and a number of individual farmers and extension personnel. A listing by long-term advisors of their counterparts is provided in Table E-8. This listing reflects the locus and heavy emphasis of the Project in Grenada.

CRDP LOP funding was for US\$2.973 million. The original breakdown of funding compared to final projected expenditures is provided in Table E-6. During LOP, person-months of long term technical advisors were increased by 17%. PADF Headquarters and field personnel and support costs are expected to be 14% less than originally programmed, while participating countries' costs are projected to be 48% less. Although a precise allocation is difficult, on the basis of the information in project files, it appears that over 80% of LOP project expenditures will be for PADF Headquarters and field personnel and associated logistical support costs. Only 17% of total grant funds will have gone directly into participating country program costs.

F. APPROPRIATENESS OF PROJECT COMPONENTS

Implementation activities were carried out for four Project components:

1. Key Farmer Contract-Demonstration (C-D) plots establishment,
2. Research-Demonstration (R-D) field establishment,
3. Joint Ventures (J-V) establishment, and,
4. Extension Materials Preparation and Field Agent/Farmer Training activities.

A fifth component, Model Farms, was included in the CO/AG but was eliminated by mutual agreement between RDO/C and PADF during the first year of implementation.

The CO/AG description of each of the components is included as Appendix G. The predominant design focus on Grenada is apparent in that the detailed description of the components are under a heading called "The Grenada Program". Action plans for other islands were to be finalized in accord with the PADF technical proposal submitted in response to the RFGA. Neither the PADF technical proposal nor country development/action plans were found in USAID Project files.

All four active components of CRDP implementation are oriented to production expansion and productivity improvement activities. Original focus on large "key farmers" was changed by mutual agreement towards small/medium farmers. This evaluation confirms the Mid-Term Evaluator's findings of the appropriateness of production technologies promoted and of the change in beneficiary focus.

As discussed earlier, the last of five strategies specified in the CO/AG was to encourage expanded private sector involvement in processing and market development. None of the activities identified in the CO/AG were oriented toward processing/market development, despite findings of the PP design team that a number of weaknesses were detected in the processing and marketing systems.

Additionally, at least in St. Lucia and Dominica, the lack of a market for wet beans which results in a lack of quality control because of on-farm fermenting and drying (and, in Dominica, lack of a marketing channel for dry beans to allow all farmers access to the WFC market) clearly have been and still are serious limitations to improvement of the industry. Furthermore, in Grenada a number of shortcomings continue to exist in the GCA fermentary/drying facilities and processes.

The language of the MOU's provided somewhat more emphasis on "processing and marketing efficiency" than that of the CO/AG. Nevertheless, no subsequent PADF program changes were made to accommodate this added emphasis, except to specify that training would be provided to extension staff and farmers in "post-harvest handling, fermentation, handling, shipping and marketing". In the case of Dominica and St. Lucia, PADF also was to develop agreements with appropriate organizations to provide expertise in processing/marketing, as one of a number of technology subjects.

Given that the expertise of the SCOS is in cocoa processing technology, he has provided considerable on-the-job and short course training to extension agents and farmers for on-farm fermentation and solar drying. He also has advised 1) the GCA on up-grading and improving the design of their commercial fermentary operation, and, 2) St. Lucia and Dominica on the design of proposed commercial fermentaries.

The SCOS had major responsibilities for implementation of the C-D and R-D components, leaving only limited time to dedicate to advising on improved processing technology. Nevertheless, he did design small capacity boxes for fermenting and a solar dryer. Apparently no short-term consultancies were provided under CRDP to assist in institutional strengthening aspects either of the production or of the processing/marketing subsystems.

Given the lack of any explicit re-orientation of components to shift resources to address processing, marketing and/or institutional constraints, little demonstrable progress was made in these areas. This likely has discouraged farmers from responding as rapidly as might otherwise have been possible to production technology promotion efforts, because of the continued existence of post-harvest risks.

In conclusion, the four active Project components were appropriate within the restricted emphasis of CRDP on production technology. However, processing, marketing and institutional problems identified by the original design team (and which continued to exist throughout the LOP) should have resulted in relatively more emphasis on their resolution, especially those related to organizational, institutional and management weaknesses. A greater use of short-term consultants in this problem area would have been appropriate and could have had a high pay-off.

G. INPUTS AND OUTPUTS-PLANNED AND ACHIEVED.

Planned Project inputs were specified to be: 1) US\$2,973,000 to finance the cost of implementation of Project components, 2) CIDA support to the GCA (in the amount of \$6.9 million), and 3) owners equity.

Distribution of AID funding as planned and realized (projected EOP) is as follows:

Item	Planned (US\$000's)	Achieved (EOP PROJECTIONS) (US\$000's)
1. PADF personnel and indirect costs.	2,023.2	1,716.0
2. Commodities and equipment.	79.8	75.0
3. Participating country demonstration, training & outreach.	665.0	395.0
4. Other direct costs.	205.0	131.0
5. T O T A L S	2,973.0	2,317.0

CIDA continued its programmed assistance through 1989. A follow-on five year CIDA-funded CRP Phase II Project for CDN\$7.0 million (grant plus counterpart) was approved and began implementation in 1990.

"Owners equity" input was quantified by the Log-Frame at \$500,000 from private investors and \$100,000 from groups/coops. It is not possible to determine whether these planned amounts were achieved, since no system was put in place to obtain the necessary data. Given the failure to achieve any joint ventures, and the less than anticipated production increases, it is likely that owners equity fell considerably short of planned amounts.

The magnitude of the primary LOP output specified (a 30% increase in Grenada cocoa production) was unrealistic in terms of what the Project could reasonably be expected to achieve or even influence. The call for such a rapid increase in output obviously did not consider the time-lag between production interventions and full harvest output. Failure to achieve this output should not be a criterion for measuring CRDP achievements.

Other planned and achieved outputs were:

Output -----	Planned -----	Achieved -----
1. Acres of C-D plots established.	200	210
2. Joint ventures using hybrid production technology.	2	0
3. Establishment of Research-demonstration field to determine flavor/quality and optimum clonal/ hybrid mix	1	1

In addition to planned outputs specified by the S-PP, the respective MOU's included planned LOP outputs as follows:

COUNTRY	TARGETED PRODUCTION INCREASE (ANNUAL LBS. OF DRY BEANS)	TARGETED TO BE REHABILITATED/ PLANTED/RE- PLANTED (ACRES)	ACHIEVED (C-D PLOTS PLUS FARMER INITIATIVE) (ACRES)
GRENADA	30%	3,340 (hybrid seedlings and/or clones)	1,460 (rehab/ replant. 210 (new planting)
ST. LUCIA	yields of 1,000 lbs. dry/acre	300 (rehab./ replant) 300 (new planting using hybrid seedlings).	474 (rehab/ replant.) 510 (new planting)
DOMINICA	with potential to increase to 1,000 lbs. dry/acre	200 (rehab./ replant) 100 (new planting)	65 (rehab./ replant.) 60 (new planting)

Since no monitoring system was established to collect objective data, the achievements indicated above are based on estimates made by PADF long term advisors.

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A third set of targets specified by the PADF advisors in response to a request from the evaluator shows higher targets than those included in the MOU's for St. Lucia, and lower for Grenada and Dominica. Total targets are higher for the MOU's. A comparison is provided below:

TYPE OF PRODUCTION ACTION BY COUNTRY	MOU TARGETS (ACRES)	TARGETS REPORTED BY PADF ADVISORS (ACRES)
A. GRENADA		
1.Rehab/replant.	(not disaggregated)	1,460
2.New planting	" "	210
3.Sub-total	3,340	1,670
B. ST LUCIA		
1.Rehab/replant.	300	474
2.New planting	300	510
3.Sub-total	600	984
C. DOMINICA		
1.Rehab/replant	200	65
2.New planting	100	60
3.Sub-total	300	125
D. GRAND TOTAL	4,240	2,779

H. COUNTRY REVIEWS OF PROJECT ACTIVITIES AND ACHIEVEMENTS

Cocoa is a major crop in Grenada, significant in St. Lucia and minor in Dominica. However, cocoa has the potential of being a major diversified crop in all three participating countries. Actual and potential size indicators of the cocoa industry, as proposed by Ministries of Agriculture in each country are as follows:

COUNTRY (Actual/potential) (10 years)	FARMERS (No.)	TOTAL ESTIM- ATED ACRES	TOTAL HAR- VESTED ACRES	YIELDS LBS/AC. DRY BEANS	MARKETED PRODUCT. LBS (000's) DRY BEANS
A. GRENADA					
1. Actual	6,100	8,000	8,000	383	3,066.0
2. Potential (10 years)	8,000	10,000	10,000	600	6,000.0
B. ST. LUCIA					
1. Actual	500	2,300	313	300	94.0
2. Potential (10 years)	2,000	6,000	4,000	800	3,200.0
C. DOMINICA					
1. Actual	1,200	400	33	150	5.0
2. Potential (10 years)	2,000	2,000	2,000	500	1,000.0
D. TOTAL					
1. Actual	7,800	10,700	8,346	379	3,165.0
2. Potential (10 years)	12,000	18,000	16,000	638	10,200.0

Cocoa often is intercropped with other crops on all three islands. Available economic analysis indicated that at current "high flavor" prices, cocoa is profitable and is quite competitive with returns from other crops either as pure stands or intercropped. Thus, if the cocoa risk environment is similar to other crops, farmers can be expected to respond to improved cocoa production technology.

CRDP design was oriented toward improved production technology promotion within the narrow context described above. Activities and accomplishments in promoting improved production technology under CRDP are described below for each participating country.

1. GRENADA

By caribbean standards, Grenada is a major cocoa producer. It produces nearly 97% of the total for all three participating countries. Based on share of sub-regional production CRDP reasonably focussed the majority of effort on Grenada.

Planned activities in Grenada included all four components: Joint ventures, C-D plots, the R-D field and Extension/Field Agent Training. Tables E-2 through E-5 provide quantified information on CRDP resource use and accomplishments. As can be seen from these tables, 60% of the planned C-D plot acreage was established. The R-D field was established and shows promise for generating relevant research results. Additionally, as the result of incentives provided through CIDA-CRP and CRDP, another estimated 1,600 acres of cocoa have been planted or rehabilitated during LOP. No joint ventures were established, for reasons already discussed.

Table E-3 provides an impressive listing of extension materials prepared and distributed in Grenada. Table E-5 lists training events and numbers of staff and farmers trained. Note that about 80% of extension materials and training provided under CRDP benefitted Grenada.

Except for inability to establish joint ventures and modest shortfalls in C-D plots establishment, CRDP achieved planned targets in Grenada.

2. ST. LUCIA

Planned activities for St. Lucia relate to two components: C-D plots and Extension-Training. St. Lucia is the "star country" in terms of performance under CRDP. Despite getting off to a rocky start because of personnel problems related to host government project management leadership, St. Lucia achieved 80% of planned acreages of C-D plots and participated proportionately in both off-shore and in-country training.

What is especially impressive is that through counterpart funding, St. Lucia assisted farmers to plant and re-habilitate nearly 1,000 acres of cocoa in three years. This represents a 50% increase in total cocoa acreage.

Even more encouraging is the dynamism and forward planning being demonstrated by St. Lucia. The Ministry of Agriculture has developed an ambitious plan to increase cocoa stands by 4,000 acres in 10 years, while more than doubling yields.

3. DOMINICA

Dominica has participated in the C-D and Extension/Training components. From the beginning of CRDP, Dominica perceived the lack of processing facilities and market access as major deterrents to rapid farmer acceptance of improved technology, and sought special support in these areas. This resulted in a delay of one year in signing an MOU. Despite this delay, Dominica accomplished two-thirds of planned C-D plot acreages, participated significantly in reception of extension materials, and received both off-shore and in-country training.

Currently, Dominica is resolving processing and marketing constraints through their own initiative. In anticipation of this, an ambitious five year plan has been developed to plant 600 acres of cocoa, renovate most existing stands, and increase average yields from 150 lbs. dry/acre to 400 lbs.

In conclusion, CRDP achieved substantial intermediate outputs for three of four components, through C-D plot establishment, extension materials preparation and distribution, and numbers of farmers and extension staff trained.

Perhaps the greatest accomplishment of CRDP is the influence it has had in raising consciousness levels and interest in the cocoa industry of host government officials, grower groups, the business community and farmers. The cocoa industry no longer is looked on as a dying industry in the participating countries. On the contrary, one notes considerable optimism and an attitude that an expanding cocoa industry is important to economic welfare.

I. PADF CONTRIBUTIONS TO PROJECT OUTPUTS

Because of the manner in which CRDP was structured and the allocation of all AID grant funding to PADF, realization of specified AID-funded inputs and intermediate and final outputs was the direct responsibility of PADF. Thus, extension publications were prepared and distributed by PADF field staff, including management of inputs provided by others (e.g., the peace corps volunteer who served as "Communications Officer". PADF field staff organized and managed most training events. The R-D field site was selected, designed and established under direct management of PADF field staff. The acceptable record of C-D plot establishment was achieved because PADF field staff developed contract formats, supervised the farmer selection process, and personally monitored many of the plots during and after establishment.

In conclusion, there is no doubt but what PADF field staff worked hard and made every effort to meet output targets.

Success in substantially achieving intermediate output targets for the three successfully implemented components (C-D plots, R-D field establishment, and extension/training) is the direct product of PADF field staff effort.

Without detracting from the real achievements of PADF, it is important to recognize that these accomplishments are not likely to make significant contributions to cocoa industry development either in terms of output expansion or productivity unless continuing external support focusses on critical problems related to processing and marketing, as well as institutional-strengthening in technology transfer.

People have received training, extension materials have been published and distributed, C-D plots have been established and an R-D field is in place. The development question is: As the result of these efforts, is the cocoa industry more dynamic and more viable? Are the institutions that operate within the cocoa production, processing and marketing (PPM) system more effective, better managed and more efficient? In other words, have more productive ways of producing, processing and marketing cocoa been internalized into the institutional and production structure of these countries?

CRDP has generated some physical assets which might be exploited usefully in the future. But has the PPM system, the institutions that operate it, the linkages among the parts and the way things are done changed significantly because of CRDP? Or rather, has AID provided financing for "construction" of assets and materials to be used in technology transfer, brought in a contractor to do the construction, and left the job of effectively utilizing and maintaining these assets to the recipient countries?

Initial design weaknesses are largely responsible for these shortcomings. But the question remains: why did CRDP continue to accept for five years these initial design shortcomings?

Cocoa now is on the national agenda of the countries that have participated in CRDP. CRDP played a role in achieving this, as did CIDA-CRP in Grenada, the WFC premium price and market agreement, the WFC farm in St. Lucia, dedicated technicians in the participating countries, etc.

J. LESSONS LEARNED

1. Project Design Implications.

a. This Project amply demonstrates the pitfalls of funding a production improvement project that limits the scope of interventions to technology generation and transfer activities within the production sub-system. The context of and constraints in the overall PPM system, as well as the institutional framework and managerial capabilities that make technology into a productive tool readily adopted by farmers, must be considered in design analysis and in project interventions.

b. An in-country project locus is needed for a regionally based project to be effective. Projects of regional scope with in-country activities should assure continuing in-country linkages with advisors.

c. A meeting of the minds on the type and level of country-specific substantive involvement should be sought during project design and not left to the implementation stage. A substantive collaborative relationship should be forged with all participating countries at the design stage.

2. Broad-based Design Implications.

a. Given high costs of senior long-term external technical assistance personnel, special care should be taken to maximize the utilization of local contract personnel to carry out administrative, monitoring and promotional activities. Maximum use also should be made of short-term external consultants, especially from regional cocoa producing countries, in lieu of long-term advisors in order to maintain flexibility as to timing and range of expertise that can be brought to bear, and to reduce carrying costs.

b. A key caveat should be respected in all agricultural development projects: Farmers discount heavily as an offset to perceived risks. They will not adopt output and productivity enhancing technologies unless a ready market at profitable prices is clearly perceived. That market and those prices must be at least as attractive as for other production alternatives. Before USAID resources are committed to promoting improved production technologies, designers should carefully examine the target farmer's perception of the market, prices and risk situation, and be assured that pending constraints of market access and price stability are being or will be satisfactorily addressed.

K. NEED FOR FURTHER ASSISTANCE AND INVESTMENT IN THE COCOA INDUSTRY

Available data and analyses strongly suggest cocoa as a potentially important alternative to bananas within the framework of Eastern Caribbean diversification efforts. However, if these countries are to be successful in achieving their ambitious output and productivity goals, considerable further external assistance is required. Grenada already is receiving substantial assistance from CIDA/CRP Phase II, possibly at the limits of their absorptive capacity. St. Lucia and Dominica on the other hand will be receiving no organized assistance in cocoa industry development once PADF terminates.

Thus, there is an obvious need for continued AID support to these countries. Needs and opportunities for cocoa industry development assistance to each of the three countries are briefly discussed below.

1. GRENADA

CIDA-CRP, Phase II is based on an extensive cocoa industry development plan. It provides major development funding through 1994 in the form of technical assistance, commodities, training and local currency support. It includes production and processing intervention.

There does not appear to be much scope nor absorptive capacity for additional external inputs. However, AID should undertake an in-depth examination of some modest complementary inputs for observational and on-the-job training support in business, financial and operations management for the GCA Technical Division and the Fermentary. The objective would be to improve operating efficiency and enhance economic viability.

2. ST. LUCIA

St. Lucia has prepared an ambitious CRDP Phase II. They expect to increase cocoa stands to 5000 acres by 1999 and be exporting 1,000 tons annually by the year 2,000. This implies substantial yield increases. Their proposal calls for investments of about EC\$1.0 million annually for 10 years.

St. Lucia probably has the installed capacity to execute planned area expansion and yield increasing activities if they can obtain adequate resources. However, external assistance is needed to strengthen institutional, management and infrastructure aspects of the processing and marketing sub-systems. Likewise, both public and private institutional strengthening in the production sub-sector is a likely candidate for external assistance. Well-designed interventions

in these areas of need may make critical contributions to assuring the success of host country initiatives in expanding production and improving productivity in the production sub-system.

3. DOMINICA

Dominica is at the starting gate in terms of cocoa industry development. They need an integrated package of assistance to support their interest and efforts in all aspects of production, processing and marketing. Any project interventions planned in technology transfer and institution-building in production, processing and marketing services should be complemented by, and integrated with, capital resources for processing/marketing infra-structure under the proposed ESF program. Again, short-term and on-the-job business, financial and operations management training and support appear to be critical areas of need for external interventions.

CRDP FINAL EVALUATION
APPENDICES

APPENDIX A

SCOPE OF WORK
FINAL EVALUATIONI. ACTIVITY TO BE EVALUATED

Project: E. C. Cocoa Rehabilitation and Development Project

Project No.: 538-0140.02

Coop. Agree. No.: 538-0140-G-00-6061

LOP Dates: 8/31/86 - 7/31/91

LOP Funding: \$2,973,000

II. EVALUATION PURPOSE AND OBJECTIVES

The accomplishments will be evaluated as measured against the project objectives as stated in Section I. 'Purpose of the Grant of the Program Description' (Attachment 2) of the Cooperative Agreement. The evaluation will consider the output targets and influencing factors identified during the course of implementation and elaborated in the mid-term evaluation report (11/89) and in the economic appraisal of cocoa production (10/90).

In addition, the evaluation will make specific recommendations regarding future assistance to the Eastern Caribbean cocoa industry.

The evaluation results will be used by the country MOA's and farmer organizations to enhance the cocoa industry and by USAID to direct future efforts to assist the cocoa industry in the most beneficial areas.

III. BACKGROUND

The RDO/C initiated the Project in 8/86 with implementation conducted by the Pan American Development Foundation (PADF) under a Cooperative Agreement. The project purpose is to increase annual export revenues from the sale of the flavor cocoa in Grenada, St. Lucia and Dominica by using international management practices. This project is part of an overall regional strategy to diversify agricultural production and increase the level of agricultural exports.

In addition to PADF, with two full time cocoa and extension experts in the field, the organizations involved in the project implementation include the MOA's in Grenada, St. Lucia and Dominica; the Grenada Cocoa Association (GCA); the St. Lucia Agriculturalist's Association (SLAA); and the National Development Foundation of Dominica (NDFD). Sunshine Harvest is a relatively new farmers' cooperative that has recently been identified to manage the cocoa fermentary planned for construction in Soufrierre, St. Lucia. Lastly, World's Finest Chocolates is involved in the marketing of the E. C.'s flavor chocolate, with five year contracts in place for all three countries at prices well above world prices.

In 1989, the mid-term evaluation was conducted which recommended a continuation of assistance to the cocoa industry for five years to benefit from the investment already made in the cocoa industry and to maintain the momentum generated to date. Other recommendations included considering a credit loan fund and closer collaboration with CIDA's cocoa activities in Grenada.

In 1990 a cocoa economic analysis was done. The findings were that the returns for cocoa were more favorable than any other comparable crop at that time (bananas included), with the exception of nutmeg. The main recommendations were to extend the project for three and one-half years and to emphasize agro-fruit tree systems approach in the demonstration plots, with cocoa as the key crop.

In conducting the evaluation, consideration should be given to assumptions in the original project design, which had an adverse impact on the project activities. These considerations, as further described in the mid-term evaluation report, include a 50% drop in world cocoa prices, lengthy reorganization and merger of the Cocoa Rehabilitation Project (CRP - a former CIDA project) with the Grenada Cocoa Association (GCA) in Grenada, the associated conflicting demands on the extension personnel of the CRP, and the relative inaccessibility of grower credit, despite high bank liquidity in all three countries.

In analyzing the options for providing further assistance to the cocoa industry, significant factors to consider include the need to solidify the RDO/C project portfolio in the face of reduced budget and personnel levels. RDO/C recognizes the potential that cocoa has for the E. C. as a foreign exchange earner, but must find the most constructive way to assist the industry without overtaxing its management capacity and within its budgetary constraints. The Office of Agriculture and Natural Resources (ANR) is looking for viable options to reduce the number of projects requiring ANR management oversight. One way to do this would be to terminate the assistance to the cocoa industry as a separate project and incorporate further assistance under the TROPRO Project implemented through the OECS Agriculture Diversification Unit. Other viable options may exist.

IV. STATEMENT OF WORK

1. The evaluator(s) will review the project activities involving cocoa research, extension, technical assistance, training and marketing in Grenada, St. Lucia and Dominica and analyze the successes and shortcomings. For Grenada, attention will be given to the CIDA Cocoa Project activities and their interface with the USAID Cocoa Project activities.
2. The evaluator(s) will evaluate the project achievements and external factors affecting farmer adoption of the promoted technologies. They will consider the roles of the extension services, availability of credit, level of farmer training required, initial investment costs, maintenance costs, economic risks and increased labor and supervision needs resulting from the new technologies, as well as external factors affecting the adoption rate of improved cocoa technologies.
3. What has been the impact and relationship of the project to the development of the cocoa industry, country by country? What empirical evidence is there that the cocoa industry is better off in Grenada, St. Lucia and Dominica because of the project activities?
4. How effective was the contract demonstration plot approach in transmitting improved cultural practices? Can any cocoa production gains realized be attributed to the use of improved cultural practices, based on the production figures since the beginning of the project and considering numerous factors both within and outside of the control of the project implementors? This examination will include hybrid versus vegetative propagation, plant population densities, shade, pruning, windbreaks, inputs, etc.
5. What mid-course corrective actions resulted from the mid-term evaluation? Is there evidence that these corrective actions have made a measurable difference?
6. How significant has the PADF technical assistance team been to the output of the Project? How has the home office support contributed or detracted from their performance?
7. What lessons have been learned through the Project experience?
8. The evaluator(s) will assess the need for further assistance and/or investments in the cocoa industry for each country, analyzing significant need areas and options for implementation.

V. METHODS AND PROCEDURES

Primary data sources will include interviews with project beneficiaries; host government officials; USAID staff; PADF field and home office staff; Hershey Foods Corporation advisors; World's Finest Chocolate Corporation executives; GCA, SLAA and NDFD personnel; CIDA staff and CIDA Cocoa Project advisors. Secondary sources of data will include project records and data.

VI. EVALUATION TEAM COMPOSITION

One or two consultants will be selected to conduct the mid-term evaluation. They should possess the following skills:

1. Familiarity with cocoa production and processing.
2. Experience with the AID evaluation process.
3. Knowledge of agricultural marketing mechanisms and markets, both in the region and internationally.
4. An understanding of the factors that influence small farmer investment decisions.

VII. REPORTING REQUIREMENTS

The final evaluation report will include the following elements.

1. Executive Summary The executive summary should not exceed three pages. It should avoid unnecessarily complicated explanations of the activity or activities evaluated or of the evaluation methodology. All critical facts and findings should be in the summary since a large proportion of readers will go no further. It should cover the following elements, in the order given below.
 - a. Purpose of the activity or activities evaluated. What constraints or opportunities does the grant activity address? What is it trying to do about the constraints? Specify the problem, then specify the solution and its relationship, if any, to overall Mission strategy. State the purpose and goal of the project.
 - b. Purpose of the evaluation and methodology used. Why was the evaluation undertaken? Briefly describe the sources and evidence used to assess effectiveness and impact.

UB

- c. Findings and conclusions. Discuss major findings and interpretations related to the questions in the Scope of Work. Note any major assumptions about the activity that proved invalid, including policy-related factors.
 - d. Principal recommendations. Cite the principal recommendations for the Project. Specify the pertinent conclusions for AID in design and management of the activity, and for approval/disapproval and fundamental changes in any follow-on activities.
 - e. Lessons Learned. This is an opportunity to give AID colleagues advice about planning and implementation strategies: how to tackle a similar development problem, key design factors, factors pertinent to management and to evaluation itself. There may be no clear lessons. Don't stretch the findings by presenting vague generalizations in an effort to suggest broadly applicable lessons. If items 1.c. and 1.d. above are succinctly covered, the reader can derive pertinent lessons. On the other hand, don't hold back clear lessons even when these may seem trite or naive. Address:
 - i. Project Design Implications. Findings/conclusions about this activity that bear on the design or management of other similar activities and their assumptions.
 - ii. Broad action implications. Elements which suggest action beyond the activity evaluated, and which need to be considered in designing similar activities in other contexts (e.g., policy requirements, factors in the country that were particularly constraining or supportive).
2. Project identification data sheet (format attached)
 3. Table of Contents
 4. Body of the Report (detail required to support the conclusions and recommendation).
 5. Appendices These will include the evaluation Scope of Work, list of documents consulted, individuals and agencies contacted, discussion of methodology or technical topics if necessary, and copies of any questionnaires used for the evaluation process.

VIII. EVALUATION STEPS/TIMETABLE

1. Review of Project files, interviews with PADF Home Office Staff and Hershey Foods advisors. (2 days)
2. Travel:
 - to Barbados for meetings/interviews with USAID staff (1 day)
 - to Grenada to conduct evaluation (5-7 days)
 - to Dominica to conduct evaluation (3-5 days)
 - to St. Lucia to conduct evaluation (3-5 days)
3. Preparation and submission of draft evaluation report to RDO/C (3-5 days). The draft report must be presented to RDO/C three working days before the consultant(s) holds a debriefing and discussion of findings at the RDO/C office.
4. Travel to Barbados to present the evaluation findings and recommendations to RDO/C. (1 day)
5. Comments and feedback on major questions and factual data from all concerned parties within 10 working days of receiving draft report.
6. Evaluation report finalized and submitted to RDO/C for distribution within one month of evaluators' departure from the region.

APPENDIX B
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APPENDIX B

BIBLIOGRAPHY

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4. CRDP/PADF Documents:
 - a) Demonstration Plot Model contract
 - b) Farmer Demonstration Plot Activity Record
 - c) Inventory Records, June, 1990
 - d) Host Country Contributions to CRDP, April 21, 1987
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5. Food Outlook, FAO, Rome, April, 1991.
6. Employment and Unemployment in the E.C., William Loehr, USAID/RDO/C, October 20, 1986.
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9. Cost of Production and Returns for Selected Dominican Crops, Raymond Austries, Ministry of Agriculture, December, 1988.
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11. World Cocoa Situation, FCB2-90, October, 1990 and FCB1-91, March 1991.
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17. Economic Appraisal of Cocoa Production - Eastern Caribbean, report prepared for USAID and PADF by Max F. Bade, October, 1990.
18. Draft 10-Year Plan for Cocoa Rehabilitation, Ministry of Agriculture, St. Lucia, 1990.
19. Draft 5-Year Plan for Cocoa Rehabilitation, Ministry of Agriculture, Dominica, 1991.
20. Grenada Cocoa Rehabilitation Project Phase II - Inception Report, prepared for CIDA by Human and Resource Development Ltd., September, 1990.
21. Annual Report and Financial Report, GCA, 1990.
22. Nursery Operations in St. Lucia, communications from Alban Cumberbatch, MOA, June, 1991.
23. Draft Cocoa Pilot Processing and Marketing Project for Dominica, MOA, October, 1990.
24. The Grenada Cocoa Farm Survey, report prepared for CIDA by Human and Resource Development Ltd., February, 1991.
25. Report to World's Finest Chocolate, Inc. on Cocoa Planting in the Windward Islands, A.F. Posnette, May, 1990.
26. Cocoa Production - Present Constraints & Priorities for Research, R.A. Lass and G.A.R. Wood, editors. World Bank Technical Paper Number 39. 1985.
27. Cocoa (4th. ed.), G.A.R. Wood and R.A. Lass. Longman Group Ltd. New York.

APPENDIX C
LIST OF PERSONS AND
ORGANIZATIONS CONTACTED

APPENDIX C

**LIST OF PERSONS CONTACTED
By Country, Organization and/or Position**

A. Pan American Development Foundation

HESS, Oleen - Chief of Party/Senior Cocoa Advisor
 LANSDALE, Phoebe - Project Officer
 LOPEZ, Alexander - Senior Cocoa Outreach Specialist, Grenada

B. St. Lucia

BLANCHARD, Francis - Regional Supervisor, Region 4
 CUMBERBATCH, Alban - Cocoa Officer
 DAISY, Andrew - Chief Extension Officer, MOA
 DEMACQUE, David - Chief Agricultural Officer, MOA
 EVANS, Bernadine - Extension Agent, Region 4
 GEORGE, Joseph - Agriculture Officer, Region 8
 GIRARD, Felix, MOA Planning Office
 HENRY, Cecil - Extension Agent, Region 2
 HYACINTH, Cleatus - Accountant, St. Lucia Agr. Assoc.
 JEANPAUL, Rufino - MOA
 LEANDRE, Rufus - Agriculture Officer, Region 8
 LISFONS, Aloysuis - Agriculture Officer, Region 8
 PEMBERTON, Albert - Agriculture Officer, Region 2
 PERINEAU, Unice - Agriculture Officer, Region 8
 RAVENEAU, R. R. - Manager/Secretary, Agriculturists' Association
 RICHARDSON, Cusmus - Permanent Secretary, MOA
 WOODING, Cecil K. - Assistant Manager, St. Lucia Agr. Assoc.

C. Dominica Contacts

DANIEL, Morrill - Farmer, Clark Hall Estate
 FERERO, Dan - Extension Agent, Sub-district #11
 GRELL, Oliver - Chief Extension Officer, Min. of Agr.
 HALL, Clark - Farmer
 HARRIS, Errol - Chief Livestock Officer, MOA
 JOHN, Barnard Mark - Project Cocoa Officer, NDFD
 JOSEPH, Maynard - Minister of Agriculture
 LAURENCE, Milton - Executive Director, NDFD
 PATRICH, Paul - Farmer
 PEMBERTON, Albert - Cocoa Contract - Demonstration Farmer
 PETERS, Albert - Farmer, Melville Hall Estate
 ROBINSON, Don - Chief Technical Officer, Min. of Agr.
 ROLLE, Pat - Owner, Hillsborough Estate
 SAMPSON, Jules - Farmer
 WILLIAMS, Eluid - Permanent Secretary, Min. of Agr.
 ZAMORE, Derek - MOA Cocoa Extension Officer (Retired)

D. Grenada Contacts

ALEXANDER, Daniel - Cocoa Resources Officer
 ANDALL, Jenifer - Chief Extension Officer for Cocoa
 BAIDGEMEN, Chillonde - Extension Agent, Moran
 BRAITHWAITE, Lennox - Extension Agent, Moran
 CHARLES, Leon - General Manager, Grenada Cocoa Association
 CHYNE, Gordon - Station Manager, Bolougne Propagation Station
 DOMNIQUE, Cyril - Chief Technical Officer, MOA
 GREEN, Esther - Farmer
 GRENADE, Lawrence - Manager, Pest & Disease Unit
 HARFORD, Basil - Permanent Secretary, MOA
 HASTICK, Andrew - Cocoa Resources Officer, Eastern District
 HONORE, Raymond - Manager, Technical Division, GCA
 JAMES, Wolme - Extension Agent, Moran
 LICORISH, Olsen - Grenada Cocoa Association, Research Officer
 MARREST, James - Manager, Fermentary
 MOLLAR, Charles - Cocoa Resources Officer, Western District
 RUSH, Raymond - Chairman, Grenada Cocoa Board
 ST. JOHN, Steven - Farmer
 TAYLOR, Morton - Maintenance Unit
 WILLIAMS, Charles - Grenada Cocoa Association Research Officer

E. Others

ARMSTRONG, Larry - Deputy Director, USAID/RDO/C
 CASHION, Jerry - Project Development Officer, USAID/RDO/C
 MERKEL, Al - Agriculture Natural Resources Officer, USAID/RDO/C
 MILLER, Tim - Agriculture Natural Resources Officer, USAID/RDO/C
 NEW, Steve - TROPRO (Chemonics Chief-of-Party)
 NIEC, Rebecca - Agriculture Natural Resources Officer, USAID/RDO/C
 STRYKER, Ron - Chief, Agr. Natural Resources Office, USAID/RDO/C
 WILLIAMS, Aaron - Director, USAID/RDO/C

CRDP FINAL EVALUATION

APPENDIX D

LOGICAL FRAMEWORK MATRIX

APPENDIX D: CRDP FINAL EVALUATION

FINAL VERSION OF
LOGICAL FRAMEWORK MATRIX *Goal/Purpose/Output/Input StatementsGOAL:

To move the cocoa industry in Grenada and the Eastern Caribbean to a new plane of productivity and sustained growth.

PURPOSE:

To increase the annual export revenues from sales of cocoa using international management practices.

OUTPUTS:

1. Increased production among key cocoa growers in four Windward islands.
2. Demonstrations of improved methods of cocoa husbandry.
3. Formation of joint ventures with foreign investors using improved cocoa technology.
4. Demonstration of feasibility of hybrid cocoa technology.
5. Improved fermentation and marketing of cocoa beans.

INPUTS:

1. AID grant to a PVO to cover technical assistance and other input costs as follows:

I. Personnel	\$1,509,000
II. Demonstration, Training & Outreach	665,000
III. Other Direct Costs	205,000
IV. Commodities/Equipment	79,800
V. Indirect Costs	<u>514,200</u>
TOTAL	\$2,973,000
2. CIDA support to the proposed Grenada Cocoa Corporation (\$6.39 million).
3. Owners equity

* Revised and approved by RDO/C and PADF on 3/17/87

OBJECTIVELY VERIFIABLE INDICATORSMEASURES OF GOAL ACHIEVEMENT:

Continued growth in annual export sales of cocoa to \$5.4 million by 1995/96.

END OF PROJECT STATUS:

Increase in annual production over five-year lop of thirty per cent (30%) over 1985/6 levels in each of four participating countries.

1985/6 Base Year Production Levels (dry beans):

Grenada	3,820,000 lbs.
St. Lucia	95,000 lbs.
Dominica	11,000 lbs.
St. Vincent	5,000 lbs.

MAGNITUDE OF OUTPUTS:

1. Increase of 30% over five years:

Year one:	1%
Year two:	2%
Year three:	4%
Year four:	6%
Year five:	<u>17%</u>
LOP Total	30%
2. Minimum of 200 acres under contract demonstration by mid-LOP (1988), with over half located on farms with 15 or more acres in cocoa.
3. Promotion of at least two joint ventures on large cocoa farms utilizing hybrid technology.
4. Research demonstrations to determine what level clonal/hybrid bean mixes substantially affects flavor/quality (one each of clonal/hybrid).

INPUTS

	(in millions of US\$)				
	Yr 1	2	3	4	5
1. USAID/RDO/C grant funds	1.096	0.709	0.556	0.436	0.203
2. CIDA annual support of about \$1.25 million annually over a five year period.					
3. Investors contribution: about \$500,000 from private investors and \$100,000 from groups and cooperatives.					

MEANS OF VERIFICATIONGOAL:

National statistics, sales records of grower associations.

PURPOSE:

National statistics and end of project evaluation.

OUTPUTS:

Records kept by RDO/C, the PVO, subcontractors and assisted grower associations.

INPUTS:

Records kept by RDO/C, the PVO, and assisted ventures and project evaluation.

IMPORTANT ASSUMPTIONSGOAL:

1. Business investment climate in the Eastern Caribbean remains stable.
2. Absence of major weather disturbances.

PURPOSE:

1. Private agricultural enterprises are prepared to expand or seek to develop new ventures.
2. Government take necessary structural adjustment measures.
3. Absence of major climatic disturbances.
4. The GCA/GCC improves its marketing strategy and procedures.
5. No major decline in cocoa prices.

OUTPUTS:

1. Implementation targets are met.
2. The CIDA-sponsored restructuring effort is effectively implemented.
3. GCA delivers adequate amounts of fertilizer and other inputs to farmers in timely fashion.
4. CRP extension service effectively implements contract demonstration concept.
5. Adequate number of farmers participate in contract demo program.
6. Contract demonstration program has island-wide demonstration effect.

INPUTS:

1. AID funds for the project are available as projected.
2. CIDA monies are available.
3. The subproject components are sufficiently viable to induce lending from intermediary financial institutions.
4. Private enterprises prepared to invest, expand or establish agricultural production activities.

MILESTONE SCHEDULE
PADF COCOA GRANT

	Completion Date
1. SOWs of two resident advisors.	12/86
2. Select appropriate contract demonstration sites (continuous).	12/86
3. Begin rehabilitation on these sites (continuous).	12/86
4. Request TA for regional germ plasm survey.	12/86
5. Select promising varieties for seed gardens.	12/86
6. Draft regional materials movement protocol.	07/87
7. Select research demonstration site.	12/86
8. Design research trials, interpretation and evaluation procedures.	12/86
9. Complete short-term strategy for seeking joint agreement on types and desired characteristics.	12/86
10. Seek joint agreement on detailed farmer recommendations.	12/86
11. Develop an applied training program for field staff.	12/86
12. Sign MOUs with:	
a) Grenada	12/86
b) St. Lucia	12.86
c) Dominica	06/87
d) St. Vincent	06/87
13. Define strategy for introduction of hybrid seedlings.	04/87
14. Complete comparative cost/benefit analysis of proposed seed gardens.	09/87
15. Begin res. demos. (and determine no. varieties of clones/hybrids).	06/87
16. Complete regional germ plasm survey.	09/87
17. Identify two large cocoa farms for joint ventures.	06/87
18. Approach potential investors for joint or other ventures.	09/87
19. Finalize detailed farmer recommendations and pub/dist. brochures.	07/87
20. Formulate and implement program to involve contract demo farmers.	02/87
21. Finalize action plans for other islands:	
a) Grenada	12/86
b) St. Lucia	03/87
c) Dominica	06/87
d) St. Vincent	09/87
22. Fifteen acres contract demos under way.	12/86
23. Thirty acres contract demos under way.	06/87
24. Fifty acres contract demos under way.	09/87
25. One hundred acres contract demos under way.	12/87
26. Two hundred acres contract demos under way.	06/88
27. 30% increase over 1985/86 production over five-year LOP:	
Year one:	1% 10/87
Year two:	2% 10/88
Year three:	4% 10/89
Year four:	6% 10/90
Year five:	17% 10/91
LOP Total	30%

CRDP FINAL EVALUATION

**APPENDIX E: DATA TABLES
AND MATRICES**

Appendix E: CRDP Final Evaluation

TABLE E-1

Comparison of "Flavored" and "Bulk"
Cocoa price trends, selected markets, 1963-1990
(price per pound of beans)

Years	"Flavor" Price to Producer (EC\$/lb)	Exchange Rate (EC\$=US\$1.00)	"Flavor" Price to SLAA* (US\$/lb)	"Bulk" U.S. Unit Import (US\$/lb)	Spread for "Flavor"		"Bulk" U.K. Unit Export Value (CIF) (US\$/lb)	Spread for "Flavor"	
					(US\$/lb)	%		(US\$/lb)	%
1990	2.75	2.70	1.07	0.59	0.48	81	0.68	0.39	57
1989	2.73	2.70	1.06	0.66	0.40	61	0.72	0.34	47
1988	2.89	2.70	1.12	0.75	0.37	49	0.92	0.20	22
1987	2.86	2.70	1.11	0.86	0.25	29	1.05	0.06	6
1986	2.87	2.70	1.12	0.93	0.19	20	1.11	0.01	1
1985	2.87	2.70	1.12	0.94	0.18	19	1.12	0.00	0
1984	2.86	2.70	1.11	0.96	0.15	16	1.01	0.10	10
1983	2.74	2.70	1.06	0.77	0.29	38	0.81	0.25	31
1982	1.83	2.70	0.71	0.74	(-.03)	-	0.85	(-.14)	-
1981	2.79	2.70	1.09	0.85	0.24	28	0.95	0.14	15
1980	3.75	2.70	1.46	1.19	0.27	23	1.42	0.04	3
1979	4.18	2.70	1.63	1.50	0.13	9	1.71	(-.08)	-
1978	3.73	2.70	1.45	1.46	(-.01)	-	1.66	(-.21)	-
1977	4.08	2.70	1.59	1.26	0.33	26	1.40	0.19	14
1976	1.70	2.70	0.66	0.68	(-.02)	-	0.70	(-.04)	-
1975	1.36	2.37	0.60	0.62	(-.02)	-	0.68	(-.08)	-
1974	1.34	2.04	0.69	0.64	0.05	8	0.67	0.02	3
1973	0.68	2.07	0.35	0.38	(-.03)	-	0.44	(-.09)	-
1972	0.49	2.04	0.25	0.24	0.01	4	0.27	(-.02)	-
1971	0.54	1.88	0.30	0.26	0.04	15	0.30	0.00	0
1970	0.61	2.01	0.32	0.32	0.00	0	0.37	(-.05)	-
1969	0.69	2.00	0.36	0.34	0.02	6	0.35	0.01	3
1968	0.48	2.01	0.25	0.27	(-.02)	-	0.26	(-.01)	-
1967	0.43	2.00	0.23	0.23	0.00	0	0.25	(-.02)	-
1966	0.38	1.72	0.23	0.17	0.06	35	0.18	(-.01)	-
1965	0.24	1.71	0.15	0.15	0.00	0	0.19	(-.04)	-
1964	0.40	1.72	0.24	0.21	0.03	14	0.24	0.00	0
1963	0.45	1.72	0.28	0.21	0.07	33	0.22	0.06	0.27

* SLAA: St. Lucia Agriculturist Association, the Marketing enterprise for St. Lucia export cocoa.

Sources: "Flavored" prices are based on records of SLAA prices paid to producers, with a 5% commission added for price to SLAA. Exchange rates for EC\$ and pound sterling conversions to US\$ are from IMF International Financial Statistics Yearbook for 1989. Other prices are from "Gill & Puffus Cocoa Market Report", No. 339, January, 1991 (E.D. & F. Man Cocoa, Ltd.)

Appendix E - EC-CRDP Final Evaluation

TABLE E-2
Life-of- Project Impact, Acres of Cocoa Influenced

Country & Year	Establishment of Contract-Demonstration Plots				Establishment of Stands Thru Farmer Initiative			
	New Planting		Rehabilitation		New Planting		Rehabilitation	
	Target	Achieve	Target	Achieve	Target	Achieve	Target	Achieve
A. Grenada								
1986	1	1	5	4	-	-	-	-
1987	4	4.05	16	7.5	60	45.6	100	55
1988	10	7.15	20	11.5	60	50	200	121
1989	5	2.55	39	22.25	60	50	600	542
1990	-	-	-	-	60	50	800	692.4
as of 5/91	-	-	-	-	60	-	300	-
TOTAL	20	14.75	80	45.25	300	195.6	2000	1414.4
B. St. Lucia								
1987	8	5	5	2.5	50	43	50	0
1988	16	5.0	9	2.0	175	124	200	94
1989	16	10.0	16	21.5	200	142	200	163
1990	10	6	7	7.	300	164.5	200	184
as of 5/91	11	11	-	-	500	n/a	-	-
TOTAL	51	37	37	33	10251	473.5	650	441
C. Dominica								
1988	15	15	20	1	-	-	-	-
1989	20	20	20	0	15	10	60	-
1990	10	5	20	25	15	10	60	25
as of 5/91	-	-	-	14	25	-	60	-
TOTAL	45	40	60	40	55	20	180	25
GRAND TOTAL	116	91.75	177	118.25	1380	689.1	2830	1880.4

NOTES: Total CD acreage completed: 210 acres.
 Total new plantings-farmer initiative: 689.1
 Total rehabilitation-farmer initiative: 1880.4

Source: Reported by Long-Term Advisors, May, 1991.

APPENDIX E: CRDP FINAL EVALUATION

TABLE E-3

TRAINING MATERIAL PREPARED UNDER CRDP

The following Training Material and Publications were prepared for distribution to farmers & extension staff to all Project countries and to other caribbean cocoa producing countries.

- A. ILLUSTRATED BROCHURES (8-14 pages each, 3 to 4 per year; 3-4,000 for Grenada and 500 each for ST.LUCIA and DOMINICA).

Brochure Subjects were:

1. Selecting the site for a cocoa field.
2. Field preparation for planting cocoa.
3. Planting calendar for cocoa.
4. Planting cocoa.
5. Weed control for cocoa.
6. Fertilizer & cocoa field fertility.
7. How to build fertility to increase yields & profit.
8. Shade, windbreaks.
9. Mulching for cocoa.
10. Young cocoa field maintenance.
11. Mature cocoa field maintenance.
12. Cocoa harvesting.
13. Fermentation & Drying
14. Control Black pod.
15. Control witches broom
16. Declare war on beetles.
17. Control thrips.
18. Time to tackle termites.

- B. COLORED SLIDES (produced early 1989):

Three (3) sets of 100 slides each were prepared covering the various cocoa management, production practices and pest and disease control. The technical division headquarters in Grenada, St.Lucia and Dominica received a set of slides, a slide projector with extra bulbs and ample slide trays.

- C. OVERHEAD PROJECTOR MATERIAL (produced in 1990):

The text for presentation to farmers with the place noted in the text for projecting a transparency of a picture depicting the subject or specific points to high-light during the presentation. Seven sets were prepared,

containing individual packets, and were distributed: five to Grenada, one to technical division headquarters and one to each of four districts; one each to St. Lucia and Dominica.

Packet subjects were:

1. Selecting the site for a new cocoa field.
2. Field preparation for planting.
3. Planting calendar.
4. Planting cocoa.
5. Weed control.
6. Mutching.
7. Maintenance of a young field.
8. Maintenance of a mature field.
9. Fertilizer and field fertility.
10. Pruning cocoa.
11. Drainage.
12. Shade & windbreaks.
13. Harvesting.
14. Fermenting & Drying.
15. Cocoa rehabilitation.
16. Pest & disease control.
17. Witches broom
18. Black pod.
19. The cocoa beetle
20. Termites.

D. ILLUSTRATED CALENDARS:

Were produced to remind farmers of the major management/production practices and activities for each month.

1. 1989-Management/production practices.
2. 1990-Pest and disease control.
3. 1991-Weed control.

E. EXTENSION BULLETINS & HANDOUTS:

1. Ecology of cocoa (1986)
2. Solar radiant energy/sunlight intensity and heat(1986).
3. Shade, the Leaf and Photosynthesis (1987)
4. Guidelines on Production Technology for Cocoa.
 - a. for Grenada, 49 pages (1990).
 - b. for St. Lucia & Dominica, 55 pages (1990).

5. Selecting shade and windbreak trees, 47 pages(1991). These were sent to all three islands.

F. BOOKS:

1. "Cocoa Production Technology For Extension Staff" 179 pages-1990 (300 each for St. Lucia & Dominica; 600 for Grenada).
2. "Cocoa Production Guidelines for Farmers", 173 pages-1990 (1000 each for St. Lucia & Dominica 9,000 for Grenada). Copies of both books also were sent to Jamaica, Trinidad; Costa Rica; Dominican Republic; Bolivia; Belize.

G. PAPERS:

1. "History of the Eastern Caribbean Cocoa Industry, including the Eastern Caribbean Cocoa Rehabilitation and Development Project," 250 pages (in process).

- H. VIDEOS: In process covering the same practices as overhead projection materials with each practice a separate unit in the series.

Source: Reported by PADF Long-Term Advisors, May, 1991

Appendix E: CRDP Final Evaluation

TABLE E-4
SHORT-TERM TECHNICAL ASSISTANCE CONSULTANCIES

YEAR	NAME	DESCRIPTION/PURPOSE/ACCOMPLISHMENTS	PERSON DAYS		
			Grenada	St. Lucia	Dominica
1987	H.L. Purdy	Witches broom	5		
	Robert Fulton	Weed control	5		
	L. De Vertail	Cocoa production		3	
	L. De Vertail	Cocoa marketing agreement			2
1988	Chris Stevenson	Instructors in one week seminar on cocoa	5	2	2
	Pat Scott	production technology.	5	2	2
	Derek Zamore	Farm management seminar	5	.	.
1988	Harpurdy	Plant protection protocol	6	6	6
	Robert Fulton	Weed control	5		
	Amy Gilman	Commodities	14	3	2
	Jim Hienzen	Project monitor	3		
	Basil Bartley	Germ plasm survey	14	7	7
1989	*Raymond Honore	Pruning		2	2
	*G. Taylor	Plant propagation and survey		5	5
	*Gordon Clyne	Plant propagation		2	2
	J. Hammerton	Weed control	5		
1990	Simon Willis	Plant propagation/grafting	14		
	Philipe	Pest & disease control	14		
TOTALS: 18 persons			100	32	30

* GRENADA GCA Staff

Total person/days of consulting: 162

Source: Reported by PADF Resident Advisors, May 1991

Appendix E: CRDP Final Evaluation

Table E-5(A)
TRAINING PROGRAM *

YEAR	TRAINING EVENTS Off-Shore Description	Number Trained					
		GRENADA		ST. LUCIA		DOMINICA	
		Staff	Farmer	Staff	Farmer	Staff	Farmer
1986/1987	Belize - cocoa management (5 days)	5					
	Belize - cocoa management (5 days)	4		1		1	
	Belize - cocoa management (5 days)	5				1	
	U.S.: Institutional management (4 wks)	1					
1988	U.S.: Extension management (6 wks)	1					
	Belize: cocoa management (5 days)	2		3		3	
	Belize: cocoa management (5 days)	2		3		3	
	Mexico: (1 wk)	1					
1989	U.S.: extension train/trainer (6 wks)	2					
	U.S.: marketing management (2 wks)	1					
	Observation/Management to Grenada 3 days				5		5
	3 days				10		
	2 events/3 days each						18
	3 days				7		
	3 days						10
	Belize Cocoa management (5 days)	2		2		2	
Belize Cocoa management (5 days)	2		3				
Belize Cocoa management (5 days)	3				3		
1990	Belize Cocoa management (5 days)	1		2		3	1
	Belize Cocoa management (5 days)	2		1		2	
1991	Belize Cocoa management (5 days)	1	1	3		2	
	Belize Cocoa management (5 days)	1		2		3	
TOTAL *	23 events	36	1	20	22	23	34
	Person days of off-shore training	310	5	135	57	115	84

* Total person/days of Training: 706

Source: Reported by PADF resident advisors

Appendix E: CRDP Final Evaluation

Table E-5(B)
TRAINING PROGRAM

YEAR	TRAINING EVENTS In-Country Description	GRENADA		ST. LUCIA		DOMINICA	
		Staff	Farmer	Staff	Farmer	Staff	Farmer
1987	Group farmer field days on mgmt/prod (16 events)	64	320				
	Weed control	24					
	Pest and disease	24					
	Group - shade & windbreaks			21			
	Groups - shade & wb CD planning (3 events)				28		
	CD Plot planning	21	8	1			
1988	Cocoa production/management	24					
	Weed control	24					
	Plant quarantine	24					
	Cocoa week	24	400				
	Farm management competition	20	50				
	CD plot management/progress		11	4			
	Group farmer field						
	Days/CD plots (16 events)	19	381				
	CD plots group field meetings (28 events)	21	364				
	Shade & windbreaks			4	8		
	Plant propagation			9		6	
	Field sites selection	10	15	3	8	1	
CD plot planning			7		2		
1989	Cocoa week	29	295				
	Farm management competition		48				
	Two seminars on prod. mgmt (4 days each)	14	38				
	CD Plots group field meetings (25 events)	18	325				
	Plant propagation				10		
	Fermentation - drying						6
	Field site selection			4	6		
	Pruning/field management	20	24	8	21	2	7
CD plot planning/layout			5		1		
1990	Three seminars (4 days each)	18	58				
	Farm management competition	21	56				
	Cocoa week	28	395				
	CD plots group field meetings (24 events)		365				
	Plant propagation			5	10		
	Fermentation/drying: group/individual				75		34
1991	(As of June 21, 1991)						
	Three seminars (4 days each)	21	98				
	Group field training (19 events)		285				
	Pruning & general field management					3	9
	Field site selection			2	7		
TOTAL (B)	170 events	417	3,036	73	166	15	56

Source: Reported by PADF resident advisors, June, 1991

Table E-6
Grenada Research/Demonstration Field
Establishment (Calendar of Events)

	1986	1987	1988	1989	1990	1991
1986 Survey of proposed sites - Ashenden Maran - Mt. Home		—				
1987 Survey of Ashenden		—				
Survey of alternate site - Dodbur, Miraby		—————				
Officializing the research plot with GOG authorities		———				
Work plan and duty assignment		—————				
Clearing land		———				
Planting bananas as temporary shade and permanent shade		—————				
Hand pollination of G.S. clones		—————				
Discussion with CIDA and UWI personnel	———	———	———	———	———	———
Receipt of cocoa seeds from abroad and propagation		———				
Selection and preparation of clones		—————				
Planting of cocoa			—————			
Maintenance of banana		—————	—————	—————	—————	—————
Maintenance of cocoa				—————	—————	—————
Data collection on cocoa				—————	—————	—————

The site approval was received in April 1987. Clearing of the land began on the 27th of April 1987. Banana temporary shade and permanent shade were planted from September 1987 through December 7, 1987. Cocoa was planted from July 28, 1988 through October 1988.

11,000 banana stools were planted
 6,000 cocoa plants were planted

In addition a 2 1/2 acre of Agro-forestry - (fruit tree)/cocoa plot was established between 1988 and 1990.

Source: Reported by PADF Long-term Advisors, May, 1991

Appendix E - CRDP Final Evaluation

TABLE E-7: ORIGINAL AND PROJECTED FINAL
AID/PADF Grant Budget 1/

Line Items	AID Grant Budget		
	Original US\$	Projected Final US\$	% Change
A. Field Operations	1,317.4	1,150.0	(-13)
1. Field office and long-term staff 2/ (including travel, per diem and support cost)	(1061.4)	(925.0)	(-13)
2. Short-term Consultants (fees, travel, per diem etc.)	(256.0)	(225.0)	(-13)
B. PADF Headquarters	859.6	734.0	(-15)
1. Personnel (including travel, per diem, and other direct costs)	(341.6)	(250.2)	(-27)
2. Materials handling charge	(3.8)	(3.8)	(0)
3. Indirect cost	(514.2)	(480.0)	(-7)
C. Participating Countries	758.0	395.0	(-48)
1. Transportation (vehicles & maintenance)	(88.0)	(62.5)	(-29)
2. Research and control demonstrations	(365.0)	(188.6)	(-48)
3. Training/outreach	(285.0)	(50.6)	(-82)
4. Other direct	(20.0)	(93.3)	467.0
D. Evaluations	38.0	38.0	0.0
TOTALS	2,973.0	2,317.0	(-22)
Projected Balance at end of project		656.0	-

1/ Cost distributions during LOP are currently estimated as follows:

	Percent
1) PADF Headquarters	31.7
2) PADF Field Advisors	49.6
3) Participating country costs	17.1
4) Evaluation	1.6
5) Total	<u>100.0</u>

2/ Person months (p/m) of long-term advisors was increased from 99 to 116 in year four.

Source: Documents provided by RDO/C and PADF resident advisors.

Appendix E - CRDP Final Evaluation

TABLE E-8

LOCALLY HIRED PERSONNEL^{1/}

Name	Functions	Dates From/To	Location/Institution Affiliation	Training Provided	Comments
Jim Peters	CD Plot monitor	3/87-6/89	CRP Grenada	Belize St. Lucia Grenada	1 wk each
Sandra James	Secretary	8/89-present	Office	None	30% of time
Mary Lessee	Janitor	8/89-6/90	Office	None	2 half days/wk - 50% time
Jenifer Campbell	Janitor/Messenger	6/90-present	Office	None	1/2 day daily
Claytus Hyacinth	Admin. Accounts	3/88-present	St. Lucia	None	
Mark John	Cocoa Officer	8/87-present	Dominica		8 wks. Belize/Jamaica/Grenada
Research Station	Casual	4/87-present	Research/Demonstration Field		Varied from 5 to 15 (av. of less than 10)

Source: Reported by PADF Long-Term Advisors, May, 1991

1/ Jim Peters and Mark John received constant on-the-job training during PADF technicians visits. In addition Alban Cumberbatch (not locally hired - paid by MOA St. Lucia, received similar training. PADF technicians spent 226 days (12% of total time) on St. Lucia and 194 (10% of total time) on Deminica during the life of the project.

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Appendix E - CRDP Final Evaluation

TABLE E-9

COUNTERPARTS TO LONG-TERM ADVISORS

Names	Dates	Institution	Position	Training Provided (e.g. on the job's s.t. exit., observation visit etc.)	Observation Comments
<u>A. To Dr. Hess</u>					
Jenifer Anadall	4/86-present	CRP/GCA	Chief Extension & Cocoa Officer	OJT - USA 6 wks/Belize 1wk/Cocoa farm 1wk	
Fitzroy James	4/86-8/90	CRP/GCA	Director	OJT - USA 4 weeks	
Raymond Honore	8/90-present	CRP/GCA	CRP Technical Division	OJT - Belize	
Leon Charles	7/88-present	GCA	General Manager	OJT - 1 week/USA - 1 week	
<u>B. To Dr. Lopez</u>					
J. Peters	3/87-6/89	GCA	Cocoa Officer	OJT - Belize - 1 week	
Alson Licorish	10/89-present	GCA	Research Manager	OJT - Belize - 1 week	
Charles Williams	8/86-present	GCA	Research Officer	OJT	

Source: Reported by PADF Long-Term Advisors, May, 1991

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TABLE E-10

IN-COUNTRY EXPENDITURES
By Line Item, and Country
(US\$000's)

Item	Grenada	St. Lucia	Dominica	Total
Local Services	25.2	23.2	44.7	90.7
C-D's	37.6	36.6	42.8	120.0
Research-Demonstration	68.6	-	-	68.6
Out-Reach Training	11.2	12.7	23.7	50.6
Vehicles	-	12.2	10.8	28.0
Maintenance	-	18.2	18.3	36.2
Project Equipment	0.6	0.2	1.2	2.0
TOTAL	140.0	110.0	142.0	392.0

Source: Reported by PADP Long-Term Advisors, May, 1991

CRDP FINAL EVALUATION

**APPENDIX F - DESCRIPTION OF PROJECT COMPONENTS
FROM COOPERATIVE AGREEMENT**

APPENDIX F**CRDP Final Evaluation
Description of Project Components
from Cooperative Agreement****The Grenada Program****1. Key Farmer Contract-Demonstration Component**

The Grantee outreach advisor, in cooperation with the Grenada Cocoa Association or Corporation (GCA/GCC), and with technical support of HFC and other experts, will encourage and guide the establishment of demonstration plots on the farm properties of larger producers as a means of proving the effectiveness of improved methods. He will also train agricultural extension agents so they may bring the benefits of advanced technology to farmer-producers. This individual will be counterpart to the CRP chief of extension, with whom he will supervise, coordinate and monitor demonstration activities. Appropriate demonstration sites will have been selected and their rehabilitation begun under this program within three months of arrival of long-term staff in country.

Demonstration sites will be selected for geographic diversity so as to extend the illustration of modern techniques to very large numbers of farmers. They will be of a size sufficient to generate adequate data on commercial and economic viability of various methodologies, and at the same time be representative of the areas owned and managed by large numbers of farmers. Some will respond to special, local problems and thereby provide needed flexibility in addressing four different island economies.

2. Model Farms Component

The Grantee will develop the detailed work plan for this component within three months after arrival in country of the long-term advisors. The long-term staff will arrange with the Grenada Model Farms Corporation (GMFC) management and board of directors, and with other appropriate institutions and agencies (GCA/GCC, CIDA), to discuss and plan a development program, and will prepare a detailed work plan to be incorporated into extension/outreach program. An intensive rehabilitation and replanting campaign will be launched as soon as possible after the work plan is completed.

Cocoa production and management technology training will be provided to the GMFC technical staff as well as to cocoa farmers. Where possible and feasible contract demonstration plots

will be established among contiguous groups of farmers. They will be trained, supported and assisted in the same manner as the non-GMFC farmers.

3. Research Demonstration Component

The goal of this component will be to compare the profitability of various mixes of clonal/hybrid material in stands of commercial size. Six 4-acre plots, each divided to illustrate the effects of high yield and traditional management practices (at ratios of 100/0, 80/30, 60/40, etc.), will be used to assess the effects of 20 per cent increments of hybrid material on flavor, yield, disease and pest problems, and production and harvesting costs and returns. Within three months of arrival in country, the contract team will request assistance from HFC, American Cocoa Research Institute (ACRI), Central American Tropical Research and Education Center (CATIE), Cocoa Research Unit of UWI, and other appropriate sources such as Toxopeus from Holland, to: survey the region's germ plasm resources, select promising varieties for seed gardens, draft a regional cocoa propagation material movement protocol (if feasible), and design the Ashendon hybrid/clonal mix trials and interpretation and evaluation procedures. Throughout, plans will be reviewed with CIDA advisors and other CRP or GCA/GCC personnel concerned with research and demonstration.

The CRP Research Officer will have overall operational responsibility for the research demonstration program at Ashendon and related off-station trials. The Grantee long-term outreach advisor will spend about 10 per cent of his time on the research/demonstration work. He will monitor progress and consult with the CRP Research Officer and his supervisor on technical production and outreach issues and problems.

Related to the research demonstration component is the examination of planting materials appropriate for Grenada and the other islands. Within three months of arrival in country, the Grantee resident staff will complete a short-term strategy for seeking joint agreement between concerned institutions (MOA, CRP, CIDA, CATIE, CRU/UWI, etc.) on the type and desired characteristics other than yield (e.g., pest and disease resistance) of improved planting materials which will be selected, tested and possibly utilized in Grenada and the other islands. The Grantee will then define a strategy for the introduction of hybrid seedlings especially as it relates to: a) the farmer demonstration component; and b) the Model Farm component. The strategy will identify the type and source of material to be introduced, their genetic characteristics, and the locations for initial introduction. As part of this effort, the Grantee will complete a comparative cost/benefit analysis of the proposed hybrid seed gardens, comparing financial and economic costs and benefits of

establishment, seed material, operation, maintenance, etc., to the current system of clonal propagation.

4. Joint Ventures Component

The Grantee will work with the HIAMP core contractor and RDO/C AID staff in the first year of project implementation to seek out joint financing for selected ventures. At least two cocoa farms representing up to 500 acres of cocoa-producing land should be identified as having both the potential and the willingness to enter into joint ventures. PADF's trustee and other representatives of the corporate world, as well as OPIC, Ex-Im Bank, promoters of the CBI, and other sources providing support capabilities will be approached to locate American and other capital. It is expected that firm commitment can be made during the second half of project implementation, and that the concept can be explored on islands other than Grenada.

5. Extension and Field Agent Training Component

The immediate target will be to provide to CRP extension personnel the minimum basic skills training and experience needed to apply a comprehensive system of technology transfer in Grenada.

Within three months of award of grant, Grantee will seek general joint agreement among local and international cocoa experts, including locally available West Indian experts, on detailed farmer recommendations (described in general terms in Annex J of the HIAMP Project Paper) for application in Grenada. These recommendations will be finalized, and will be published in the form of brief, succinct brochures with graphics (such as those recently developed by IRRI on rice) for use by the average cocoa farmer in Grenada, as well as mass media approaches such as videos, radio spots, slide shows, etc. Longer extension bulletins of a more academic nature, subscriptions to journals, research reports, book, etc., will be utilized to supplement staff expertise.

The Grantee will conduct, in conjunction with HFC, CATIE and CRU/UWI, and other appropriate external organizations, in-country cocoa production and management skills training sessions of up to five days duration for CRP extension personnel and selected farmers.

These and other appropriate sources and methods for upgrading the field agents in cocoa production and management skills and knowledge, and in technology transfer techniques, will be explored and utilized. This is not intended to imply that extension agent training will be the central focus of the program.

The general approach will be for the long-term advisors to serve as catalysts for technology improvement and transfer.

With three months of arrival at post, the Grantee staff, with assistance from other sources, will develop for the field staffs an applied training program which will teach minimum basic skills in cocoa husbandry, plant protection and integrated pest management, and post-harvest handling, based upon the farmer recommendations mentioned above. Groups of farmers will be periodically organized to attend training sessions and on-farm demonstrations. Contacts with individual farmers will be continued to the extent possible, especially with farmers participating in the contract demonstration program, farmers indicating interest in technology change, and farmers requesting assistance with problems. State-of-the-Art extension techniques, such as mass media, videotapes and illustrated manuals will be utilized. Similar initiatives will be developed by the Grantee on the other three islands. The Grantee will also formulate a brief plan and implement a program which will explicitly involve the contract-demonstration farmers in advanced techniques and other subjects of interest.

Assistance Activities on the Other Islands

The Grantee will finalize its action plans for the islands of St. Lucia, St. Vincent and Dominica and implement the program as described in the Technical Proposal in Response to RFGA No. 538-0141 (pp. 17-33).