PD-AAV-036

AGENCY FOR
INTERNATIONAL
DEVELOPMENT

# ANNUAL BUDGET SUBMISSION
# FY 1980

# ROCAP

DEPARTMENT
OF
STATE

MAY 1978



BEST AVAILABLE

ROCAP

ANNUAL BUDGET SUBMISSION

FY 1980

Table of Contents


| | | Page |
|---|---|---|
| I. | Table I - Long Range Plan | 1 |
| II. | Table III - Summary of Resources | 2 |
| III. | Introduction | 5 |
| IV. | Table IV.A and B - Activity Data | |
| | A. Food and Nutrition | |
| | On-going: | |
| | 1. Regional Nutrition (G) - 0065 | 6 |
| | 2. Agricultural Research & Information System (G) - 0048 | 12 |
| | 3. Small Farm Cropping Systems (G) - 0064 | 16 |
| | 4. Regional Agricultural Trade (G & L) - 0074 | 20 |
| | 5. Regional Rural Agribusiness (L) - 0069 (Table only) | 26 |
| | 6. Program Development & Support - 0000.3 | 27 |
| | Proposed: | |
| | 1. Small Farm Production Systems (G) - 0083 | 30 |
| | 2. Regional Horticulture Crop Development (G) - 0073 | 35 |
| | 3. Light Capital Technology Network (G) - 0084 | 38 |
| | B. Education & Human Resources | |
| | On-going: | |
| | 1. SIECA Institutional Assistance (G) - 0040 | 43 |
| | 2. Transfer of Technology (G) - 0066 | 46 |
| | 3. Program Development & Support - 0000.5 | 50 |

| | | Page |
|---|---|---|
| C. | Selected Development Activities | |
| | On-going: | |
| | 1. Tourism Infrastructure (L) - 0045 (Table only) | 52 |
| | 2. Highway Infrastructure (L) - 0056 (Table only) | 53 |
| | 3. Program Development & Support - 0000.6 | 54 |
| | Proposed: | |
| | 1. Regional Urban Pollution Baseline Survey (G) - 0082 | 56 |
| | 2. Non-Conventional Energy Feasibility Studies (L) - 0086 | 64 |
| D. | Housing Guaranties | |
| | On-going: | |
| | 1. CABEI/Guatemala Urban Shelter Improvement - 0075 (Table only) | 73 |
| | Proposed: | |
| | 1. CABEI Central American Secondary Mortgage Market Development - 0087 | 74 |
| V. | Decision Unit Overview | 77 |
| VI. | Decision Packages | |
| | A. Minimum | 84 |
| | B. Proposed | 87 |
| VII. | Table V - Proposed Program Ranking | 90 |
| VIII. | Workforce and Operating Expenses | 92 |
| IX. | Table VI - Funding for Special Concerns | 108 |
| X. | Evaluation Plan | 109 |
| XI. | Research and Development | |
| | A. Research Needs in Use of the Private Sector in Small Farm Outreach | 114 |
| | B. Tropical Crops Research | 119 |

TABLE 1 - LONG RANGE PLAN
($ million)

| | PY 1978 Estimate | CY 1979 Request | BY 1980 Mimimum | BY 1980 Proposed | Planning Period FY 1981 | FY 1982 | FY 1983 | FY 1984 |
|---|---|---|---|---|---|---|---|---|
| Food & Nutrition | | | | | | | | |
| Grants | .7 | 4.5 | .8 | 4.1 | 4.6 | 3.6 | 2.5 | 2.7 |
| Loans | - | 15.0 | - | | 12.0 | | 15.0 | |
| Education | | | | | | | | |
| Grants | .6 | .4 | 1/ | - | | | | |
| Loans | - | - | - | - | | | | |
| Selected Development Activities | | | | | | | | |
| Grants | 1/ | 1/ | - | .2 | .3 | .5 | .7 | .8 |
| Loans | - | - | - | 7.0 | | 15.0 | | 15.0 |
| Total Program | | | | | | | | |
| Grants | 1.3 | 4.9 | .8 | 5.1 | | | | |
| Loans | - | 15.0 | - | 7.0 | | | | |
| Housing Guaranties (non-add) | 19.0 | - | - | 25.0 | | | | |
| Personnel (in workyears) 2/ | | | | | | | | |
| ROCAP - U.S. | 12 | 12 | 9 | 14 | 14 | 14 | 14 | 14 |
| - F.N. | 22 | 22 | 13 | 22 | 22 | 22 | 22 | 22 |
| TDY - U.S.D.H. | | | | | | | | |
| Contract, other - | 1 | | | | | | | |
| Operating Expenses | 1.4 | 1.2 | .8 | 1.4 | 1.6 | 1.7 | 1.9 | 2.1 |

1/ less than $50,000.
2/ Personnel levels include regional service personnel in legal (1), contracting (1), and financial analysis (2), plus shared controller (1).

## TABLE III - SUMMARY OF RESOURCES - BY ACTIVITY

(FUNDING IN $000 AND OPERATING EXPENSES-FUNDED PERSONNEL IN WORKYEARS (XX.X))

DECISION UNIT: 596 ROCAP



| ACTIVITY | PY: 1978 | | | CY: 1979 | | | BY: 1980 MARK 1/ | | | BY: 1980 MINIMUM | | | BY: 1980 EXPANSION | | | BY: 1980 PROPOSED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FUNDING | PERSONNEL US | PERSONNEL FN | FUNDING | PERSONNEL US | PERSONNEL FN | FUNDING | PERSONNEL US | PERSONNEL FN | FUNDING | PERSONNEL US | PERSONNEL FN | FUNDING | PERSONNEL US | PERSONNEL FN | FUNDING | PERSONNEL US | PERSONNEL FN |
| PROGRAM ACTIVITIES | | | | | | | | | | | | | | | | | | |
| Food and Nutrition | (660) | | | (19480) | | | | | | ( 828) | | | | | | (4120) | | |
| 0048 Agricultural Research and Information System | | .3 | .5 | 842 | .4 | .5 | | | | 758 | .4 | .5 | | | | | | |
| 0064 Small Farm Cropping Systems | | .3 | .2 | | .1 | .1 | | | | | | | | | | | | |
| 0065 Regional Nutrition Programs | 500 | .7 | .2 | 480 | .4 | .2 | | | | | .2 | .1 | | | | | | |
| 0073 Regional Horticulture Crop Development | | | | | | | | | | | | | | | | 439 | .4 | .3 |
| 0074 Regional Agricultural Trade | | .6 | .2 | 16563 | .9 | 1.0 | | | | | .3 | .6 | | | | 1164 | .6 | .4 |
| 0083 Small Farm Production Systems | | | | 1465 | .7 | .4 | | | | | | | | | | 1472 | .7 | .4 |
| 0084 Light Capital Technology Network | | | | | | | | | | | | | | | | 1000 | .9 | .5 |
| 0000.3 Program Development and Support | 160 | .9 | .2 | 130 | .9 | .2 | | | | 70 | .6 | .1 | | | | 45 | .3 | .1 |
| 0069 Regional Rural Agribusiness CABEI T-016 | | .3 | .6 | | .3 | .6 | | | | | .3 | .6 | | | | | | |
| Education | (597) | | | ( 390) | | | | | | ( 5) | | | | | | | | |
| 0040 SIECA Institutional Assistance | 387 | .5 | .6 | 175 | .2 | .6 | | | | | .1 | .4 | | | | | | |
| 0066 Transfer of Technology | 200 | .3 | .2 | 210 | .2 | .2 | | | | | .2 | .2 | | | | | | |
| 0000.5 Program Development and Support | 10 | | .1 | 5 | | .1 | | | | 5 | | .1 | | | | | | |

1/ No Mark provided ROCAP

## TABLE III - SUMMARY OF RESOURCES - BY ACTIVITY

(FUNDING IN $000 AND OPERATING EXPENSES-FUNDED PERSONNEL IN WORKYEARS (XX.X))

DECISION UNIT: 596 ROCAP



| ACTIVITY | PY: 1978 | | | CY: 1979 | | | BY: 1980 MARK | | | BY: 1980 MINIMUM | | | BY: 1980 EXPANSION | | | BY: 1980 PROPOSED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FUNDING | PERSONNEL US | PERSONNEL FN | FUNDING | PERSONNEL US | PERSONNEL FN | FUNDING | PERSONNEL US | PERSONNEL FN | FUNDING | PERSONNEL US | PERSONNEL FN | FUNDING | PERSONNEL US | PERSONNEL FN | FUNDING | PERSONNEL US | PERSONNEL FN |
| Selected Development Activities | ( 5) | | | ( 10) | | | | | | | | | | | | (7205) | | |
| 0082 Regional Urban Pollution Baseline Survey | | | | | | | | | | | | | | | | 190 | .3 | .1 |
| 0000.6 Program Development and Support | 5 | .1 | .1 | 10 | .4 | .1 | | | | | | | | | | 15 | .2 | .1 |
| 0086 Non-Conventional Energy Feasibility Studies Loan | | | | | | | | | | | | | | | | 7000 | .3 | .1 |
| 0045 Tourism Infrastructure CABEI L-013 | | .6 | .6 | | .3 | .6 | | | | | | | | | | | | |
| 0056 Highway Infrastructure CABEI L-014 | | .6 | .6 | | .3 | .6 | | | | | | | | | | | | |
| TOTAL PROGRAM FUNDING | 1262 | | | 19880 | | | | | | 833 | | | | | | 12158 | | |
| Housing Guaranties | | | | | | | | | | | | | | | | | | |
| 0075 CABEI - Guatemala Urban Shelter Improvement | 19000 | .1 | | | .1 | | | | | | .1 | | | | | | | |
| 0087 CABEI - Central American Secondary Mortgage Market Development | | | | | | | | | | 25000 | .1 | | | | | | | |
| NON-PROGRAM ACTIVITIES | | | | | | | | | | | | | | | | | | |
| Policy Direction and Management | | 4.1 | 4.7 | | 2.2 | 2.8 | | | | | 1.9 | 0.5 | | | | | 1.3 | 2.1 |
| Financial Management | | 1.4 | 4.1 | | 0.8 | 4.4 | | | | | 0.8 | 1.4 | | | | | | 3.0 |
| Mission Support | | 0.8 | 20.1 | | 0.6 | 14.7 | | | | | 0.6 | 14.7 | | | | | | |
| IDIs | | 1.1 | | | | | | | | | | | | | | | | |
| Other (specify) Manager for Project Terminating in FY 1978 | | 0.1 | | | | | | | | | | | | | | | | |

AID 1330-11 (3-78)

## TABLE III - SUMMARY OF RESOURCES - BY ACTIVITY

(FUNDING IN $000 AND OPERATING EXPENSES-FUNDED PERSONNEL IN WORKYEARS (XX.X))

DECISION UNIT: 596 ROCAP



| ACTIVITY | PY: 1978 | | | CY: 1979 | | | BY: 1980 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | MARK | | | MINIMUM | | | EXPANSION | | | PROPOSED | | |
| | FUNDING | PERSONNEL | | FUNDING | PERSONNEL | | FUNDING | PERSONNEL | | FUNDING | PERSONNEL | | FUNDING | PERSONNEL | | FUNDING | PERSONNEL | |
| | | US | FN | | US | FN | | US | FN | | US | FN | | US | FN | | US | FN |
| Non-Mission Specific Personnel | | 5.0 | 12.9 | | 3.8 | 11.6 | | | | | 4.0 | 11.6 | | | | | | |
| Operating Expenses: | | | | | | | | | | | | | | | | | | |
| Personnel | 1011.5 | | | 923.7 | | | | | | 614.9 | | | | | | 442.7 | | |
| Housing | 141.7 | | | 117.6 | | | | | | 107.3 | | | | | | 39.9 | | |
| Office Operations | 268.6 | | | 178.5 | | | | | | 122.5 | | | | | | 62.3 | | |

## INTRODUCTION

The FY 1980 ROCAP ABS for the first time joins program projections with operational requirements. In preparing the document, ROCAP has carefully reviewed existing Agency policies and guidance, and considered their relevance in the Central American context.

No FY 1980 mark was supplied this Mission, nor does our FY 1979 CP level permit financing for all ongoing activities to be placed within the Minimum Package. Hence, although for the purposes of zero base budgeting the Minimum Package contains funds for only one ongoing activity, the Proposed Package contains requirements for other ongoing projects of equal importance. The managerial options will flow from the result of this review.

The document reflects a shift in A.I.D. strategy, discussed in the Decision Package Overview, from one which placed primary emphasis on support for economic integration as the main focus of A.I.D.'s regional programs in Central American development, to one emphasizing cooperation between Central American regional institutions and their national counterparts, supported by A.I.D., which:

- stresses small farmer production concerns;

- reflects Agency new initiatives in energy, light capital technology and the environment; and

- is cost effective on an economies-of-scale basis.

ROCAP's program is therefore largely divided between Food and Nutrition and Special Development Problems categories.

I believe the proposed program reflects realistic goals, appropriately addresses problems and programs which are regional in scope and application, and which are attainable within a realistic time frame.

Harry Ackerman
Director, ROCAP

TABLE IV.A - ACTIVITY DATA - NARRATIVE

Regional Nutrition - 596-0065

Purpose: To support the Nutrition Institute of Central America and Panama (INCAP) in assisting Guatemala (G), El Salvador (S), Honduras (H), Nicaragua (N), Costa Rica (CR), and Panama (P) to establish government technical-administrative capacity to analyze nutritional problems, select appropriate interventions, implement the interventions, and evaluate their effectiveness.

Background: This project supports balanced and equitable Central American economic development through improvement of the nutritional status of the poor majority in Central America. Working closely with national agencies, INCAP has elaborated and is implementing inter-sectoral nutrition planning programs for each country, and provides specialized technical assistance, applied research, and training in nutrition planning, nutrition surveillance systems, sugar fortification, salt iodization, nutritional education, and national nutritional evaluations. Repairs of earthquake damage to INCAP's buildings in Guatemala was also included. The project is closely linked to the bi-lateral AID-supported efforts in each country in nutrition, and provides local-specific services and assistance through a specialized regional institution having expertise in local nutrition problems. It also facilitates exchange of similar problems and solutions in similar settings.

Progress to Date: Principal recipients of the above INCAP technical services have been Honduras, Nicaragua and Guatemala; however, program plans were prepared for all six countries during FY 1978, and INCAP has initiated specific planning and technical assistance activities with El Salvador and Costa Rica. Major outputs are noted below.

Beneficiaries: While this activity is developing the capacities of the six participating countries, the ultimate beneficiaries of improved nutrition planning, project development and implementation are the poor in each of the countries affected. Special target groups include lactating women and rural school and pre-school-aged children. Specific beneficiaries vary by sub-activity. For example, an evaluation of INCAP's vitamin A sugar fortification program, now underway in four countries under this project, indicated that in Guatemala alone 233,500 pre-school children suffered from such

deficiency. After one year of the program, this figure was reduced to 57,500, indicating that 176,000 children had directly benefited.

| Major Outputs | FY 1978 | All Years |
|---|---|---|
| a. Develop/Strengthen public concern for nutrition problem in the country | All | All |
| b. Obtain a commitment from the Government to assess the nutrition studies | H,N,CR, G | All |
| c. Implement nutrition intervention | H,N,CR, P | All |
| d. Sustain a nutrition planning, implementation and evaluation process | H,N,CR, G | All |
| e. Emergency rehabilitation of INCAP facilities | G | X |

Current and Budget Year Program[1/]: During FY 78-79 INCAP conducted analyses and is assisting cooperating country institutions in conducting the following activities:

| Guatemala | Terminated | On-going | Projected |
|---|---|---|---|
| 1. First national seminar on Food and Nutrition; | X | | |
| 2. Elaboration of Food Balance Sheets; | | X | |
| 3. Assessment of the Nutrition Situation of Guatemala; | | | (1) |
| 4. Evaluation of Sugar Fortification with Vitamin A; | | X | |
| 5. Drafting National Policy Decree on Nutrition. | X | | |

(1) INCAP, at the government's request also participated in the nutrition component of the Health Sector Assessment that was conducted with USAID/Guatemala

---

1/ No new funds are required for FY 80; however, pipeline expenditures are projected through May, 1980.

| El Salvador | Terminated | On-going | Projected |
|---|---|---|---|
| 1. Functional Classification of Nutrition Problems in El Salvador; | X | | |
| 2. Support multisector nutrition planning; | | X | |
| 3. Support health multisector planning | | | X |

In addition INCAP has received a request from the Centro de Investigación y Desarrollo Agrícola to assist in a project designed to integrate agricultural and animal production with the purpose of improving nutrition for small farmers organized in cooperatives.

| Honduras | | | |
|---|---|---|---|
| 1. Strengthening the National Food and Nutrition Planning Service (SAPLAN) of the National Planning Council; | | X | |
| 2. Nutritional Surveillance; | | X | |
| 3. Study of Food Consumption under the National Family Income and Expenditure Survey; | | X | |
| 4. Sugar Fortification with Vitamin A; | | X | |
| 5. Development of soy bean consumption in campesino groups in conjunction with national soy bean production project; | | X | |
| 6. Formulation of 1979 Operations Program; | | | X |
| 7. National Food and Nutrition Plan; | | X | |

| Nicaragua | | | |
|---|---|---|---|
| 1. Nutrition Planning Support; | | X | |
| 2. Nutrition Surveillance System; | | | X |
| 3. Integration of Nutrition in the Rural Development Program | | | X |

| | Terminated | On-going | Projected |
|---|---|---|---|
| 4. Reorganization of Hospital Food Services; | | X | |
| 5. Implementation of Salt Iodization; | | X | |
| 6. Epidemiological Surveillance of Salt Iodization; | | X | |
| 7. Implementation of Sugar Fortification with Vitamin A. | | | X |

INCAP staff assisted in drafting the First National Food and Nutrition Policy (NFNP) Document and the decree formalizing the Interministerial Commission and Technical Nutrition Committee. The decree was signed and the second draft of the NFNP was informally approved by the government.

INCAP forwarded to the government the final version of its part of the National Health assessment.

Costa Rica

| | | | |
|---|---|---|---|
| 1. Evaluation of the Implementation of the Social Development and Family Allowances Law, with regard to Food and Nutrition; (Phase I terminated. The Government showed no interest in remaining phases.); | X | | |
| 2. Development of a Control and Evaluation System of Health, Food and Nutrition in the Administrative Development Project of the Health Ministry; | | | X |
| 3. Information-decision system; | | X | |
| 4. Dietetic Survey. | | X | |

Panama

| | | | |
|---|---|---|---|
| 1. Food Balance Sheets; | | X | |
| 2. Subregional Multisectoral Seminar on National Food and Nutrition Planning; | | | X |
| 3. Nutritional Surveillance System; | | X | |

| | Terminated | On-going | Projected |
|---|---|---|---|
| 4. Evaluation of the Complimentary Feeding Program; | | | X |
| 5. Evaluation of Community Gardens; | | | X |
| 6. High Risk Indicators; | | | X |
| 7. Formulation of the National Nutrition Plan | | | X |

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Regional Nutrition Programs | ROCAP | Minimum | - |
| | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | FY 1976 | FY 1979 | $1,760,000 |
| PROJECT NUMBER / APPROPRIATION | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |
| 596-0065 (340) / FN | April 1976 | October 1977 | June 1978 |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | 500 | 456 | 368 | 10/78-9/79 | 480 | 510 | 338 | 10/79-5/80 | - | 338 | - |
| Nutrition Planning and Implementation | 500 | 456 | 368 | 10/78-9/79 | 480 | 510 | 338 | 10/79-5/80 | - | 338 | - |
| HC AND OTHER DONOR TOTAL- | 345 | | | | 193 | | | | LIFE OF PROJECT 978 | | |
| PAHO, Kellogg Foundation | | | | | | | | | | | |

PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 1978 | 1979 | 1980 | 19 | 19 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | .2 | - | .2 | | | |
| OPERATING EXPENSES | .9 | .6 | .3 | | | |

PERSONNEL INTENSITY

- [X] HIGH
- [ ] MEDIUM
- [ ] LOW

PARTICIPANTS PROGRAMMED

| TYPE A=NONCONTRACT B=CONTRACT | | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

AID 1330-8 (3-78)

TABLE IV.A - ACTIVITY DATA - NARRATIVE

Agricultural Research & Information System - 596-0048

Purpose: To provide pertinent agricultural information in a useful form to small farmers, suppliers of inputs, marketing agencies and national policy makers.

Background: This project, begun in May 1975, supports an Inter-American Institute of Agricultural Sciences (IICA) program to introduce and expand the use of comparable standards, methods and procedures by which pertinent agricultural information will be exchanged and utilized by regional, national and international users, and oriented toward the needs of the small farm sector. This activity is scheduled to terminate in March 1979 and is fully funded. Activities are conducted throughout Central America and Panama. IICA, supported by resolutions of cooperating Central American institutions and all C.A. Ministries of Agriculture has requested continuation of support for the activity through June 1981. This extension is presently being negotiated; at this writing we estimate an additional $1,600,000 will be required to support continued U.S. technical and budget support for the activity. IICA and Central American/Panamanian contributions are expected to exceed this amount. A PROP revision will be submitted during FY 1978 to obligate funds during the present fiscal year if funds become available.

Progress to Date: National and regional meetings, conferences and seminars involving several hundred planners, technicians and decision-makers from the six participating countries and from regional and international organizations have been held. Manuals and guides covering such subjects as Establishment of a National Sample Frame, Preparing Technological Information Packages, and Design of Information Systems for Marketing and Agricultural Predictions have been prepared, distributed and are being used. Informal and formal training in the development of various aspects of national information plans has continued throughout the project. Indeed, the demand for services under this project has sorely strained program capacity to satisfy it. Using information supplied from national and regional programs and including the ROCAP-CATIE activities in Soil Fertility and Multiple Cropping, the first technical packages to be produced under this activity for use by small farmers are nearing completion. The project is introducing

the technique of area frame sampling as the basic unit of information gathering. This technique was selected because it is small farmer specific and, in its application, can gather not only crop related information, but also socio-economic factors of quality of life, perceptions, technologies in use, etc. Further, use of the area frame can help reveal small farmer identified technological problems which can form the basis for development of new light capital technologies. All Central American countries are now involved in this technique and look to this project for their necessary technical assistance. Through this method, all six countries are now improving their area-specific data basis in soils, climate, vegetation, etc., and by December 1978 five area specific monoculture technological packages will have been prepared and work begun on data requirements for analog preparation, necessary to permit extrapolation of the area specific packages to different areas.

Beneficiaries: Although the immediate recipients of technical assistance in this activity are the cooperating national agencies, the small farmer also benefits directly as he begins to use project generated technical packages, and indirectly, from better agricultural policies based on more accurate and timely data. Under the project extension, emphasis will be placed on adapting the technological packages into readily accessible and easily utilized formats for small farmers, including the dissemination of pertinent light capital and appropriate technologies, and thus, to improving small farmer access to market, climatic and other useful agricultural data.

Current Year Program: Funds to be obligated during FY 1979 will finance continuation of technical assistance supporting IICA in providing assistance to cooperating institutions in Central America and Panama. Assistance in mass media distribution of market information as well as other agricultural information useful to small farmers will be emphasized.

Budget Year Program: As the proposed activity extension nears completion, significant progress towards the following targets, inter alia, will have been made:

- At least five countries with complete area frames and data collection programs;

- At least five countries will have national information centers and networks in operation, with functioning regional interchange;

- Appropriate small farm, home and market news will be transferred on a regular basis to farmers by service organizations and mass media;

- IICA will have the capacity to continue support to future Central American efforts in related areas.

Major Outputs: In addition to the foregoing, the entire project will have helped, inter alia:

- develop at least five national market information systems, and have trained about 120 professionals in market service improvement;

- train 260 professionals in area frame questionnaire design, interviewing or other improved data collection techniques;

- organize national land use, climate, vegetation, socio-economic, market and research data basis for continuing ability to produce technological packages.

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Agricultural Research and Information System | ROCAP | Minimum | $758,000 |
| | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | FY 1975 | FY 1977 | $3,303,000 |
| PROJECT NUMBER / APPROPRIATION | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |
| 596-0048 (053) / FN | May 1976 | April 1978 | January 1979 |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | - | 560 | 158 | 10/78-3/80 | 842 1/ | 736 | 264 | 1/80-6/81 | 758 1/ | 1022 | - |
| Technical assistance in Agricultural Information processing, distribution, analysis (PASA) | | 415 | 158 | 10/78-12/79 | 442 | 486 | 114 | 1/80-6/81 | 408 | 522 | - |
| Courses, training, seminars (IICA) | | 145 | - | 10/78-12/79 | 300 | 200 | 100 | 1/80-6/81 | 250 | 350 | - |
| Identification and introduction of small farm/market town light capital and appropriate technologies (IICA and ICAITI, Panamerican School Honduras, etc.) into tech packs. | | | | 1/79-3/80 | 100 | 50 | 50 | 4/80-6/81 | 100 | 150 | - |
| HC AND OTHER DONOR TOTAL- | 250 | | | | 530 | | | | LIFE OF PROJECT 2188 | | |
| IICA | 150 | | | | 414 | | | | 1745 | | |
| National and Central American Regional Agencies | 100 | | | | 116 | | | | 443 | | |

PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 1978 | 1979 | 1980 | 1981 | 19 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | .4 | .2 | .2 | .2 | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | .8 | .9 | .9 | .9 | | |

PERSONNEL INTENSITY

- [X] HIGH
- [ ] MEDIUM
- [ ] LOW

PARTICIPANTS PROGRAMMED

| TYPE A=NONCONTRACT B=CONTRACT | | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

1/ FY 79 and 80 funds finance project extension. PP revision to be submitted June 1978.

AID 1330-8 (3-78)

TABLE IV.A - ACTIVITY DATA - NARRATIVE

Small Farm Cropping Systems - 596-0064

Purpose: The Small Farm Cropping Systems project finances a Central American program of inter-disciplinary agricultural research designed to develop and test alternate multiple and sequential cropping patterns for Central American small farmers which may: (a) increase yield through either increased production of the same crops grown by small farmers or introduction of new crops; (b) increase net value of total crops produced per area; (c) increase on-farm employment while simultaneously increasing farm income; (d) increase the efficiency in the use of production inputs; and/or (e) increase nutritional (protein and calories) output per area.

Background: This project is one of two or three such known activities in the world. The project team is: 1) developing methodologies for inter-disciplinary research; 2) collaborating in the implementation of over 100 experiments in 1977-78; 3) analyzing results; and 4) evaluating the socio/economic and production implications of recommendations emanating from these studies. Close working relationships have been established by CATIE with the five Central American research institutions; this has included regional training by project staff for national counterparts and intensive use of project-generated advice and assistance by the cooperating institutions. The project received initial financing in June 1975 and terminates in March 1979. A new activity, Small Farm Production Systems - 596-0083, is proposed for FY 1979 which would a) continue ongoing research but broaden it to identify those factors most influential in increasing yield and profit, b) introduce small animal production problems into the integrated research at CATIE, c) test methods of increasing the geographic areas for which improved production recommendations can be made, and d) increase the number of Central Americans trained in farming systems.

Beneficiaries: Findings to date are the product of a series of cropping experiments on a select number of typical small farms throughout Central America. At present, the applicability of this research remains constrained to other small farms having similar ecological conditions, i.e. soil type, rainfall, altitude, temperature, etc. to where the research had been conducted. The proposed new activity, using a new

research procedure, will examine the impact of these factors on new alternate cropping patterns on small farms located in areas other than those in which the research was originally conducted, significantly extending the impact of project results.

Progress to Date: Experiments, conducted on small farms in collaboration with national research agencies and directed, coordinated and evaluated by CATIE, have been conducted in three countries (Costa Rica, Nicaragua and Honduras) and in 1978 are being expanded to El Salvador, Guatemala and Panama. The objective of such research is to develop improved systems, within the capability of the small farm operators and their families to implement, that can increase their income and diet, and not be so different or risky as to place these small producers in jeopard of losing their land or endanger their standard of living.

Some of the promising research results to date, focusing on new cropping patterns, include:

(a) Planting of combinations of beans, cassava and corn at Turrialba, Costa Rica, under experimental conditions, have resulted in calorie production per area ranging from 3.6 to 15.0 million calories per hectare per year. The higher level results in sufficient calories to meet the average annual requirements of seventeen adult Central Americans per hectare of production annually. By comparison, on the basis of the average yield of corn per hectare in Costa Rica, traditional double cropping yields 9.2 million calories per hectare, adequate to meet the caloric needs of ten people for one year.

(b) Corn and rice planted in an innovative association in Nicaragua yielded up to 100% more than the normal farmer's harvest and involved less risk than either crop would have had were they planted alone.

(c) A modified system of corn planting followed by common beans yielded 150% more corn and 60% more beans than the farmer's system in one trial in Nicaragua. Modifying current farmer practices such as the planting distance, thinning practices, improved weed control and pest control -- all low input cost elements to the farmer -- resulted in increases in net income of up to 168%. Addition of moderate levels of fertilizer to these same systems increased his profit to 300%.

(d) Cowpeas, of equal nutritional value to the traditionally grown bean, in combination with corn has consistently yielded 100%-200% above common bean yields under warm lowland conditions in Honduras. This is a new crop introduced by the project to the area and is being well received by Honduran consumers.

(e) Cassava and corn intercropping experiments reveal that although individual crop yields fall below monocrop levels, their combined total yield per hectare increases about 150% in Honduras.

(f) In the experimental areas of Honduras (cowpeas), Nicaragua (sorghum) and Costa Rica (new corn variety), farmers are adopting new crops or varieties of crops introduced by the project as a result of the research being carried out on their fields and are modifying their traditional systems even before the results are published.

(g) Changing multiple cropping systems usually results in significant changes in the micro climate, insect, disease, weed and plant nutritional situation, resulting in economies of production. Insect and disease pests under multiple cropping have usually been much less a problem than in conventional monocropping, resulting in reduced need for pesticide applications. High economic plant population densities are greatly reducing weed competition and costs for weeding. Fertilizer use efficiency has increased in some cases from one unit of fertilizer to one unit of crop to one point four units of fertilizer to two units of crop. Too, since the soil is continuously growing some crop or crops throughout the year, plowing and cultivation is reduced to a minimum, soil degradation due to light effects are decreased and soil erosion can be materially reduced.

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Small Farm Cropping Systems | ROCAP | - | - |
| | INITIAL OBLIGATION: FY 1975 | FINAL OBLIGATION: FY 1977 | TOTAL COST: $1,567,000 |
| PROJECT NUMBER: 596-0064 (023) / APPROPRIATION: FN | DATE PP/REVISION: January 1975 | DATE LAST PAR: June 1977 | DATE NEXT PAR: - |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | - | 600 | 282 | 10/78-3/79 | - | 282 | - | | | | |
| Research into alternative cropping systems | - | 600 | 282 | 10/78-3/79 | | 282 | | | | | |
| HC AND OTHER DONOR TOTAL- | 91 | | | | 45 | | | | LIFE OF PROJECT 340 | | |
| CATIE | 91 | | | | 45 | | | | | | |

PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 1978 | 1979 | 19 | 19 | 19 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | .5 | .2 | | | | |

PERSONNEL INTENSITY

- [X] HIGH
- [ ] MEDIUM
- [ ] LOW

PARTICIPANTS PROGRAMMED

| TYPE A=NONCONTRACT B=CONTRACT | | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

AID 1330-8 (3-78)

TABLE IV.A - ACTIVITY DATA - NARRATIVE

Regional Agricultural Trade - 596-0074

Purpose: To promote expansion of Central American intra-regional agricultural trade.

Background: Over the years the Central American Common Market has paid relatively little attention to agriculture. During the past several years each country has mounted ambitious agricultural development programs aimed at national self-sufficiency in many commodities. Support prices have been pegged at high levels, and borders have frequently been closed both to agricultural imports and to exports. Deficiencies in regional services and facilities necessary for expanded trade have also impeded the flow of agricultural goods. These factors have led to inefficiencies which have resulted in high costs to governments and consumers as well as wastage in the management of surpluses. Also agriculture imports from outside the region continue to grow at a rapid rate. There is, however, an effort underway to develop a regional agricultural policy which, by emphasizing trade and cooperation, will work toward the solution of many of these problems. The PRP for this project was approved in December 1976; a PRP supplement was approved in May 1977.

Project Description: ROCAP, utilizing a regional study on problems and prospects of increasing intraregional agricultural trade, identified four major problem areas requiring C.A. cooperative action:

1. Reduction in obstacles to trade, including export/import licensing requirements, differing standards, onerous border procedures, and deficient border and national facilities to transport and manage regional trade commodities.

2. Establishment of a preference for C.A. grain purchase when available, over foreign sources.

3. Strengthening of regional institutions which promote and facilitate increased trade.

4. Creation of an effective mechanism for resolution of trade disputes.

The proposed loan/grant program will support Central American initiatives in these areas through assistance to four regional

institutions to: 1) create a permanent source of financing within the Central American Bank for Economic Integration (CABEI) for promotion of intraregional agricultural trade; and 2) expand regional services in policy analysis and information management, agricultural sanitation, and grades and standards, within, respectively, the Secretariat of the Integration Movement (SIECA), the Regional Agricultural Sanitation Institute (OIRSA), and the Central American Research Institute for Industry (ICAITI).

The program will be conditioned upon policy commitments by the Central American governments to begin a serious effort towards resolving the above problem areas and creating a more favorable environment for trade expansion.

In late 1977, the Central American Ministers of Economy and Agriculture met jointly for the first time in 15 years to begin to develop a regional agricultural policy which, by emphasizing trade and cooperation, will work towards the solution of many of these problems. ROCAP is closely following the results of these efforts and submission of this program for AID/W consideration and FY 1979 obligation is conditioned upon their demonstrated impact. Depending upon progress of the Central American governments to address these issues, and the particular merits of the several sub-project components of this program, ROCAP may suggest the option of moving forward with one or several of these components separately.

Beneficiaries: The rural poor in Central America will participate in the benefits in three major roles: as small producers, as rural laborers, and as consumers. Increased trade in such small farm oriented, high unit value crops, as fruits and vegetables, and dairy and livestock products, is expected to produce significant income increases. As opposed to export-oriented traditional plantation crops, these non-traditional crops, along with grains, best utilize the limited small farm inputs of land and labor. However, these labor-intensive crops also require access to marketing outlets and processing facilities. The program will improve producer access to these essential resources. To the degree that processing facilities are expanded, a decrease in rural unemployment (estimated to be as high as 61% in El Salvador and approximately 46% region-wide) is projected. Finally, rural poor consumption is expected to increase in quantity and quality as a wider variety of goods become available and incomes rise.

Current and Budget Year Program: See accompanying Table IV.Bs.

| Major Outputs: | FY 79 | FY 80 | FY 81 | FY 82 |
|---|---|---|---|---|
| Expansion of intraregional agricultural trade | X | X | X | X |
| Sub-loan commitments to projects which facilitate intraregional trade ($000) | 1,500 | 5,000 | 6,500 | 2,000 |
| Contruction/equiping/commencement of operation of regional plant sanitation reference laboratory (OIRSA) | X | X | | |
| Increased annual contributions to cooperating regional institutions by each Central American Republic ($000) | 105 | 120 | 140 | 140 |
| Commencement of operations of Regional Trade Information Center (SIECA) | | X | | |

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Regional Agricultural Trade (Grant) | ROCAP | Proposed | $1,164,000 |
| | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | FY 1979 | FY 1982 | $3,615,000 |
| PROJECT NUMBER / APPROPRIATION | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |
| 596-0074 (000) / FN | January 1979 | | May 1980 |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | | | | | 1563 | 972 | 591 | | 1164 | 1153 | 602 |
| Policy Analysis | | | | 4/79-3/80 | 75 | 30 | 45 | 4/80-3/81 | 60 | 65 | 40 |
| Regional Trade Information Center: | | | | | | | | | | | |
| T.A. in Data collection, processing, forecasting | | | | 4/79-3/80 | 179 | 110 | 69 | 4/80-3/81 | 212 | 180 | 101 |
| Training for C.A. and Center personnel | | | | 6/79-1/80 | 70 | 60 | 10 | 2/80-1/81 | 50 | 50 | 10 |
| Budget support for Center | | | | 4/79-3/80 | 233 | 120 | 113 | 4/80-3/81 | 223 | 230 | 106 |
| Agricultural Sanitation | | | | | | | | | | | |
| Construction of Regional Laboratory | | | | 2/79-11/79 | 200 | 150 | 50 | | | 50 | |
| T.A. in Agricultural Sanitation | | | | 2/79-3/80 | 305 | 200 | 105 | 4/80-3/81 | 320 | 320 | 105 |
| HC AND OTHER DONOR TOTAL- | | | | | 520 | | | | LIFE OF PROJECT 2497 | | |
| CA contributions to SIECA, OIRSA, ICAITI in support of the above listed subactivities. | | | | | | | | | | | |

PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 1978 | 1979 | 1980 | 1981 | 1982 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | .2 | .2 | .2 | .2 | |
| OPERATING EXPENSES | .8 | 1.0 | 1.0 | 1.0 | 1.0 | |

PERSONNEL INTENSITY

- [X] HIGH
- [ ] MEDIUM
- [ ] LOW

PARTICIPANTS PROGRAMMED

| TYPE | A=NONCONTRACT B=CONTRACT | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

CABEI loan listed separately.

AID 1330-9 (3-78)

CONTINUED

| TABLE IVB ACTIVITY BUDGET DATA | ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|---|
| | Regional Agricultural Trade (Grant) | ROCAP | | |
| | | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | PROJECT NUMBER: 596-0074 (000) / APPROPRIATION: FN | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | | | | | | | | | | | |
| Equipment for Regional Laboratory | | | | 2/79-11/79 | 92 | 80 | 12 | | | 12 | |
| Training of Laboratory personnel | | | | 9/79-12/80 | 48 | 12 | 36 | | | 36 | |
| Regional Grades and Standards | | | | | | | | | | | |
| T.A. in Grades and Standards | | | | 4/79-3/80 | 220 | 130 | 90 | 4/80-3/81 | 220 | 110 | |
| Operational support for Grades and Standards | | | | 4/79-3/80 | 90 | 40 | 51 | 4/80-3/81 | 79 | 90 | |
| Equipment for Reference Laboratory | | | | 4/79-11/79 | 50 | 40 | 10 | | | 10 | |
| HC AND OTHER DONOR TOTAL- | | | | | | | | | | LIFE OF PROJECT | |

PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 19 | 19 | 19 | 19 | 19 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | | | | | | |

PERSONNEL INTENSITY: ☐ HIGH ☐ MEDIUM ☐ LOW

PARTICIPANTS PROGRAMMED

| TYPE A=NONCONTRACT B=CONTRACT | | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

AID 1330-3 (3-78)

| TABLE IVB ACTIVITY BUDGET DATA | ACTIVITY TITLE | | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|---|---|
| | Regional Agricultural Trade (Loan) | | ROCAP | Mimimum | - |
| | | | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | | | FY 1979 | - | $15,000,000 1/ |
| | PROJECT NUMBER | APPROPRIATION | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |
| | 596-0074 (000) | FN | January 1979 | - | May 1980 |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 | | | CY: 1979 | | | | BY: 1980 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | OBLI-GATION | EXPEN-DITURE | PIPE-LINE | FUNDING PERIOD (FR-TO) | OBLI-GATION | EXPEN-DITURE | PIPE-LINE | FUNDING PERIOD (FR-TO) | OBLI-GATION | EXPEN-DITURE | PIPE-LINE |
| AID-FINANCED TOTAL- | | | | | 15000 | 4063 | 10937 | | | 5164 | 5773 |
| Loan: Investments in agricultural production, processing, wholesale marketing, storage/handling, etc. | | | | | 15000 | 4063 | 10937 | | | 5164 | 5773 |
| HC AND OTHER DONOR TOTAL- | 850 | | | | 1350 | | | LIFE OF PROJECT | 5000 | | |
| CABEI | | | | | | | | | | | |

| PERSONNEL WORKYEARS (XX.X) | FISCAL YEAR | | | | | |
|---|---|---|---|---|---|---|
| FUNDING | 19 79 | 19 80 | 19 81 | 19 82 | 19 | BEYOND |
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | .9 | .9 | .9 | .9 | | |

PERSONNEL INTENSITY
- [ ] HIGH
- [X] MEDIUM
- [ ] LOW

| PARTICIPANTS PROGRAMMED | | FISCAL YEAR | | |
|---|---|---|---|---|
| TYPE A=NONCONTRACT B=CONTRACT | | 19 | 19 | 19 |
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

1/ CABEI Loan $15.0M
Grants 3.6M

Grant listed separately.

AID 1330-8 (3-78)

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Regional Rural Agribusiness - CABEI 596-T-016 | ROCAP | Mimimum | - |
| | INITIAL OBLIGATION: FY 1977 | FINAL OBLIGATION: - | TOTAL COST: $15,000.000 |
| PROJECT NUMBER: 596-0069 (150) / APPROPRIATION: FN | DATE PP/REVISION: September 1976 | DATE LAST PAR: | DATE NEXT PAR: September 1978 |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLI-GATION | PY: 1978 EXPEN-DITURE | PY: 1978 PIPE-LINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLI-GATION | CY: 1979 EXPEN-DITURE | CY: 1979 PIPE-LINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLI-GATION | BY: 1980 EXPEN-DITURE | BY: 1980 PIPE-LINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | | 500 | 14500 | | | 3500 | 11000 | | | 4000 | 7000 |
| Machinery and equipment, technical assistance, working capital | | 500 | 14500 | | | 3500 | 11000 | | | 4000 | 7000 |
| HC AND OTHER DONOR TOTAL- | 150 | | | | 1150 | | | | LIFE OF PROJECT: 5000 | | |
| CABEI | | | | | | | | | | | |

PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 1978 | 1979 | 1980 | 1981 | 1982 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | .9 | .9 | .9 | .9 | .8 | |

PERSONNEL INTENSITY

- [ ] HIGH
- [X] MEDIUM
- [ ] LOW

PARTICIPANTS PROGRAMMED

| TYPE A=NONCONTRACT B=CONTRACT | | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

AID 1330-8 (3-78)

TABLE IV.A - ACTIVITY DATA - NARRATIVE

Program Development & Support: Food & Nutrition - 596-0000.3

Purpose: This activity provides resources with which ROCAP supports a) program design and project evaluation activities, b) studies which examine potential areas of policy interest which may be worthy of future support, and c) to a limited degree, USDA PASA services for other Central American USAIDs.

Background and Progress to Date: ROCAP's proposed FY 1979 and 1980 activities will be developed using PD&S resources. The Regional Agricultural Trade proposal is the result of a joint ROCAP-SIECA supported team of Central American economists who reviewed regional and national agricultural policies and programs, assessed the potential for and benefits of increased intraregional agricultural trade, and made specific recommendations for activities upon which this ROCAP proposal is largely based.

Current Year Program: Design work on the Horticultural activity will be completed using PASA assistance. Support to SIECA may be provided to respond to Central American initiatives arising from forthcoming meetings of the Vice-Ministers of Agriculture and Economy, who have been assigned responsibility to examine and propose policies and programs supportive of increased intraregional agricultural trade. Evaluations will be financed in accord with the attached evaluation schedule.

Budget Year Program:

A. Minimum - For FY 1980 the minimum package only includes funds for evaluation of ongoing and terminating activities.

B. Proposed - In addition to the foregoing, the proposed package includes additional funds to support such final design costs as may be necessary for the Horticulture activity as well as limited support for research and design of activities under future consideration. A major regionwide evaluation of the impact of the various related activities supported by the Agricultural Trade program (loan and grant) may be scheduled during this fiscal year.

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Program Development and Support | ROCAP | Minimum | $70,000 |
| | INITIAL OBLIGATION: FY 1974 | FINAL OBLIGATION: Continuing | TOTAL COST: - |
| PROJECT NUMBER: 596-0000.3 (000) / APPROPRIATION: FN | DATE PP/REVISION: - | DATE LAST PAR: - | DATE NEXT PAR: - |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | 160 | 130 | 30 | 10/79-9/80 | 130 | 110 | 50 | 10/80-9/81 | 70 | 140 | 25 |
| Contract services - evaluations | 50 | 35 | 15 | 1/80-9/80 | 60 | 40 | 35 | 10/80-9/81 | 70 | 85 | 20 |
| Project design - PASAs | 65 | 65 | - | 1/80-9/80 | 40 | 30 | 10 | 1/ | | | |
| Project design - CA experts | 45 | 30 | 15 | 7/79-9/80 | 30 | 40 | 5 | 1/ | | | |
| HC AND OTHER DONOR TOTAL- | | | | | | | | | LIFE OF PROJECT | | |

PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 1978 | 1979 | 1980 | 1981 | 1982 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | .7 | .7 | .7 | .7 | .7 | |

PERSONNEL INTENSITY

- [X] HIGH
- [ ] MEDIUM
- [ ] LOW

PARTICIPANTS PROGRAMMED

| TYPE (A=NONCONTRACT, B=CONTRACT) | | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

1/ FY 80 Project design in Proposed Package.

AID 1330-8 (3-78)

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Program Development and Support | ROCAP | Proposed | $45,000 |
| | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | FY 1974 | Continuing | - |
| PROJECT NUMBER / APPROPRIATION | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |
| 596-0000.3 (000) / FN | - | - | - |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | 160 | 130 | 30 | 10/79-9/80 | 130 | 110 | 50 | 10/80-9/81 | 45 | 55 | 5 |
| Contract services - evaluations | 50 | 35 | 15 | 1/80-9/80 | 60 | 40 | 35 | 1/ | | | |
| Project design - PASAs | 65 | 65 | - | 1/80-9/80 | 40 | 30 | 10 | 10/80-9/81 | 15 | 25 | - |
| Project design - CA experts | 45 | 30 | 15 | 7/79-9/80 | 30 | 40 | 5 | 10/80-9/81 | 30 | 30 | 5 |
| HC AND OTHER DONOR TOTAL- | | | | | | | | LIFE OF PROJECT | | | |

PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 1978 | 1979 | 1980 | 19 | 19 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | 1.1 | 1.1 | .4 | | | |

PERSONNEL INTENSITY

- [X] HIGH
- [ ] MEDIUM
- [ ] LOW

PARTICIPANTS PROGRAMMED

| TYPE (A=NONCONTRACT B=CONTRACT) | | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

1/ FY 80 contract services in minimum package.

AID 1330-3 (3-78)

TABLE IV.A - ACTIVITY DATA - NARRATIVE

Small Farm Production Systems - 596-0083

Purpose: To improve small farmer income through the design, testing, and application of new multiple cropping and small animal farming systems in different ecological situations in Central America.

Background: This activity combines the Small Farm Cropping Analogs (596-0078) and Regional Animal Systems Research (596-0079) proposals, whose PIDs were approved in the June 1977 DAEC review of the ROCAP FY 1979 ABS, which recommended such combination. This activity builds upon the Small Farm Cropping Systems activity, which terminates in March 1979, and will introduce small farm animal production considerations into the applied research by incorporating and strengthening efforts of the animal research team of the Tropical Agricultural Research and Training Center (CATIE).

Project Description: Over one million small farms are presently in operation in Central America and Panama. Few utilize or are aware of the most efficient methods for the use of their limited capital, land and labor inputs. Resulting yields and income are generally low, and the calorie and protein generation level reduced. Present applied research in the LDCs, usually carried out on experiment stations, still gives but little priority to small farmer needs and capabilities. Results of this research are seldom combined into usable technological production packages or tested under small farm conditions.

ROCAP, following our Small Farm Cropping Systems project which terminates in March 1979, will undertake with the Tropical Agricultural Research and Training Center (CATIE) a new activity encompassing both crops and livestock (bees, chickens, ducks, pigs, tropical sheep, dairy and beef cattle) and their use on small farms. Objectives are to increase profit per area, generate increased small farm employment and expand the total nutritional value of food products produced. This project will also seek to identify analogous (similar) ecological areas throughout Central America that will allow the transferability of cropping systems whose validity is proven in one area to other large analogous areas.

National research agencies will provide full time counterparts to the CATIE researchers at the national level. All applied research will be carried out on small farms with the farmers' active participation. CATIE and national government contributions will be complemented by USAID bilateral activities, CIDA (Canada) and the British Ministry of Overseas Development (senior researchers).

During testing of the cropping systems, national governments will provide counterparts who will be trained in their use. Results from the concerned small farms will be used to modify the training, tech pack content or the manner in which the new systems are made available to small farmers in the most utilizable form.

CATIE will establish formal working arrangements with selected and varied small farmer outreach organizations in each country, who have been selected on the basis of the potential effectiveness of their different approaches to small farmer outreach. Each will utilize the tech packs in their on-going extension activities. An attempt will be made to design alternative methods to make the selected tech pack formats acceptable to the greatest number of small farmers. Evaluations will be scheduled to test the results of the applied research. Numbers of beneficiaries will be tabulated, and comparisons will be made among various outreach organizations to determine the cost-effectiveness of each approach.

Major issues to be addressed during project development include CATIE's ability to support an expanded staff upon completion of this program; IICA's plans regarding continued support for CATIE's core budget; the manner of developing new methods for small animal and mixed farming research to be carried out on small farms; and design of research procedures needed to identify key production constraints whose resolution would permit use of results in untested small farm areas.

Beneficiaries: Beneficiaries are small farmers in Central America and Panama who will have available at least 24 new tech packs: twelve area specific multiple cropping systems tech packs, at least six having animal systems as the major income producer, and six mixed farming (crops and animals) systems in which crops play the major income producing role. All will be especially developed for high profit and low risk. During the project over two hundred researchers and extensionists will receive short term training in interdisciplinary methods of multiple cropping and animal systems research. Finally, if new systems of developing and handling research

information for the tropics are successful and permit expanded utility of research results, several hundred thousands of additional small farmers will benefit from agricultural research at little additional cost.

Current Year Program: During FY 1979 CATIE will employ the additional staff required under this new program. CATIE cropping systems technicians will be located in all six countries and animal systems team leaders will be located in three countries, in addition to an increase in the central CATIE staff.

CATIE and the host country will determine the areas and selected agencies with whom to establish working relationships. Field surveys of the existing socio-economic and production situations will then be in process in these small farms, as well as definition of new analog and gradient/model studies. Field experiments will be designed to be carried out on at least four hundred small farms in the region during the remainder of the project. Three short courses on farming systems research design will be carried out and at least ten area technicians will begin graduate training in farming systems.

Initial training of related extension, credit and market agents at the national level will be completed. These selected national technicians will begin working directly with small farmers, teaching the use, limitations and advantages of the cropping system tech packs and reporting on farmer progress/problems encountered in their implementation.

Budget Year Program: Data from field experiments in six countries will be tabulated, and results analyzed. Based on this analysis second year experiments for new farming systems will be designed, tested on small farms and additional data collected. First year analog and gradient trial data will be calculated and analyzed. Experiments based on these results will be designed and planted in the field. A minimum of six graduate students will begin studies for M.Sc. degree and ten students from first year class will graduate and be incorporated in their national research team. At least three short courses in cropping systems, animal systems and mixed farming systems will be given to at least fifty Central American and Panamanian technicians. Using cropping systems tech packs, training of national information transfer technicians will continue on cropping systems, and on small farms in specific areas of the region.

Major Outputs: The major outputs of this research program will include:

1. Development and application of a minimum of 24 new farming systems for: (a) small farms deriving a major part of their income from crops; (b) small farms receiving a major portion of their income from crops and a lesser portion of their income from animals; and (c) small farms earning a major portion of their income from animals.

2. An analysis will be completed of socio-economic and farming practices on small farms in the research areas selected by the six cooperating countries.

3. Two methods of extrapolating research results to analogous ecological situations in areas in which farming systems have not been conducted will be tested and the identification of a yet to be specified number of analogous areas completed.

4. Twenty Central American professionals will be trained at the M.Sc. level in farming systems and reincorporated in national programs to upgrade their capacity to conduct interdisciplinary research.

5. Over 200 Central American and Panamanian national research and information transfer technicians will be trained in short courses.

6. CATIE's capacity to develop new research methodologies, in cooperation with national programs will have been enhanced.

7. Cost-effective studies will be carried out among at least three outreach agencies to determine the most efficient form in which tech packs may be introduced to the small farmer.

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Small Farm Production Systems 1/ | ROCAP | Proposed | $1,472,000 |
| | INITIAL OBLIGATION: FY 1979 | FINAL OBLIGATION: FY 1982 | TOTAL COST: $5,675,000 |
| PROJECT NUMBER: 596-0083 (023) | APPROPRIATION: FN | DATE PP/REVISION: August 1978 | DATE LAST PAR: | DATE NEXT PAR: July 1980 |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | | | | 10/78-12/79 | 1465 | 1265 | 200 | 1/80-12/80 | 1472 | 1298 | 374 |
| Professionals - long-term | | | | 10/78-12/79 | 920 | 762 | 158 | 1/80-12/80 | 920 | 808 | 270 |
| Professionals - short-term | | | | 1/79-12/79 | 68 | 58 | 10 | 1/80-12/80 | 118 | 110 | 18 |
| Supporting staff | | | | 10/78-12/79 | 76 | 70 | 6 | 1/80-12/80 | 75 | 70 | 11 |
| Commodities - vehicles, lab. equipment | | | | 10/78- 6/79 | 175 | 175 | - | 9/79-3/80 | 48 | 48 | - |
| Other costs - conferences, computer time, CA travel | | | | 10/78- 9/79 | 226 | 200 | 26 | 1/80- | 311 | 262 | 75 |
| HC AND OTHER DONOR TOTAL- | | | | | 1402 | | | | LIFE OF PROJECT 5988 | | |
| CATIE | | | | | 559 | | | | 2112 | | |
| Central American Governments | | | | | 843 | | | | 3876 | | |



PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 1979 | 1980 | 1981 | 1982 | 19 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | 1.1 | 1.1 | 1.1 | 1.2 | | |

PERSONNEL INTENSITY

- [X] HIGH
- [ ] MEDIUM
- [ ] LOW

PARTICIPANTS PROGRAMMED

| TYPE A=NONCONTRACT B=CONTRACT | | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

1/ Formerly Small Farm Cropping Analogs 596-0078 and Regional Animal Systems Research 596-0079.

AID 1330-8 (3-78)

TABLE IV.A - ACTIVITY DATA - NARRATIVE

Regional Horticulture Crop Development - 596-0073

Purpose: To help develop a continuing integrated horticultural research capacity within Central America which will identify new crop production opportunities, determine bottlenecks requiring research, train national counterparts and prepare technological packages for identified cropping systems having socio-economic benefits to small farmers, and assure distribution of the technical packages to small farmers.

Background: The PRP for this activity was approved in October 1976. ROCAP proposes to delay submission of the PP and implementation until FY 1980 in order not to overload CATIE's ability to support the FY 1979 Small Farm Production Systems project, upon which ROCAP and CATIE place higher priority. During the first year of implementation of this latter project, ROCAP will consider modification of the present design of the Horticulture proposal in order to be able to better integrate it into a small farm systems approach, rather than the present crop-specific approach.

Project Description: As presently designed, the project will support the solution of key production research problems for specific fruits and vegetables through the improvement of presently inadequate Central American national capacities to design and implement horticultural research. Crops to be studied may include asparagus, carrots, celery, grapefruit, lettuce, limes, okra, rutabaga and tomatoes. The research program will reflect the results of crop diversification analyses, field surveys of present production patterns, studies of production and marketing procedures and costs, recognized consumer preferences and identification of the key changes in order to increase small farm income. These crops also have the potential of improving the diets of rural people and providing raw products for processing by agribusinesses and for fresh market export. The project will provide statistical designs for production-level tests of technical packages for use by national extension personnel.

Beneficiaries: A wide range of temperate and tropical horticultural crops, both fruits and vegetables, are grown on small farms in Central America. Most of these share characteristics of labor intensity and high value per unit of land area which

offers promise for increasing rural employment opportunities. This project will produce technical production packages for a selected number of these crops which will be developed, tested and ready for use on Central American small farms. CATIE and national research agencies will agree to promoting the delivery of the new technical packages to large numbers of small farmers.

Budget Year Program: FY 1980 obligations finance 74 man-months of long-term services and 64 mm of short-term services in horticultural research and marketing. Training will be conducted both within the region and abroad, the latter constituting most of the training costs. Seven graduate students will begin training in FY 1980.

Major Outputs: Major outputs include improvement of national horticultural research and production capabilities through:

- graduate horticultural training for a minimum of 13 Central Americans;

- short-term training for at least 75% of national horticultural researchers in improved research methods, production and marketing constraint analysis, research implementation, etc.,

- assistance in identification of those commodities offering the greatest potential for production or marketing breakthrough by small farmers,

- publication of a minimum of 20 production or market guides on commodities for which fresh or processed market potentials are identified, and

- application, at the farm level, of the new production techniques.

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Regional Horticulture Crop Development | ROCAP | Proposed | $ 439,000 |
| | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | FY 1980 | FY 1982 | $1,322,000 |
| PROJECT NUMBER / APPROPRIATION | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |
| 596-0073 (075) / FN | January 1980 | | March 1981 |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | | | | | | | | 1/80-5/82 | 439 | 215 | 224 |
| T.A. in Horticultural Research and Marketing | | | | | | | | 1/80-3/81 | 249 | 120 | 129 |
| Technical Training in Horticulture and Marketing (U.S./third country and local | | | | | | | | 9/80-5/82 | 93 | 12 | 81 |
| Research equipment and vehicles | | | | | | | | 1/80-9/80 | 53 | 53 | |
| Meetings, seminars, maintenance and support services | | | | | | | | 1/80-12/80 | 44 | 30 | 14 |
| HC AND OTHER DONOR TOTAL- | | | | | | | | | | | |
| Cooperating countries research support | | | | | | | | | | | |

LIFE OF PROJECT: 676

**PERSONNEL WORKYEARS (XX.X)**

| FUNDING | FISCAL YEAR 1980 | 1981 | 1982 | 19 | 19 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | .7 | .6 | .6 | | | |

PERSONNEL INTENSITY: [X] HIGH [ ] MEDIUM [ ] LOW

**PARTICIPANTS PROGRAMMED**

| TYPE | A=NONCONTRACT B=CONTRACT | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

AID 1330-3 (3-78)

TABLE IV.A - ACTIVITY DATA - NARRATIVE

Light Capital Technology Network - 596-0084

Purpose: To increase the quantity and regional utility and accessibility of rural-oriented appropriate and light capital technologies throughout Central America.

Background: Consensus has existed for some time in Central America that appropriate and light capital technologies appeared well-suited to help alleviate growing rural un- and under-employment and improve relatively low small farm productivity. Each country is attempting to identify potential rural-based industries and small farmer needs, and adapt and apply techniques and tools to meet these needs, either from other societies, or develop and improve local approaches. However, much of rural Central America is similar in its requirements for technology and approaches in one country are highly susceptible to application throughout the region. No regional system exists which promotes the production, transfer and application of already proven beneficial solutions to small farmers facing similar problems in neighboring countries. In an early attempt to meet such needs in the industrial sector, the Central American Republics created and support the Central American Research Institute for Industry (ICAITI) to support public and private sector development efforts requiring relatively sophisticated or new processes or techniques. Its early focus was on heavy and medium industry applicable to the import substitution policies of a beginning common market; however, ICAITI is increasingly shifting its program content downward to include small and rural industrial adaptation and development. In FY 1976 ROCAP and ICAITI began a Program for the Transfer of Technology (PTT) under which small and medium scale business would be offered access to modern technologies through a network of ICAITI field agents, ICAITI central technical personnel, cooperating national technology institutions and a selected group of U.S. technology "facilitators" including Georgia Tech, the Denver Research Institute (DRI) and the National Technical Information Service (NTIS). This activity ends in March 1981. During its final 18 months this activity will be strengthened by increasing field agent coverage to one resident in each Central American Republic and, to a limited extent, its scope expanded to include address of small farmer oriented light capital and appropriate technologies.

The PTT, however, remains but a communications network. We believe, although significant technology development is underway abroad as well as in a number of Central American national institutions, including at ICAITI itself, knowledge of the design and use factors for Central America are generally inadequate for widespread production and use. Although identification of potential rural industries and small farmer needs and technology to meet these needs is site specific, sufficient regional commonalities presently appear to exist to justify support for a cost-effective regional system whereby once the small farmer has identified his needs, selection of appropriate technologies could be selected and carefully designed production, field testing and marketing studies can be prepared, financed and evaluated, and then information on successful technologies made available to national institutions, entrepreneurs, small farmers and other rural poor throughout the region. Further, the tariff-free structure of the Central American Common Market significantly broadens the market for new technologies developed in any one of the Central American nations. Such a Light Capital Technology Network would simultaneously develop a degree of integration of disparate national technology efforts in the Region and abroad, avoid unnecessary duplicative design and testing activities, accelerate such testing through use of readily available financing, and make production designs, cost and market information on the technologies more widely and rapidly available. Their utilization en masse by small farmers through linkages with public and private national extension agents supported by bilateral USAID and national efforts, and having ICAITI's name and prestige behind them, should enhance ultimate acceptance by small farmers.

Project Description: ROCAP proposes to support creation and operation of a Central American Light Capital Technology Network consisting of the following extant agencies and functions:

1. ICAITI, which would be responsible for keeping all interested national C.A. organizations informed of ongoing national LCT development efforts; for offering technical assistance to other Central American efforts to develop appropriate LCT; for screening the growing literature on available new worldwide LCT for appropriateness in Central America; for designing and when necessary financing and supervising adaptation, pilot production and field tests of selected technologies including small farmer uses of non-conventional energy; for preparation of regional process handbooks of specific appropriate or light capital technologies, adapted and ready for production in Central America, which would require only minor, if any, site specific adaptation; for dissemination of production guides for entrepreneurs including requirements for production, likely production costs and estimated

returns for the new technologies; these should provide persuasive evidence to lending institutions of the viability of production programs, and should encourage entrepreneurs to consider supporting their production. Because of severe unemployment and underemployment in the rural sector, special focus shall be given to LCT manufacturing technologies which would be appropriate to the establishment of small rural industries. In this regard, ICAITI would also establish contacts with large-scale distributors of equipment and farm inputs, some of them with regional representatives in each Central American country, to encourage adaptation of their already existing farm machinery or their sponsorship of local manufacturing for distribution through their already established networks of private suppliers.

2. National public and private productivity centers, and technology research and experiment institutions, including, inter alia, CONOCIT, CATIE and IICA in Costa Rica, Escuela Pan Americana in Honduras, and CEMAT in Guatemala, whose important role in site specific adaptation would continue, albeit with less probability of duplication of effort, greater knowledge of related activities in the region, and better access to financing for prototype production and field tests and with the availability of expert technicians from ICAITI.

3. International technology data banks and advisors, who, under contract where necessary, would respond through ICAITI to specific requests from the individual countries for state-of-the-art solutions to farmer identified problems. ICAITI already has established working relationships with agencies outside of Central America:

- Georgia Tech, Denver Research and CODOT are under contract;

- WAITRO, the World Association of Industrial and Technological Research Organization, links it to sister institutes worldwide;

- IDB is financing appropriate technology experiments under its direction;

- England's Intermediate Technology Development Group.

The project will help ICAITI formalize and strengthen some of these institutional arrangements and provide ICAITI with resources and supplementary technical assistance as necessary to better coordinate and accelerate this effort.

Beneficiaries would include Central American small farmers whose access to new, low cost, inexpensive, and easily maintainable

farm implements and machines would greatly be increased. Secondary benefits would accrue to laborers and small industries (especially rural) who will produce and sell the new implements. Institutional benefits would accrue to the cooperating network institutions, whose strengthened linkages would serve to improve their individual institutional capacities.

Budget Year Program: The project will begin upon obligation of funds. ICAITI will meet with representatives of cooperating national institutions to formalize cooperative arrangements agreed to during project design. A long-term technology expert, to be selected competitively, will begin his assignment at ICAITI. Contractual arrangements with suppliers of appropriate and light capital technologies will be negotiated. Initial acquisitions for testing and production in Central America will begin.

Major Outputs: Over the four years of this activity over thirty new light capital technologies will be introduced into Central America, modified as necessary, and pilot production and field testing supported. Information on perhaps hundreds of other technologies, not requiring major adaptation or testing, would be facilitated. Distribution of production technology and utility of the new implements would be made available throughout Central America.

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Light Capital Technology Network | ROCAP | Proposed | $1,000,000 |
| | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | FY 1980 | FY 1983 | $5,000,000 |
| PROJECT NUMBER / APPROPRIATION | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |
| 596-0084 (874) / FN | | | November 1980 |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | | | | | | | | 10/79-6/81 | 1000 | 690 | 310 |
| Contract services for: | | | | | | | | | | | |
| a. resident technology advisor at ICAITI | | | | | | | | 11/79-6/81 | 100 | 60 | 40 |
| b. technology resources - U.S. and foreign | | | | | | | | 10/79-1/81 | 200 | 130 | 70 |
| Technology acquisitions and pilot production and field tests | | | | | | | | 1/80-1/81 | 700 | 500 | 200 |
| HC AND OTHER DONOR TOTAL- | | | | | | | | | LIFE OF PROJECT 1,000 | | |
| Central American personnel, test sites. | | | | | | | | | | | |

PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 1980 | 1981 | 1982 | 1983 | 19 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | 1.4 | 1.4 | 1.4 | 1.4 | | |

PERSONNEL INTENSITY

- [X] HIGH
- [ ] MEDIUM
- [ ] LOW

PARTICIPANTS PROGRAMMED

| TYPE | A=NONCONTRACT B=CONTRACT | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

AID 1330-8 (3-78)

TABLE IV.A - ACTIVITY DATA - NARRATIVE

SIECA Institutional Assistance - 596-0040

Purpose: Improve within the Secretariat for the Economic Integration of Central America (SIECA) the analytic capability to provide Central American decision-makers with policy options in matters affecting the economic and social community and to study several key integration issues with emphasis on the agricultural sector.

Background and Progress to Date: This project helps finance policy studies in the general area of regional economic development. Four studies were completed in 1977 (Costs and Benefits of Central American Economic Integration; a Basic Comparative Price Study; Unemployment and Underemployment in Central America; and Comparative Advantages in the Central American Common Market) and two in 1978 (Employment Problems of Export Economies in a Common Market, and the Input-Output Table for Guatemala). The first four studies have been disseminated among policy makers in the region to facilitate national decision-making and policy development affecting regional economic integration.

Beneficiaries: Studies made under this project are intended primarily for use by the region's policy makers; however, the macroeconomic model building and the agricultural sector model for Central America are both based upon close collaboration with each country's planning agencies, ministries of agriculture and economy, and central banks. The project thus provides a source of technical assistance to these agencies and promotes a standardized methodology to facilitate national and regional planning. In this process, the agricultural sector, especially, is receiving increased emphasis, and special efforts are made to cooperate closely with agricultural sector analysis efforts financed by Central American USAIDs.

Current and Budget Year Program: No FY 1980 funds are required for this activity; however, expenditures will continue through the first quarter of FY 1980.

SIECA's Special Research Unit (ECID) will continue studies and dissemination of selected integration topics responsive to needs of Central American policy makers with AID and other donors assistance during this period.

By the end of CY 1979 ECID plans to complete the following studies, now in progress: Input/Output Tables for Honduras, El Salvador, and Costa Rica; the Study on Industrial Capacity Utilization, and the Macroeconometric Models. In addition, priority attention will be given to establishing linkages between the Input/Output and macroeconometric models, and the agricultural sectoral models.

An ECID/ILO Seminar on Employment will be held in San Jose, Costa Rica in September 1978 with the participation of selected Central American policy makers and, additionally, during the present year ECID will begin to prepare a newsletter (3-4 per year) to improve and increase knowledge of study developments among both technicians and policymakers. Arrangements are also in process with each government to transfer the final results of the macroeconometric models for their immediate access and use.

ECID is also working closely with AID/DSB on two research efforts. One, in collaboration with INCAP, will incorporate nutrition factors into the agricultural sector models in each country. The other may involve ECID in developing and executing research in social progress indicators in Central America.

As ROCAP financing diminishes, ECID is expanding its resource base. Most promising sources appear to be the Central Banks and CABEI (the Central American regional bank). SIECA will continue some financial support to ECID. Finally, CIDA (Canada) has agreed to finance the elaboration of input-output tables for Honduras, El Salvador, and Costa Rica. IDB is also expected to continue the second phase of macroeconometric models development.

Major Outputs: A Special Research Unit carrying out economic and agriculture research on a broad range of integration and development issues. A network for the dissemination of study results among Central American policy makers, and standardized methodologies employed among technicians in Central American national and regional institutions.

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| SIECA Institutional Assistance | ROCAP | Minimum | - |
| | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | FY 1972 | FY 1979 | $2,674,000 |
| PROJECT NUMBER / APPROPRIATION | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |
| 596-0040 (957) / EH | December 1976 | April 1978 | December 1979 |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | 387 | 436 | 97 | 1/79 - 12/79 | 175 | 272 | - | | | | |
| Regional Research Training Assistance | 91 | 102 | 20 | 1/79-12/79 | 55 | 68 | - | | | | |
| Regional Research Operations | 296 | 334 | 77 | 1/79-12/79 | 120 | 204 | - | | | | |
| HC AND OTHER DONOR TOTAL- | 257 | | | | 1111 | | | LIFE OF PROJECT | 1668 | | |
| SIECA | 88 | | | | 90 | | | | 478 | | |
| Other donors (CIDA, Central Banks, CIEL, IDB) | 169 | | | | 1021 | | | | 1190 | | |

PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 1978 | 1979 | 1980 | 19 | 19 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | 1.1 | .8 | .5 | | | |

PERSONNEL INTENSITY

- [X] HIGH
- [ ] MEDIUM
- [ ] LOW

PARTICIPANTS PROGRAMMED

| TYPE A=NONCONTRACT B=CONTRACT | | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

AID 1330-8 (3-78)

TABLE IV.A - ACTIVITY DATA - NARRATIVE

Transfer of Technology - 596-0066

Purpose: To establish a Central American technology transfer system, serving both the private and, to a lesser degree, public sectors. The second phase of the project, to begin in FY 1979, will place increasing emphasis on small and medium-scale enterprises and appropriate technologies, particularly those which are not capital intensive.

Background: This project began as a pilot effort to test the utility and viability of a multi-national technology transfer network aimed at meeting technology requirements of small and medium scale businesses who, because of costs and manpower limitations, did not otherwise have ready access to modern processes and techniques. Because the project was considered to be a pioneer effort, it was divided into two phases with Phase II financing to be conditioned on a final evaluation of Phase I. During the first phase of the activity, to terminate in September 1978, operational procedures were developed, and sources of expertise, both within Central America and the United States, were surveyed and some contracted. An evaluation will help decide whether a second 18-month phase is justified. The second phase, if approved, will expand field representatives of the Central American Research Institute for Industry (ICAITI) from the present three to five, one in each Central American country. In addition to focusing upon small and medium-scale enterprise technology needs, the second phase shall place increased emphasis on transfer of appropriate and light capital technologies of benefit to the rural poor. Wherever feasible, priority consideration will be given to the establishment of rural based industries to meet the farmers technological needs and to utilize rural natural resources.

Progress to Date includes the establishment of a unit within ICAITI with three field representatives. Training of the ICAITI field representatives continues in identification of industrial technology requirements and information retrieval. To date, the project has initiated 329 information retrievals using national, ICAITI and U.S. sources, 250 contacts with different industrial firms, and 200 technical inquiries which required expert technical assistance from or obtained by ICAITI. Sources of technical information used by the project during the initial phase include, in the United States, the Georgia Institute of Technology, the Denver Research Institute

(DRI), and the Consortium for the Development of Technology (CODOT), the National Technical Information Service (NTIS) of the U.S. Department of Commerce, and in Central America, the National Productivity Centers and Chambers of Industry in the five republics. During the second phase of this activity additional support to the activity from Western European countries, private U.S. sources and international organizations may total over three expert-years. Examples of assistance provided under the project include:

- At the request of a small manufacturer, development of a new process to extract a bleaching agent from locally available plant material, and to test its marketing potential;

- Development of a new process for small sausage manufacturer which extends product shelf life from four days to nearly a month without introduction of new machinery;

- Design and initial production of low-cost electric banana storage machinery for use in municipal markets in El Salvador;

- Sponsoring seminars in canning and food preservation using U.S., ICAITI, and Central American specialists;

- Development of a new process requiring only minor modification to existing machinery, for a manufacturer to produce clear apple juice, instead of replacing existing machinery.

Beneficiaries: The original project design had small and medium scale entrepreneurs as direct beneficiaries; in cases where new or modified processes were introduced which either helped create a new business or expand production, workers have also benefitted. The proposed project extension will broaden the range of direct beneficiaries to include even smaller enterprises, especially those which can be located in the rural areas, and shall introduce small farmers as indirect beneficiaries through introduction of appropriate or light capital technologies into the transfer process. ICAITI, on a limited basis, would here both respond to public and private requests for assistance in producing new farm implements, and would screen and offer new equipment ideas to clients, i.e. manufacturers, development organizations, development banks and to other financial and government institutions, for local pilot production and testing. This should be recognized as the first step towards what subsequently may become a Light Capital Technology Network (596-0084). New technologies would be made available through existing public and private

extension services in the countries with whom ICAITI would strengthen cooperative relationships to promote diffusion of information among the now isolated efforts throughout Central America.

Current Year Program: If approved, the second phase of this project will run from October 1978 through March 1980 for which $210,000 will be obligated in FY 1979. One ICAITI field agent will be located in each Central American Republic. An estimated 620 contacts and a resulting 225 technical inquiries to ICAITI will be generated. Field agents will conduct some 150 appropriate technology searches for private and public sector entities focusing on small farm or off-farm requirements.

Budget Year Program: This activity will continue approximately through March 1980. Institutional relationships will be strengthened. An evaluation to be conducted prior to termination will examine the impact of project supported technology transfers on small and medium-scale industries and on the rural poor.

Major Outputs: Life of Project (3 years)

| | |
|---|---|
| ICAITI Field Representatives trained and located in Central America: | 5 |
| Contacts made with industrial firms: | 1,200 |
| Technical inquirires received by ICAITI: | 700 |
| Appropriate technology searches conducted: | 150 |

| TABLE IVB ACTIVITY BUDGET DATA | ACTIVITY TITLE | | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|---|---|
| | Transfer of Technology | | ROCAP | Minimum | - |
| | | | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | | | FY 1976 | FY 1979 | $720,000 |
| | PROJECT NUMBER | APPROPRIATION | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |
| | 596-0066 (9 77) | EH | April 1976 | October 1977 | July 1978 |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | 200 | 34 | 166 | 10/78-3/80 | 210 | 376 | - | | - | | - |
| Network operation support | 123 | 34 | 89 | 10/78-3/80 | 115 | 204 | - | | | | |
| Technology transfer information services (basic ordering agreements) | 72 | - | 72 | 10/78-3/80 | 95 | 167 | - | | | | |
| Training in information transfer | 5 | - | 5 | 1/79-3/79 | - | 5 | - | | | | |
| HC AND OTHER DONOR TOTAL- | 35 | | | | 40 | | | | LIFE OF PROJECT 170 | | |

PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 1978 | 1979 | 1980 | 19 | 19 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | .5 | .4 | .4 | | | |

PERSONNEL INTENSITY

- [X] HIGH
- [ ] MEDIUM
- [ ] LOW

PARTICIPANTS PROGRAMMED

| TYPE | A=NONCONTRACT B=CONTRACT | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

AID 1330-8 (3-78)

TABLE IV.A - ACTIVITY DATA - NARRATIVE

Program Development and Support - Education and Human Resources Development - 596-0000.5

Purpose: This activity provides resources with which ROCAP supports program evaluations of ongoing programs in this sector.

Background and Progress to Date: ROCAP's two ongoing activities, 0040 SIECA Institutional Assistance and 0066 Transfer of Technology have been evaluated using PD&S resources during the past year (FY 1978) and current year (FY 1979).

Budget Year Program: Final evaluations of the two aforementioned activities will be conducted during FY 1980. Additionally, design of future activities, not presently identifiable, may be supported using FY 1980 resources.

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Program Development and Support | ROCAP | Minimum | $5,000 |
| | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | FY 1975 | Continuing | - |
| PROJECT NUMBER / APPROPRIATION | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |
| 596-0000.5 (690) / EH | - | - | - |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | 10 | 17 | - | 3/79 | 5 | 5 | - | 12/79 | 5 | 5 | - |
| Evaluations | 10 | 17 | - | 3/79 | 5 | 5 | - | 12/79 | 5 | 5 | - |
| HC AND OTHER DONOR TOTAL- | | | | | | | | LIFE OF PROJECT | | | |

PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 1978 | 1979 | 1980 | 19 | 19 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | .1 | .1 | .1 | | | |

PERSONNEL INTENSITY

- [ ] HIGH
- [X] MEDIUM
- [ ] LOW

PARTICIPANTS PROGRAMMED

| TYPE (A=NONCONTRACT, B=CONTRACT) | | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

AID 1330-3 (3-78)

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Tourism Infrastructure - CABEI (596-L-013) | ROCAP | - | - |
| | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | FY 1973 | N/A | $13,350,000 |
| PROJECT NUMBER / APPROPRIATION | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |
| 596-0045 (800) / AL | February 1973 | August 1975 | December 1978 |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | | 6270 | 7080 | | - | 7080 | | | | | |
| Construction and engineering supervision | | 6270 | 7080 | | - | 7080 | | | | | |
| HC AND OTHER DONOR TOTAL- | 2000 | | | | 2600 | | | | LIFE OF PROJECT 5,000 | | |
| CABEI | | | | | | | | | | | |

| PERSONNEL WORKYEARS (XX.X) | FISCAL YEAR 1978 | 1979 | 19 | 19 | 19 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | 1.2 | .9 | | | | |

PERSONNEL INTENSITY: [ ] HIGH [X] MEDIUM [ ] LOW

| PARTICIPANTS PROGRAMMED (A=NONCONTRACT B=CONTRACT) | | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

AID 1330-8 (3-78)

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Highway Infrastructure - CABEI 596-L-014 | ROCAP | - | |
| | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | FY 1973 | N/A | $25,000,000 |
| PROJECT NUMBER / APPROPRIATION | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |
| 596-0056 (821) / AL | February 1973 | September 1976 | December 1979 |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | | 9063 | 1400 | | | 1400 | - | | | | |
| Construction and engineering supervision | | 9063 | 1400 | | | 1400 | - | | | | |
| HC AND OTHER DONOR TOTAL- | 60 | | | | 250 | | | | LIFE OF PROJECT 6,250 | | |
| CABEI | | | | | | | | | | | |

| PERSONNEL WORKYEARS (XX.X) | FISCAL YEAR | | | | | | PERSONNEL INTENSITY |
|---|---|---|---|---|---|---|---|
| FUNDING | 1978 | 1979 | 19 | 19 | 19 | BEYOND | |
| PROGRAM ACCOUNT | | | | | | | ☐ HIGH |
| TDY (NON-ADD) | | | | | | | ☒ MEDIUM |
| OPERATING EXPENSES | 1.2 | .9 | | | | | ☐ LOW |

| PARTICIPANTS PROGRAMMED | TYPE A=NONCONTRACT B=CONTRACT | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

AID 1330-3 (3-78)

TABLE IV.A - ACTIVITY DATA - NARRATIVE

Program Development and Support - Selected Development Activities - 596-0000.6

Purpose: This activity provides resources with which ROCAP will finance expert services for the design of proposed programs in this sector.

Background and Progress to Date: ROCAP presently has no active SDA programs. FY 1978 resources were used to finance miscellaneous additional contract costs billed for the recently terminated Housing Technical Assistance (596-0058) activity.

Current Year Program: During the current year funds will be used to support contract services from the Environmental Protection Administration (EPA) for design of the proposed FY 1980 Urban Pollution Baseline Survey (596-0082), as well as for the FY 1980 Energy Feasibility Studies Loan.

Budget Year Program: FY 1980 resources would be used for final project design assistance for the foregoing activities and for development of future activities.

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Program Development and Support | ROCAP | Proposed | $15,000 |
| | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | FY 1975 | Continuing | - |
| PROJECT NUMBER / APPROPRIATION | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |
| 596-0000.6 (790) / SD | - | - | - |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | 5 | 8 | - | 3/79-6/79 | 10 | 10 | - | 11/79-9/80 | 15 | 15 | - |
| Miscellaneous contract services - Contract services - project design | 5 | 8 | - | 3/79-6/79 | 10 | 10 | - | 11/79-9/80 | 15 | 15 | - |
| HC AND OTHER DONOR TOTAL- | | | | | | | | | LIFE OF PROJECT | | |

PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 1978 | 1979 | 1980 | 1981 | 1982 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | .2 | .5 | .3 | .3 | .3 | |

PERSONNEL INTENSITY

- [ ] HIGH
- [X] MEDIUM
- [ ] LOW

PARTICIPANTS PROGRAMMED

| TYPE (A=NONCONTRACT, B=CONTRACT) | | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

AID 1330-8 (3-78)

TABLE IV.A - ACTIVITY DATA - NARRATIVE

Regional Urban Pollution Baseline Survey - 596-0082

Purpose: To establish baseline data on the extent of environmental pollution of selected major urban population centers in Central America.

Background: Between 1960 and 1970, the major urban centers in Central America have grown rapidly. The capital cities of Costa Rica, Guatemala, and El Salvador grew in population by at least 50% in the decade while the capital cities of Nicaragua and Honduras grew by over 80%. The five capitals had a combined population increase of 956,000 during the 1960's compared to an existing population in those cities of 877,000 in 1950. This same growth pattern is foreseen for the 1970's, and beyond. With the exception of Honduras, where the population of Tegucigalpa is about 43% of the nation's urban population, the other Central American countries' capital city population varies between 60% and 75% of the total urban population. By the end of the century the total projected population in Central America is 31 million of which an estimated 9 million will be located in the capitals. These larger Central American urban centers are experiencing largely unplanned growth which is seriously affecting the environment and consequently, the living conditions of the urban population, particularly the poorer segments of urban society who are the most recent arrivals. These immigrants generally live in sub-standard housing on the outskirts of town beyond normal services, depend on public transportation and are usually unskilled.

The cities are unable to cope with the influx and the poor are forced to use non-potable water from any available source, including streams in which untreated sewage effluent is discharged, live and work nearest to industrial zones and areas highly polluted by vehicle emissions (particularly buses), have little access, if any, to solid waste disposal systems, and work in industries employing masses of unskilled workers, usually under poor working-environment conditions.

Moreover, national and municipal government agencies (Ministries of Health and Agriculture and city planning offices) responsible

for both servicing their needs and protecting the environment and health and well-being of the populace do not have adequate environmental guidelines and little factual data is available regarding the extent of the problems for determining possible solutions.

Without overall pollution or contamination data, national attempts at regulation have been stymied or have been a haphazard undertaking. There is no regional environmental policy to aid each country in setting uniform standards. Thus each country is hesitant to apply too stringent regulations in comparison with its fellow Common Market neighbors in fear of losing potential investment, particularly since there is no regional industrialization policy. Through visits with city mayors, Ministry of Health officials and various other officials dealing with environmental concerns in San Pedro Sula, Guatemala City, San José, Managua, San Salvador, and Tegucigalpa, the Central American Institute for Industrial Research (ICAITI) has confirmed that there is strong interest for baseline pollution-level data. There is no known data base in Central America where the pollution or contamination levels have been or are being determined or quantified. The only known monitoring system that exists in Central America is the Panamerican Health Organization (PAHO) air testing system installed in all Latin American capitals (including Central America) called REDPANAIRE (Red Panamericana de Aire). However, the only data being obtained at the various fixed locations (two to three in each city) is sulphur dioxide, dustfall, temperature, humidity, and rainfall. Also, PAHO is beginning a program with the Costa Rica Ministry of Health for a pollution baseline survey only of industries. This includes testing emissions/discharges and noise levels.

In view of the need and interest for pollution and contamination data, ROCAP proposes a regional program, through ICAITI, for an overall pollution baseline survey in the larger urban centers in the region. This survey would be a cooperative effort of the national government agencies, city planning offices charged with the protection of the environment, and ICAITI, to apply the needed technical and financial resources for such a project. The purpose would be to provide the Central Americans with information needed, along with recommendations for environmental standards, to move towards rationalizing

national environmental regulations and the establishment of national/regional environmental policies.

A coordinated regional pollution survey is recommended primarily because of economies of scale gained and to assure standardized data gathering methods and procedures throughout the region. This study would be more expensive if each country were to purchase monitoring equipment individually. ICAITI already has some equipment. Also, the provision of technical assistance to conduct a survey is more economical on a regional basis than for each country separately. In most Central American countries, individuals would have to be trained before any local testing program could be accomplished; therefore, a regional training program would be carried out under the project to strengthen organizations responsible for environmental control in the evaluation of environmental problems. Regional coordination will thus economize on scarce managerial and technical resources. While subsequent projects to address specific pollution problems in particular locales may better be handled locally, this initial proposed survey of the situation can be conducted most efficiently through a coordinated regional effort.

Project Description: The proposed project would test and monitor noise levels, air, water, and solid waste disposal quality in the major cities throughout Central America during a 14-month period. This would include, depending on the media, testing the amount of heavy metals by type, carbon monoxide, carbon dioxide, sulphur dioxide, suspended solids, bacteriological quality, noise level determinations, etc. This basic information is essential to establish effective environmental regulations or rationalize existing regulations which have been found to be impractical.

ICAITI, given its experience in this field and its contacts throughout the region, appears best qualified to coordinate a regional survey serviceable to all areas of the region. ICAITI will conduct the surveys and compile and publish the information. The work would be coordinated through the appropriate concerned national and local government offices which would provide manpower assistance and logistical support. AID would fund technical assistance to ICAITI, training of national technicians, project budget support, and limited equipment and supplies for the conduct of the survey.

Through a well-designed and coordinated environmental quality testing program, sufficient data will be obtained to show the nature and extent of regional urban pollution problems. The particular urban locations where the surveys would be conducted would be defined during the development of the project, taking into consideration population densities, amount of industry, and available government services. The testing and monitoring of the environment in each of the selected urban centers would be periodic over at least a one year period. The expected result is to establish general pollution-range levels, noise, emission, and contamination levels of industries and selected areas throughout the cities, and potable and adjacent-stream water quality. In addition, a training program will be accomplished to strengthen the Central American institutions responsible for environmental control to be able to evaluate and determine solutions for environmental problems. Training of technicians would be conducted by ICAITI and at least one ICAITI technician and one technician from each country would be sent to a course in the U.S. to improve their environmental planning skills.

The responsible environmental control agencies in each country have expressed verbal interest in a regional pollution survey. This would be confirmed in writing along with proposed project manpower, equipment, and logistical support during the development of the project.

The major assumption for development of the project is that the results of the proposed survey will in fact be used by both the private and public sectors. This is impossible to determine at this time but the data to be provided by the survey is essential for the development of any rationalized urban environmental program. Government planners are aware of this and in a particular instance in Costa Rica, the Chamber of Industry has written ICAITI regarding their interest in the survey since an Industrial Environmental Code is presently being developed. Also, Costa Rica and Guatemala, and possibly other Central American countries, have civic groups which are now promoting environmental controls. The results of the survey will no doubt increase public and government awareness of environmental problems and will provide a basis for sound planning.

ICAITI recently concluded a detailed regional study of the effects of excessive and improper use of pesticides in

Central American cotton production, and while there are no known immediate radical changes in the use of pesticides or new legislation to date as a result of dissemination of the report, there has been increasing awareness of the effects of uncontrolled use of pesticides and there is some movement towards improved management and control. The cotton growers are beginning to be convinced that improved pesticide management is definitely in their interest by reducing the numbers of pesticide applications while still maintaining yields or profits. In addition, health preventative actions are beginning to be undertaken by health officials to protect cotton workers. Government agencies responsible for the use, management and transportation of pesticides are also beginning to enforce existing pesticide laws more stringently. The ICAITI report confirmed with factual data what was in some cases generally assumed, and with continued promotion and increased awareness of the environmental and economic consequences of uncontrolled pesticide use, improved government and private control and management of pesticides is foreseen. In June of 1978, a Regional Pesticide Management Workshop/ Seminar is scheduled at ICAITI with AID assistance. Approximately 200 representatives of the public and private health, agriculture, and natural resources/environment sectors are expected to attend. The topics to be covered include the impact of current pesticide use on the environment, economy and health, integrated pest management and regulations, pesticide analysis quality control, etc. This seminar is expected to continue to increase awareness and capacity for the application of a more rational management of pesticides and required health preventative actions.

The results of the pollution survey and concomitant recommendations may not produce immediate legislative changes or laws but are expected to be used as a basis for the development of national and municipal environmental plans. (At a minimum, a pollution survey would provide present baseline data which, in future years could be used as a measure to determine the extent of improving or worsenning environment). ICAITI would work with civic groups and other Central American Regional organizations, particularly the Central American Secretariat for Economic Integration (SIECA) and the Central American Bank for Economic Integration (CABEI) to promote regional and national environmental policy and application of environmental examinations to proposed public projects.

In addition, ICAITI would organize a Regional Environmental Conference to promote the findings and recommendations of

the baseline survey and to bring together officials responsible for environmental policy and control and interested groups to discuss matters of mutual interest and solutions thereof.

Beneficiaries: The immediate beneficiaries from the proposed project will be the participating agencies of the national and local governments whose environmental protection planning data base will be provided by the survey and whose planning capacities will be improved by the proposed survey and the training of technicians under the project. The survey data is indispensable for the formulation of rational and effective environmental regulations. Regional industrial investment will be facilitated by the application of predicable and rational guidelines on a regional basis, and through cost-effective environmental protection regulations, the ultimate and most important beneficiary will be the populace at large. Benefits will accrue in large measure to the poorer segment of the populace which suffer disproportionately from environmental contamination.

Current Year Program: The current year program will include further contacts and discussions with ICAITI and national and municipal officials involved with environmental control for the development and submittal of a PID by November 1978.

With approval of the PID, an expert from the Environmental Protection Agency will be supplied under ROCAP auspices to work with ICAITI for about two weeks to assist in the design of the project. A project outline, along with suggested equipment and monitoring methods and responsibilities, will be discussed with the appropriate officials in the national and municipal governments. The PP would be submitted to AID/W in October 1979.

Budget Year Program: The regional pollution survey will be conducted in selected cities throughout the region. The environmental quality in the cities will be monitored and tested to determine pollution or contamination levels by location, degree, and source(s). This would include air, water (potable and stream), waste disposal systems, and noise levels. The current estimate is to conduct tests, compile the information, develop recommendations and complete a report over an 18-month period.

ICAITI will also contact one or more medium-size U.S. or Latin American country city with particular successful

pollution control programs to provide a medium for exchange of ideas and experiences regarding environmental problems and possible solutions.

Major Outputs: The final result of this project will be a comprehensive report of the findings of the survey. The report will be published and disseminated to the concerned national and municipal governments for their use in development of pollution abatement programs. Recommendations for minimum environmental standards and suggested corrective measures or guidelines will be included in the report. ICAITI, with possible assistance from SIECA and CABEI, will promote the findings of the report in a concerted effort to create awareness of pollution problems and the need for effective and national environmental control.

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Regional Urban Pollution Baseline Survey | ROCAP | Proposed | $190,000 |
| | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | FY 1980 | FY 1980 | $190,000 |
| PROJECT NUMBER / APPROPRIATION | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |
| 596-0082 (851) / SD | October 1979 | | June 1981 |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | FY: 1978 OBLIGATION | FY: 1978 EXPENDITURE | FY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | | | | | | | | 10/79-6/81 | 190 | 190 | - |
| Technical Services | | | | | | | | 1/80-6/81 | 128 | 128 | - |
| Equipment and Supplies | | | | | | | | 10/79-1/80 | 33 | 33 | - |
| Training | | | | | | | | | | | |
| In US with EPA | | | | | | | | 6/80 | 17 | 17 | - |
| In Central America given by ICAITI | | | | | | | | 3/80-6/81 | 12 | 12 | - |
| HC AND OTHER DONOR TOTAL- | | | | | | | | | LIFE OF PROJECT 50 | | |
| Central American national participating staff | | | | | | | | | 45 | | |
| Equipment and supplies | | | | | | | | | 5 | | |

PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 1980 | 1981 | 19 | 19 | 19 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | .4 | .4 | | | | |

PERSONNEL INTENSITY

- [ ] HIGH
- [X] MEDIUM
- [ ] LOW

PARTICIPANTS PROGRAMMED

| TYPE | A=NONCONTRACT B=CONTRACT | FISCAL YEAR 1980 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | 6 | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

AID 1330-8 (3-78)

TABLE IV.A - ACTIVITY DATA - NARRATIVE

Non-Conventional Energy Feasibility Study Loan - 596-0086

Purpose: To establish a regional Non-Conventional Energy Feasibility Study Loan Fund.

Background: During the last 10 years, Central America's energy consumption has been growing approximately 7% annually. Imported energy during the same period increased 7.5% annually, indicative of the region's increasing dependency on imports. Energy consumption in 1975 totalled 7.27 million equivalent tons of oil, of which 48% was derived from imported oil. Expenditures for imports of oil and its derivatives increased 379% from $77.1 million in 1971 to $369.3 million in 1975.

Commercial Energy: In 1976 56% of Central American consumption was commercial energy consisting of electricity and use of combustibles derived from petroleum (the latter contributing 71% of this type of energy). Annual rates of growth of commercial energy over the last ten years have averaged 7.7%. The major demand for this type of energy in 1975 was industrial (38%), transportation (28%), generation of electricity (19%), and domestic and other uses (9 and 5% respectively). The greatest increase in demand is in electrical generation (12.1% annually). In response to this accelerated demand for electricity, the region is currently involved in a major investment program into hydroelectric and geothermal power which by 1985, assuming interconnections between Central American countries, will account for electrical generating possibilities of 10,576 annual gigawatt hours[1/]. This compares to projected 1985 demand of 11,810 annual gigawatt hours. The difference will be covered by thermal generation. Thus, the formal electrical generation field will be largely covered through these efforts.

Non-Commercial Energy: 44% of the energy consumption (down from 50% in 1966) is satisfied by non-commercial energy sources such as wood and vegetable combustion for home use, burning of bagasse in sugar processing, and the minor use of coffee wastes in coffee processing. Energy use in this sector has grown over the past ten years at 5.7% annually.

Oil Imports: In spite of increased investment in hydro and geothermal power sources, the region will still continue

---

1/ 1 gigawatt hour = 1 billion watt hours.

to be highly dependent upon, and increase its imports of oil and derivatives for agricultural production, industrial consumption, and transportation. Reduction in these imports can only occur if: (a) petroleum products are utilized more efficiently; (b) local production of crude oil is increased; and (c) local sources of alternative energy can be substituted.

All the Central American countries are planning for the maximum use of their hydroelectric resources and the development of any possible geothermal energy sources, principally with IDB and World Bank financing. In addition, the investigation and development of possible oil reserves is being done through government leases to private oil companies. Unfortunately, the massive investment required for hydro projects and geothermal energy investigation for electrical generation, along with limited resources, has resulted in little organized regional or national efforts in the development of other energy sources to satisfy the other energy consuming sectors.

A Regional Approach: The Central American countries authorized the formation of a Regional Energy Commission in 1975 to establish a regional energy policy and to coordinate national energy plans. This Energy Commission is not yet functioning but would be formed by representatives of National Energy Committees. To date only Costa Rica has an operating National Energy Committee. Guatemala and El Salvador have committees established but not fully functioning. Honduras and Nicaragua are still in the early discussion stage. In support of this initiative, the United Nations (U.N.) established a program of technical cooperation called the Central American Energy Program. The first phase included assistance in a preliminary Central American Electrical Interconnection Study. Also, minor activity in geothermal energy was started under the program in 1977 with participation of the Central American Bank for Economic Integration (CABEI) which included technical assistance, information gathering, and personnel training for geothermal programs in each country. A second phase of the program has now been planned jointly by the U.N., ECLA, and the Secretariat for Central American Economic Integration (SIECA), in consultation with Central American governments, and is now pending final approval of the governments. This proposed $1.8 million 3-year U.N. grant program is basically a regional energy sector analysis. Technical assistance will be provided by the U.N. for the evaluation and identification of priority projects or other necessary actions for national and regional development and supply of energy. The project covers six areas:

1) Information/Statistics gathering for planning purposes (9% of project cost).

2) Oil; evaluate oil potential and provide technical assistance in oil exploration/development (40% of project cost).

3) Geothermal Energy; technical assistance in evaluating/developing resources (23% of project cost).

4) Studies and project development for national electrical interconnections (11% of project cost).

5) Assistance for alcohol production (for fuel) and other non-conventional energy sources. (5% of project cost).

6) Energy related personnel training and institution building (12% of project cost).

The Central American countries' counterpart cost for this project would be $2.2 million in personnel and other costs for a total project cost of $4 million. SIECA expects Central American government approval of this project by the end of 1978.

Alternative Energy Sources: New Central American national development plans contemplate the evaluation and application of non-conventional energy sources such as the production of alcohol for fuel, biogas, solar, wind, hydrogen production, wood and wood-waste fuel products, etc.

In mid-1977, ICAITI prepared and submitted a regional $5 million project proposal to CABEI for grant financing the development of an array of non-conventional energy sources. This program was designed to investigate renewable energy sources and to construct regional pilot plants or prototypes. The largest portion of the proposed program (68%) deals with the construction of an alcohol production pilot plant to determine its economic feasibility. Other areas of interest identified are solar energy (11%), methane gas (10%) and wind (11%). It is unlikely that CABEI will be able to respond to this request as it is unable to provide grant financing of this magnitude. However, other research and development of alternative energy sources in the Central American countries is wide ranging and varied. Geothermal energy possibilities are strongly being looked into in each country, with El Salvador having the only operational geothermal plant and Nicaragua planning its first plant (35 MW). Costa Rica, with IDB

financing, is investigating two potential geothermal sites and drilling results are expected in 1979. Guatemala has investigated its first possible geothermal site but it turned out to be unfeasible. The investigation of one geothermal site with World Bank financing in Honduras is presently stopped because of the contractor's bankruptcy, but the National Electric Company is attempting to restart the project. In addition to the above investigations, all the countries are looking into other possible geothermal sources. In Honduras, there are reportedly 17 possible geothermal sites identified that could be investigated. Other types of alternative energy sources are also being looked into. In almost all the countries universities are investigating solar, wind, and bio-gas energy use with some prototypes already developed. ICAITI has done studies in alcohol production from sugar cane and will hold a regional seminar soon on its feasibility. ICAITI is also working in developing solar dryers and the production of bio-gas for use in the rural areas and hopes to develop prototypes by the end of the year. ICAITI is also investigating use of agriculture waste for pyrolytic conversion to fuel. The National Electric Companies are interested in using wood wastes for power generation and a feasibility study for a project in Honduras is currently underway. Private consultants, organized groups such as the Mesoamerican Study Center of Appropriate Technology (CEMAT), and government agencies or semi-autonomous agencies are also involved in developing and studying alternative energy sources. In Guatemala, a local consulting engineer has already constructed 11 bio-gas plants for private individuals.

The nature of these activities is that most R&D work ends at the prototype stage. By 1980, ROCAP believes the above activities will be sufficiently advanced that there will be increasing opportunities to move into the design and construction stage of commercially viable projects. This will necessitate feasibility study funds.

In view of the Central American countries' need and interest in the development of alternative sources of energy, ROCAP proposes the establishment of a Non-Conventional Energy Feasibility Study Loan Fund to be handled by CABEI. A $7 million AID loan to CABEI is proposed, along with a $1.75 million CABEI/Central American government contribution, for an $8.75 million Central American Loan Fund for the financing of technical/economic feasibility studies to exploit all Central American energy resources as an alternative to imported energy. This would insure CABEI's ability to assist Central America in

the development of currently planned alternative energy sources and would provide funding for possible projects identified by the aforementioned R&D activities.

CABEI's Role: Because of limited available resources, CABEI's principal current priorities in energy are 1) the construction of the physical electrical-line interconnections between the Central American countries (1978-1981), and 2) the long-term development of a completely integrated regional power network (1980's). To date only Nicaragua and Honduras are electrically interconnected; CABEI has prepared and submitted a $76 million program proposal to the Interamerican Development Bank (IDB) for its possible participation in the financing of three bilateral interconnection projects which includes seven transmission lines with associated substation facilities having a length of 700 kms. This includes electrical interconnections between Honduras and Guatemala, Guatemala and El Salvador, and Costa Rica and Nicaragua. Also, CABEI, the IDB, and the U.N. are currently financing the design of a complete Central American electrical interconnection network. Notwithstanding its principal priorities and programs as listed above, CABEI is aware of the present Central American need and interest in the development of non-conventional energy sources but needs additional funds to enter this field.

CABEI would be able to provide immediate regional support for alternative energy development versus the establishment of small funding programs individually in each country. The fund would provide the resources for expeditious development of alternative energy sources on a regional level depending on the countries areas of particular interest. Also, an impulse would be provided for the development of possible regional alternative energy programs such as production of alcohol for fuel on a large scale. Costa Rica, furthermore, is planning a science and technology program, with AID support, that would include nonconventional energy. CABEI's fund would complement and extend this activity in Costa Rica to other countries, particularly since that country is more advanced than the other Central American countries in the planning of alternative energy uses. Thus, CABEI would be able to assist in the coordination of energy development throughout the region along with its plans for development of a regional electrical network.

Project Description: ROCAP proposes to provide a $7 million loan to CABEI, which along with a $1.75 million CABEI counterpart contribution, would form a $8.75 million Regional Non-

Conventional Energy Feasibility Study Loan Fund to be operated by CABEI. CABEI would make these funds available through sub-loans, to national government agencies, semi-autonomous government institutions, or private sector firms to finance technical and economic feasibility studies and, as appropriate, pilot and/or operational projects throughout the region for development of alternative energy sources, including the manufacture within the CACM of small scale alternative energy devices, as an alternative to importing energy. The additional required financing of the projects determined to be feasible would be coordinated by CABEI with other international lending institutions or local resources depending on the investment involved. The principal assumptions for the establishment of the fund are 1) that technology is sufficiently available for the development and evaluation of alternative energy sources, and 2) that the Central Americans are indeed interested in such a fund.

CABEI sub-borrowers for the alternative energy feasibility studies would include the national electric companies (possible conversion to local combustion resources in lieu of oil for thermal generating plants, or geothermal energy development), private industry, and government agencies or semi-autonomous government agencies involved with energy development or use of natural sources. For example, in Guatemala, the Institute of Municipal Development or the National Institute of Agrarian Reform could be possible borrowers in developing alternative energy sources for use in rural areas (wind powered pumps, biogas heating/cooking). In Costa Rica, the Corporación Costarricense de Desarrollo (CODESA) is another similar possibility as well as similar agencies in the other Central American countries. The Ministries of Agriculture would probably be interested in developing solar grain dryers for rural use and Natural Resources Directorates would be interested in conservation of wood resources and in the feasibility of wood conversion to charcoal on large scale to reduce wood consumption.

In the private sector, small and medium scale manufacturers could be encouraged through industrial credits to undertake local fabrication.

Beneficiaries: The ultimate beneficiary will be the region as a whole through the development of alternative energy sources as opposed to having to pay rising prices for imported energy. The rural poor will benefit indirectly in the long run through the continued development of energy sources that they could possibly apply using natural resources immediately available

to them, particularly in biogas production and the use of solar and wind energy. The application of more efficient use of wood and agricultural waste for domestic fuel such as pyrolytic conversion to charcoal would assist in saving the valuable resource that is presently being depleted rapidly. In the particular case of production of alcohol from sugar cane, should this be determined to be economically feasible in Central America, small farmer sugar cane production would be guaranteed stable prices. In addition, the increase in sugar cane production would have a direct effect on increased jobs in the rural areas. ICAITI's preliminary studies in the production of alcohol for fuel shows that for Central American introduction of 15% alcohol into gasoline in 1980, a projected 39,545 hectares (97,676 acres) of sugar cane production would be required. This would generate an estimated foreign exchange savings of at least $18.4 million in 1980.

In addition, CABEI would be strengthened as a regional institution and its already important role in energy sharing and saving would be enhanced.

Issues: The major issue at this point involves the extent to which R&D work will be sufficiently advanced to justify the expenditure of funds for full-scale feasibility studies. ROCAP will be consulting closely with CABEI and ICAITI on developing a potential demand list for this program.

The terms and conditions of the loan are assumed to be the most concessional AID can provide to Latin America at the time of authorization. CABEI counterpart is assumed to be 25%.

Coordination with individual country programs will be necessary. During project development, an institutional mechanism will be designed to ensure that CABEI's activities are directly supportive of such activities.

Current Year Program: The current year program includes contacts with CABEI and the Central American governments to determine if definite interest exists for the establishment of a Non-Conventional Energy Feasibility Study Loan Fund, and if so, to develop a PID to be submitted to AID/W by November, 1978.

With AID/W approval of the PID, the PP will be developed with assistance from the AID/W Development Support Energy Office for submittal to AID/W by November 1979.

Budget Year Program: During the budget year the loan agreement with CABEI will be signed and CABEI subloan application and disbursement procedures will be established. CABEI, with ROCAP approval, will prepare a tentative list of projects to be financed with complete disbursement by BY+4.

Major Outputs: The project outputs would be the completion of technical and economical feasibility studies or pilot projects for the development of alternative energy sources and the continued CABEI promotion and financing of these energy sources to reduce Central American need for imported energy.

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Non-Conventional Energy Feasibility Studies Loan | ROCAP | Proposed | $7,000,000 |
| | INITIAL OBLIGATION: FY 1980 | FINAL OBLIGATION | TOTAL COST: $7,000,000 |
| PROJECT NUMBER: 596-0086 (878) / APPROPRIATION: SD | DATE PP/REVISION: November 1979 | DATE LAST PAR | DATE NEXT PAR: September 1981 |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | | | | | | | | 3/80-2/84 | 7000 | 500 | 6500 |
| Feasibility Studies | | | | | | | | 3/80-2/84 | 7000 | 500 | 6500 |
| HC AND OTHER DONOR TOTAL- | | | | | | | | | LIFE OF PROJECT 1,750 | | |

PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 1980 | 1981 | 1982 | 1983 | 1984 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | .4 | .4 | .4 | .4 | .4 | |

PERSONNEL INTENSITY

- [ ] HIGH
- [X] MEDIUM
- [ ] LOW

PARTICIPANTS PROGRAMMED

| TYPE A=NONCONTRACT B=CONTRACT | | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

AID 1330-8 (3-78)

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Guatemala Urban Shelter Improvement | ROCAP | Minimum | - |
| | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | FY 1978 | - | $19,000,000 |
| PROJECT NUMBER / APPROPRIATION | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |
| 596-0075 (862) / HG | February 1978 | | |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 1978 OBLIGATION | PY: 1978 EXPENDITURE | PY: 1978 PIPELINE | CY: 1979 FUNDING PERIOD (FR-TO) | CY: 1979 OBLIGATION | CY: 1979 EXPENDITURE | CY: 1979 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | 19000 | 3000 | 16000 | 10/79-9/80 | | 6500 | 9500 | 10/80-9/81 | | 9500 | - |
| Support Guatemalan improved shelter efforts for low-income families | 19000 | 3000 | 16000 | 10/79-9/80 | | 6500 | 9500 | 10/80-9/81 | | 9500 | - |
| HC AND OTHER DONOR TOTAL- | | | | | | | | | LIFE OF PROJECT | | |
| | | | | | | | | | 19,300 | | |

**PERSONNEL WORKYEARS (XX.X)**

| FUNDING | FISCAL YEAR 1978 | 1979 | 1980 | 19 | 19 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | | | | |
| TDY (NON-ADD) | | | | | | |
| OPERATING EXPENSES | .1 | .1 | .1 | | | |

PERSONNEL INTENSITY

- [ ] HIGH
- [ ] MEDIUM
- [X] LOW

**PARTICIPANTS PROGRAMMED**

| TYPE | A=NONCONTRACT B=CONTRACT | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

AID 1330-8 (3-78)

TABLE IV.A - ACTIVITY DATA - NARRATIVE

Central American Secondary Mortgage Market Development - 596-HG-005 - 596-0087

Purpose: To provide for the strengthening and extension of CABEI's secondary mortgage operation for the promotion and financing of low-cost housing in Central America.

Background: AID has provided substantial HIG loans to CABEI for the financing and for the development of CABEI's secondary mortgage operation. The latter was partially developed during the HIG 002 loan. Experience to date indicates the need for CABEI to expand the selling side of the secondary mortgage operation outside of Central America as well as to consider other mechanisms for raising external funds. During the disbursements of HIG 003 a transition for the financing and purchasing of all middle class housing mortgages to some low-cost housing was effected. CABEI has also prepared and is submitting to its Board of Governors a housing policy and cash flow for the next five years which calls for a housing program of approximately $25 million each year for the Bank. The program furthermore contemplates one half of the financing for low-cost housing.

The proposed financing includes a major commitment by CABEI to capture and assign additional financing from inside and outside Central America for its housing program. CABEI counterpart funding under HIG 003 was 25% and under HIG 004 33%. For this proposed loan of $25 million it may well be on a one-to-one matching basis, assuming the plan is approved by the Board of Governors. CABEI has completed a market survey of the five countries which resulted in a demand in excess of the program projected.

Project Description: The proposed project will support CABEI to:

1. Significantly increase the housing program;

2. To expand and modify as required the selling side of the secondary mortgage operation by capturing funds outside as well as inside Central America;

3. To finance and provide for the replication of low-cost housing financing in Central America, including the financing

of sites and services units;

4. to expand CABEI's financing operations with Central American national housing institutions; and

5. to promote the standardization of mortgages and other related documentation.

Beneficiaries: All of the project beneficiaries will be low-income families with a family income below the 50th percentile group in each of the five Central American countries.

**TABLE IVB ACTIVITY BUDGET DATA**

| ACTIVITY TITLE | DECISION UNIT | DECISION PACKAGE | BUDGET YEAR |
|---|---|---|---|
| Central American Secondary Mortgage Market Development - 596-HG-005 | ROCAP | Minimum | $25,000,000 |
| | INITIAL OBLIGATION | FINAL OBLIGATION | TOTAL COST |
| | FY 1980 (1) | - | $25,000.000 |
| PROJECT NUMBER / APPROPRIATION | DATE PP/REVISION | DATE LAST PAR | DATE NEXT PAR |
| 596-0087 (862) / HG | February 1980 | - | May 1981 |

ESTIMATED U.S. DOLLAR COST ($ 000)

| ACTIVITY INPUTS | PY: 19 OBLIGATION | PY: 19 EXPENDITURE | PY: 19 PIPELINE | CY: 19 FUNDING PERIOD (FR-TO) | CY: 19 OBLIGATION | CY: 19 EXPENDITURE | CY: 19 PIPELINE | BY: 1980 FUNDING PERIOD (FR-TO) | BY: 1980 OBLIGATION (1) | BY: 1980 EXPENDITURE | BY: 1980 PIPELINE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AID-FINANCED TOTAL- | | | | | | | | | 25,000 | 3,000 | 22,000 |
| Strengthen and expand Central America secondary mortgage market for low-cost housing. | | | | | | | | | 25,000 | 3,000 | 22,000 |
| HC AND OTHER DONOR TOTAL- | | | | | | | | | LIFE OF PROJECT 25,000 | | |
| CABEI contribution | | | | | | | | | | | |

PERSONNEL WORKYEARS (XX.X)

| FUNDING | FISCAL YEAR 19 | 19 | 1980 | 1981 | 1982 | BEYOND |
|---|---|---|---|---|---|---|
| PROGRAM ACCOUNT | | | 01.0 | 00.5 | 00.5 | 00.5 |
| (2) TDY (NON-ADD) | | | - | 00.1 | 00.1 | 00.1 |
| OPERATING EXPENSES | | | 00.1 | 00.1 | 00.1 | 00.1 |

PERSONNEL INTENSITY

- [ ] HIGH
- [ ] MEDIUM
- [X] LOW

PARTICIPANTS PROGRAMMED

| TYPE | A=NONCONTRACT B=CONTRACT | FISCAL YEAR 19 | 19 | 19 |
|---|---|---|---|---|
| TYPE A | LONG-TERM | | | |
| | SHORT-TERM | | | |
| TYPE B | LONG-TERM | | | |
| | SHORT-TERM | | | |

FOOTNOTES

(1) Refers to date of HG authorization

(2) RHUDO budget.

AID 1330-8 (3-78)

## DECISION UNIT OVERVIEW AND STRATEGY

### Program Goal

The Regional Office for Central American Programs (ROCAP), established in 1962, is the A.I.D. Mission accredited by formal agreement to the component governments which together form the Central American Common Market. ROCAP's primary objectives are to support activities which further regional integration and cooperation, support bilateral A.I.D. programs in ways which lend themselves to regional applications and cost effective approaches, and provide centralized services of legal, contracting, housing, procurement, and financial analysis to the bilateral missions.

In recent years, Central America's commitment to further economic integration has declined due to such factors as the Honduras-El Salvador war, growing imbalances in the region's economies and an emphasis on nationalistic rather than regional interests. In a number of important aspects, including the unrestricted movement of goods and unimpeded transit across borders, the Central American Common Market has suffered setbacks. In the words of a leading Central American technocrat, "the CACM obviously is not in the vanguard of the region's current priorities."

At the same time, the Central American integration movement continues to leave a lasting legacy: growing intraregional trade that has doubled in the last five years and which exceeds $700 million annually; an extensive network of physical and institutional links; an emerging private sector interdependency resulting from the free capital movement in the area; a growing tendency to seek common positions viz. outside issues such as MTN and commodity quotas; a common trading area which is the fourth largest U.S. trade partner in Latin America after Mexico, Brazil and Venezuela; and a body of regional institutions with regionally relevant technical and financial skills -- CABEI, ICAITI and SIECA. Allied to the CACM, but technically not part of it, are CATIE, OIRSA, INCAE, IICA and INCAP. ROCAP has worked to strengthen these institutions and, more recently, has utilized their particular strengths to further development within the region. Together these institutions support a distinct Central American outlook and approach to development

problems. To our knowledge, no other regional integration or cooperating scheme in the developing world can point to as long a history of operating institutional arrangements supported by, and benefitting, the member nations.

The task they face is formidable. While integration policies and investments have created cumulative benefits of some $3.5 million in trade and 150,000 new jobs, the region continues to confront major development challenges: substantial rural unemployment exists, ranging from an estimated 15% to 30% among the five countries; income distribution is highly skewed; the 1977 median annual per capital income of the lower 50% of the region's population was about $165, compared with about $650 for the total populations; malnutrition is widespread with the incidence among children below five ranging from 57% to 82% in the five republics; and the population growth rate is very high; by the year 2,000 the region's population will double to 35.8 million. It is unlikely that strictly national efforts can provide an adequate response.

Moreover, the nature and complexity of the region's problems reflect its relatively improved development status, and the accompanying less traditional ills of increased scarcity and costs of energy, urban pollution, and a restless rural population which is awakening to the needs and advantages of technology.

## A Regional A.I.D. Strategy and Objectives

The complex of CACM accomplishments, frustrations and challenges described above suggests that A.I.D. should not expect too much from Central American integration in the near future. The same is not true, however, for areas of cooperation among the countries in overcoming problems which are perceived to have common roots and, increasingly, common and mutually beneficial solutions. Accordingly, A.I.D. should not diminish the continuing essential role that the existing integration infrastructure can make to the development goals of the five Central American nations, as well as to the mandated concerns of A.I.D. to improve the provision of basic human needs and address "second-generation" development problems.

The established regional institutional infrastructure, staffed with trained and well-motivated personnel, coupled with a commonality of interest in development and the similarity of problems in the region defines Central America as a unique region amenable to multinational development approaches. It is this outlook, and these institutions, upon which A.I.D. may wish to elaborate

relevant initiatives of regional cooperation. In the absence of further progress in integration, particularly in agriculture, many of ROCAP's ongoing programs increasingly are aimed at utilizing the particular strengths of regional institutions to support and extend national efforts.

- Nutrition services from INCAP extend the extensive research and planning expertise of this highly regarded institution to national programs, as well as cross-fertilize innovative approaches and exchange problems. Sugar fortification, a relatively simple and inexpensive process with widespread benefits to the rural poor is an example of unique INCAP technology transferred under this project.

- Small farm cropping systems with CATIE. This innovative approach to small farm research, which we intend to follow up on in FY 1979, is influencing a basic change in the approach and application of income-increasing small farm production systems in national programs.

- Agricultural information systems project with IICA provides, inter alia, the technical assistance necessary to introduce the technique of area frame sampling to the region, with attendant benefits because of its specific small farmer approach. Standard methodology is applied to allow regional comparisons and cooperation in training, analysis of results, and exchange of information on agricultural problems and solutions.

- Transfer of Technology with ICAITI provides the backward linkages for national programs and private sector individuals to worldwide systems and technologies applicable to the region. There are cases, such as Costa Rica, where ICAITI trained staff have assisted in elaborating country-specific programs to be financed by bilateral donors.

- Agricultural trade promotion, with OIRSA, CABEI, and SIECA, which while still in its planning stage is contributing a new perspective to the costs of national self-sufficiency programs.

- LAAD agribusiness lending, where a recent evaluation contributed to regional (and A.I.D.'s) better understanding of the link between agribusinesses and rural poor benefits which we intend to pursue through the ongoing rural agribusiness loan to CABEI.

- Economic studies performed by SIECA are providing the intellectual and policy framework for the development of agricultural sector models utilized by national planners (and USAIDs) in each Central American country.

In FY 1980 we believe A.I.D. should continue to take advantage of regional institutions in the following areas:

- Central American Light Capital Technology Information Network, utilizing ICAITI working in concert with IICA, CATIE and national research institutions. Increasing country-level activities will be serviced with already tested technologies and experiences will be shared through a regional forum.

- Small Farm Production Systems, begun in FY 1979, will support CATIE research and apply innovative multi-cropping small farm production techniques designed for easy transfer to analogous small farms throughout the region. Included will be an attempt to determine the cost effectiveness of varying approaches of small farmer outreach.

- Regional Horticultural Crop Development will assist CATIE to develop applied research to significantly increase horticultural production in a tropical climate, and thus expand small farmer cash crop options, both for internal consumption and export.

- Non-conventional Energy Feasibility Study loan to CABEI will build upon other donor and A.I.D. surveys to move possible energy resource ideas into the project stage as part of CABEI's recognized leadership in promoting regional energy interdependency.

- Urban Pollution Baseline Survey will enable ICAITI to establish a regionally compatable data baseline on the extent of environmental pollution in the major urban population centers in Central America upon which to build regional industrialization policies and national programs of improving the environment of the urban masses.

- The Agricultural Trade Promotion Program, hopefully begun during FY 1979, will continue to demonstrate A.I.D.'s interest in supporting increased Central American cooperation and integration initiatives. This ambitious multi-sector program through CABEI, OIRSA, SIECA, and ICAITI may also be the harbinger of increased attention by the CACM to the agricultural sector.

## Decision Packages

No FY 1980 mark was provided ROCAP; however, AID/W encouraged the submission of an ABS, as appropriate. Therefore, the program is divided into two decision packages. One, a minimum program consisting exclusively of ongoing grant and loan programs

requiring $833,000 of new funds and employing 4.9 person-years of management, excluding controller, administrative, legal and contracting services. There is, however, a Small Farm Production Systems project which we anticipate will be ongoing in FY 1980, but whose funding requirements exceed ROCAP's FY 1979 CP level. Accordingly, this ongoing requirement is included in the proposed package.

This latter package also includes those proposed programs which are new FY 1980 starts, as well as the second-year requirement for the continuing grant elements of the regional Agricultural Trade Promotion Program should that program begin, as hoped for, during 1979.

Alternative Modes of Management

During the past year, in recognition of the slowed pace of integration, ROCAP has been adjusting its scope and staff to the diminishing size of its ongoing grant and loan pipeline. This reduction will continue, subject to a revitalization of Central American interest in integration. At the same time, ROCAP will continue, as appropriate, to identify developmental initiatives that respond to regional problems and opportunities where existing Central American institutions and their well-motivated personnel are logical collaborators to work on common or regionally significant problems of the rural poor, the transfer of light capital technology, and energy. ROCAP's intent is to review these proposed FY 1980 projects on their own merits, uncomplicated by the yet unresolved issue of ROCAP's future as a regional entity. If approved, further development of each project will include analysis of alternative modes of project design and management.

ROCAP will submit its recommendations to AID/W after the next MDCC meeting in September 1978 on the staffing and organization level to which ROCAP should be maintained or whether its management functions should be picked up by the LA Bureau, other Missions, etc. ROCAP's assessment will include:

(a) an updated analysis of the status of the CACM;

(b) a cost-benefit analysis of the advisability of continued operation of ROCAP in order:

- to manage present and future regional projects which address research, technology transfer, and second-generational development problems;

- to maintain certain regional functions (supply advisor, lawyer, financial analysts and housing officers);

- to continue as a U.S. Government liaison with the Central American integration movement in order to manifest continuing U.S. interest, including continued financial support for integration initiatives.

## Acronyms

CABEI - Central American Bank for Economic Integration

ICAITI - Central American Institute of Research and Industrial Technology

SIECA - Permanent Secretariat of the General Treaty of Central American Economic Integration

CATIE - Tropical Agricultural Research and Training Center

OIRSA - International Regional Organization for Animal and Plant Sanitation

INCAE - Central American Institute of Business Administration

IICA - Inter-American Institute of Agricultural Sciences

INCAP - Nutrition Institute for Central America and Panama

FY 1980 ANNUAL BUDGET SUBMISSION
(in $000)

DECISION UNIT: ROCAP

DECISION PACKAGE: Minimum

ACTIVITY DESCRIPTION: The Minimum Package supports six ongoing grant projects, two ongoing loans and two HIGs.

| RESOURCE REQUIREMENTS | 1978 | 1979 | 1980 This Package | 1980 Cumulative Total |
|---|---|---|---|---|
| Food and Nutrition | 660 | 19480 | 828 | 828 |
| Education | 597 | 390 | 5 | 5 |
| Selected Development Activities | 5 | 10 | - | - |
| Total Program | 1262 | 19880 | 833 | 833 |
| Housing Guaranties (non-add) | (19000) | | (25000) | (25000) |
| Employment - Full-time Permanent | | | | |
| U.S. Direct Hire | 12 | 12 | 9 | 9 |
| Foreign Nationals | 22 | 22 | 13 | 13 |
| TDY | | | | |
| Total | 34 | 34 | 22 | 22 |

| FIVE YEAR PROJECTIONS | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|
| Program | 833 | - | - | - | - |
| Personnel (in workyears) | | | | | |
| Mission - US | 9 | - | - | - | - |
| - FN | 13 | - | - | - | - |

FY 1980 ANNUAL BUDGET SUBMISSION
(in $000)

DECISION UNIT: ROCAP DECISION PACKAGE: Minimum

Short Term Objectives

With the exception of funding for ongoing grant activities scheduled to begin in FY 1979, the Minimum Package provides sufficient resources for the orderly conduct of all ongoing ROCAP projects, viz.: the first three activities (0040 SIECA, 0065 Nutrition and 0066 Transfer of Technology) which terminate during the BY, two ongoing loans, and the Guatemala HIG (0075) which continue to disburse during the BY, and do not require any new funding. Final funding for the ongoing, Regional Agricultural Information project (0048), is the only activity for which Minimum Package resources are requested, aside from modest PD&S resources. The Regional HIG (0087) will require only minimal support by ROCAP during the BY. See project narratives (Tables IV.A) for further details.

Impact on Major Objectives

ROCAP's major objectives to date involve integration, efficiencies, and regional support services. The minimum package envisions a possible termination of a regional locus for support to Central American integration initiatives, an orderly wind-up of ongoing grant and loan activities in regionally applicable programs, and the possible assignment of support services to the Central American USAIDs or AID/W. Thus, the Minimum Package eliminates funds for project development and new starts. Approval of only the minimum package would indicate that AID study, in the short term, alternate cost-effective modes for financing and management of any ongoing activities contained in the proposed package, and development and management of any proposed new BY activities. It should be noted that the minimum package does not project personnel for continued regional support services or the function of resident liaison with the CACM.

Other Information

ROCAP has not yet analyzed the potential savings from a minimal package approach. The costs of signaling U.S. diminished interest in Central American integration have not been

calculated, and we presume the State Department will provide us with its formal opinion on this matter. From the view of development programs, and as mentioned in our overview, we will be analyzing the alternative modes of management of any new regional initiatives and thus effectiveness and costs. Also, we anticipate that regional support services will continue, as well as the now shared costs of administrative and controller services with the USAID/G. Thus, the actual cost savings may be minimal.

FY 1980 ANNUAL BUDGET SUBMISSION
(in $000)

DECISION UNIT: ROCAP

DECISION PACKAGE: Proposed

ACTIVITY DESCRIPTION: The Proposed Package supports regional cooperation and integration, and attainment of the development objectives of the FAA through four ongoing grant projects, three new grants and one new loan.

| RESOURCE REQUIREMENTS | 1978 | 1979 | 1980 This Package | 1980 Cumulative Total |
|---|---|---|---|---|
| Food and Nutrition | 660 | 19480 | 4120 | 4948 |
| Education | 597 | 390 | - | 5 |
| Selected Development Activities | 5 | 10 | 7205 | 7205 |
| Total Program | 1262 | 19880 | 11325 | 12158 |
| Housing Guaranties (non-add) | (19000) | - | - | (25000) |
| Employment - Full-time Permanent | | | | |
| U.S. Direct Hire | 12 | 12 | 14 | 14 |
| Foreign Nationals | 22 | 22 | 22 | 22 |
| TDY | | | | |
| Total | 34 | 34 | 36 | 36 |

| FIVE YEAR PROJECTIONS | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|
| Program | 12158 | 16934 | 19120 | 18200 | 18500 |
| Personnel (in workyears | | | | | |
| Mission - US | 14 | 14 | 14 | 14 | 14 |
| - FN | 22 | 22 | 22 | 22 | 22 |
| TDY - USDH | | | | | |

FY 1980 ANNUAL BUDGET SUBMISSION
(in $000)

DECISION UNIT: ROCAP DECISION PACKAGE: Proposed

Short Term Objectives

The proposed package adds to the minimum package sufficient resources for AID to continue support for four major food and nutrition grants whose aims are to provide small farmers with new technical production packages yielding higher nutritive output and market income (0083 Small Farm Production Systems, 0073 Regional Horticultural Crop Development), to increase their access to light capital and appropriate technologies for on-farm use (0084 Light Capital Technology Network), and to support improvement of facilities for intra-regional agricultural trade. Two new activities in this package (0082 Urban Pollution Baseline Study and 0086 Non-Conventional Energy Feasibility Studies Loan) support Agency "new directions" initiatives, promoting Central American efforts to improve deteriorating urban environments and to increase exploitation of the region's considerable non-conventional energy resources.

Impact on Major Objectives

Approval of both minimal and proposed packages would signal approval of the strategy, discussed in the Decision Unit Overview, which places increasing emphasis on capitalizing the experiences and expertise of the existing Central American regional institutional infrastructure in order to accelerate regional cooperation and development efforts in a cost-effective manner, in contrast to a strategy which placed primary emphasis on supporting Central American integration. In addition to the proposed package, any activities requested by the bilateral USAIDs to be managed regionally, and centralized legal, procurement and financial analysis would also continue. The locus for management of these initiatives remains unresolved; however, a regional management presence is not discarded.

Other Information

The consequences of not approving this package are contained in our minimum package proposal and may result in a change in management of A.I.D. regional programs and support services in Central America.

This ABS proposes that A.I.D. continue to take advantage of the Central American institutional infrastructure already in place for certain programs. This proposed package illustrates the mix of activities which, if judged to have merit, may represent specialized areas of applied and development research, appropriate technology, energy technologies and the environment where a regional approach makes sense.

TRANSACTION CODE: BUREAU CODE:

## TABLE V - PROPOSED PROGRAM RANKING

DECISION UNIT: 596 ROCAP

NAME OF DECISION PACKAGE SET:

| RANK | DECISION PACKAGES/PROGRAM ACTIVITY/SUPPORT ITEM | | APPROP ACCT | PERSONNEL INTENSITY | RESOURCE REQUIREMENTS: WORKYEARS (XX.X) FUNDED FROM OPERATING EXPENSES: MISSION | OPERATING EXPENSES: TDY | PROGRAM ACCOUNT | PROGRAM FUNDING ($000): INCREMENT | PROGRAM FUNDING ($000): CUMULATIVE |
|---|---|---|---|---|---|---|---|---|---|
| | DECISION PACKAGE - MINIMUM | | | | | | | | |
| 1 | 0040 | SIECA Institutional Assistance (GO) | EH | H | .5 | | | | |
| 2 | 0065 | Nutrition Programs (GO) | FN | H | .3 | .2 | | | |
| 3 | 0066 | Transfer of Technology (GO) | EH | H | .4 | | | | |
| 4 | 0069 | Regional Rural Agribusiness (LO) | FN | H | .9 | | | | |
| 5 | 0074 | Regional Agricultural Trade (LO) | FN | M | .9 | | | | |
| 6 | 0075 | CABEI - Guatemala Urban Shelter Improvement HIG | | L | .1 | | | | |
| 7 | 0048 | Agricultural Research & Information System (GO) | FN | H | .9 | | .2 | 758 | |
| 8 | 0000.3 | Program Development and Support (GO) | FN | H | .7 | | | 70 | 828 |
| 9 | 0000.5 | Program Development and Support (GO) | EH | M | .1 | | | 5 | 833 |
| 10 | 0087 | Central American Housing Guaranty 005 | | L | .1 | | | (25,000) | 833 |
| | Summary by Personnel Intensity: Low (2 projects) | | | | ( .2) | | - | (25,000) | |
| | | Medium (2 projects) | | | (1.0) | | - | ( 5) | |
| | | High (6 projects) | | | (3.7) | ( .2) | ( .2) | ( 828) | |
| | Total | | | | (4.9) | ( .2) | ( .2) | (25,833) | |



AID 1330-9 (3-78)

TRANSACTION CODE: BUREAU CODE:

## TABLE V - PROPOSED PROGRAM RANKING

DECISION UNIT: 596 ROCAP

NAME OF DECISION PACKAGE SET:

| RANK | DECISION PACKAGES/PROGRAM ACTIVITY/SUPPORT ITEM DESCRIPTION | APPROP ACCT | PERSONNEL INTENSITY | RESOURCE REQUIREMENTS: WORKYEARS (XX.X) FUNDED FROM OPERATING EXPENSES MISSION | OPERATING EXPENSES TDY | PROGRAM ACCOUNT | PROGRAM FUNDING ($ 000) INCREMENT | CUMULATIVE |
|---|---|---|---|---|---|---|---|---|
| | DECISION PACKAGE - PROPOSED[1/] | | | | | | | |
| 11 | 0083 Small Farm Production Systems (GO) | FN | H | 1.1 | | | 1,472 | 2,305 |
| 12 | 0084 Light Capital Technology Network (GN) | FN | H | 1.4 | | | 1,000 | 3,305 |
| 13 | 0074 Regional Agricultural Trade (GO) | FN | H | 1.0 | | | 1,164 | 4,469 |
| 14 | 0000.3 Program Development and Support (GO) | FN | H | .4 | | | 45 | 4,514 |
| 15 | 0073 Regional Horticultural Crop Development (GN) | FN | H | .7 | | | 439 | 4,953 |
| 16 | 0000.6 Program Development and Support (GO) | SD | M | .3 | | | 15 | 4,968 |
| 17 | 0082 Regional Urban Pollution Baseline Survey (GN) | SD | M | .4 | | | 190 | 5,158 |
| 18 | 0086 Non-Conventional Energy Feasibility Studies Loan (LN) | SD | M | .4 | | | 7,000 | 12,158 |
| | Summary by Personnel Intensity: Medium (3 projects) | | | (1.1) | - | - | ( 7,205) | |
| | High (5 projects) | | | (4.6) | - | - | ( 4,120) | |
| | Cumulative Total | | | (10.6) | (.2) | (.2) | (37,158) | |

1/ No mark provided for ROCAP

AID 1330-9 (3-78)

# OPERATING EXPENSE BUDGET AND WORKFORCE PLAN

## A. Background

Since FY 1973 there has been one shared Controller Office and one shared Administrative Office for both ROCAP and USAID/Guatemala. Under this arrangement, the staff in the Controller Office, both U.S. direct hire and Foreign National direct hire, are carried on ROCAP's personnel ceiling and funded from ROCAP's budget. The staff in the Administrative Office are carried under USAID/Guatemala's personnel ceilings and funded from USAID/Guatemala's MOB.

ROCAP also provides centralized support services. Accordingly, ROCAP has included in its personnel ceiling 2 U.S. direct hire positions for a Central American Regional Procurement/Contract Advisor and a Regional Legal Advisor. In addition, ROCAP provides financial analysis services to the other five Central American USAID's, when requested, and ROCAP's engineer services USAID/El Salvador upon request.

The Operating Expense Budget and Workforce requirements presented in this annual budget submission reflect these USAID/G and ROCAP servicing arrangements and bilateral and regional personnel ceiling allocations.

## B. Personnel Adjustments

During FY 1978 ROCAP on-board personnel fell from 22 USDH to 12, and all of these ten positions will have been eliminated, as vacated, by the end of the FY. They are the Deputy ROCAP Director, General Engineer, Program Economist, Regional Development Advisor, Accountant Financial Analyst, Assistant Program Officer, Assistant General Development Officer, Economic Advisor, Agricultural Economist, and an IDI position. During FY 1979 we project maintenance of this 12 USDH level. In FY 1980, however, there are alternate levels. The minimum package envisions nine USDH (including Regional Legal Advisor, Regional Contracting Specialist and regional financial analyst services).

The proposed package contemplates an increase during the BY to 14 USDH. The two new positions, a General Development Officer and an Assistant Food and Agriculture Officer, will be devoted entirely to the management of new FY 1980 starts, especially in the areas of special concern to A.I.D.

Regarding the Foreign National personnel picture, the great majority of these employees employed in the ROCAP mission have been working with AID and predecessor foreign assistance agencies for 15 to 20 years. They are highly qualified and experienced employees. As the ROCAP USDH staff has been reduced, the FNDH level has also dropped in FY 1978 from twenty seven to twenty two.

All USDH and FNDH personnel included in the ceilings are reflected in the workyear efforts as described in the following statements concerning the offices providing combined services. Those efforts not related directly or indirectly to specific ROCAP activities are appropriately reflected in the section captioned "Non-Mission Specific Personnel".

C. Workyears Related to Activities

11 of 18 ROCAP activities shown for FY 1980 are "high personnel intensity" activities involving substantial grant funds for technical assistance directed to regional research and technical training. These projects support efforts of the Central American regional institutions to strengthen the capacity of national institutions to provide services, research, training and information to small farmers and other target populations. Technical assistance will be furnished through contracts with institutions, consulting and advisory firms, private individuals, participating U.S. agencies and TDY assignments of AID direct hires.

In several instances activities involve one or more C.A. regional organization, one or more national ministries in each Central American government, and in some cases include Panama. While the activity's implementing agency or agencies will normally be given the responsibility for implementation, ROCAP will still have a major role in the design, coordination, control and evaluation of the activities. Because of the complexity of the activities not only are they high personnel intensity as to mission personnel directly related to the activities but they require high intensity involvement of the financial management and Mission support personnel as well.

The attached table "Mission Operating Expense Funded Personnel Requirements" (Table A) shows the large percentage of mission specific personnel related directly to activities.

## MISSION OPERATING EXPENSE FUNDED PERSONNEL REQUIREMENTS
(In work years xx.x)

TABLE A

| MISSION SPECIFIC PERSONNEL | FY 78 Estimated Actual | | | FY 79 Estimated | | | FY 80 Mark | | | FY 80 Minimum | | | FY 80 Proposed | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | USDH | FNDH | CONT | USDH | FNDH | CONT | USDH | FNDH | CONT | USDH | FNDH | CONT | USDH | FNDH | CONT |
| Directly Related to Activities* | 5.3 | 4.1 | | 5.2 | 5.2 | | | | | 2.3 | 2.6 | | 3.7 | 2.0 | |
| Policy, Direction & Management | 4.1 | 4.7 | | 2.2 | 2.8 | | | | | 1.9 | 0.5 | | 1.3 | 2.1 | |
| Financial Management | 0.7 | 4.1 | 0.7 | 0.8 | 4.4 | | | | | 0.8 | 1.4 | | | 3.0 | |
| Mission Support Charged to ROCAP | | 13.5 | | | 9.3 | | | | | | 7.3 | | | 2.0 | |
| Mission Support funded by USAID/G | 0.8 | 6.6 | | 0.6 | 5.4 | | | | | 0.6 | 5.4 | | | | |
| IDI's | 1.1 | | | | | | | | | | | | | | |
| OTHER (Specify) Manager for Project Terminated in FY 1978 | 0.1 | | | | | | | | | | | | | | |
| TOTAL | 12.1 | 33.0 | 0.7 | 8.8 | 27.1 | | | | | 5.6 | 17.2 | | 5.0 | 9.1 | |
| END OF YEAR CEILING | 10 + 21 = 31 (Total) | | | 10 + 21 = 31 (Total) | | | + = (Total) | | | 7 + 12 = 19 (Total) | | | 12 + 21 = 33 (Total) | | |

NON-MISSION SPECIFIC PERSONNEL

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Regional Contract Advisor and Legal ~~Auditor General & IIS~~ Advisor | 2.0 | 1.0 | | 1.6 | 1.0 | | | | | 1.8 | 1.0 | | | | |
| Program Office on TDY to Other | | | | | | | | | | | | | | | |
| Other (Specify): Mission | 0.7 | | | | | | | | | | | | | | |
| Financial Analysis for CA. Missions except ROCAP & USAID/G | 0.4 | 0.3 | 0.3 | 0.3 | 0.5 | | | | | 0.3 | 0.5 | | | | |
| Financial Management Services for USAID/Guatemala | 1.6 | 11.6 | | 1.9 | 10.1 | | | | | 1.9 | 10.1 | | | | |
| TOTAL | 4.7 | 12.9 | 0.3 | 3.8 | 11.6 | | | | | 4.0 | 11.6 | | | | |
| END OF YEAR CEILING | 2 + 1 = 3 (Total) | | | 2 + 1 = 3 (Total) | | | + = (Total) | | | 2 + 1 = 3 (Total) | | | 2 + 1 = 3 (Total) | | |

FOOTNOTE: FNDH in all Fiscal Years include Foreign Nationals hired under PSC to perform custodial, housekeeping, maintenance, transportation services as authorized in HB 31, 926.2.c.(1) No MARK provided ROCAP

*From Table V.

D. Mission Specific Personnel

Under the heading "Mission Specific Personnel" lines one and two reflect the work years of ROCAP assigned personnel working directly with ROCAP activities and working in policy, direction and management. Line three, Financial Management, reflects that portion of the combined ROCAP-USAID/G Controller Office (excluding the Financial Analysts time in other C.A. missions) which will be spent in working directly on ROCAP activities and accounts.

Line four, Mission Support Charged to ROCAP reflects the prorated work years of Foreign Nationals in the combined USAID/G-ROCAP Administrative Office performing various custodial, housekeeping, maintenance, transportation and similar services for ROCAP and whose time and salaries are budgeted and will be charged directly to the ROCAP MOB.

Line five, Mission Support Funded by USAID/Guatemala reflects that portion of workyears of the USDH and FNDH in the combined USAID/G-ROCAP Administrative Office which will be spent working with ROCAP activities and in support of ROCAP personnel. Funds for these workyears are not included in the ROCAP MOB but will be provided by the USAID/Guatemala MOB.

It is believed that this is the best and most accurate presentation of personnel requirements for ROCAP and USAID/Guatemala that can be made under the present circumstances when all ceilings for the Combined Controller Office are allocated to ROCAP and all ceilings for the Combined Administrative Office are allocated to USAID/Guatemala. ROCAP will continue to study during FY 1979 whether there is a need to improve the present method of ceiling allocations for the two combined offices.

E. Non-Mission Specific Personnel

In Table A captioned "Mission Operating Expense Funded Personnel Requirements" under the section titled "Non-Mission Specific Personnel" there is shown on line one the work year requirement of the Regional Procurement/Contract Advisor and the Regional Legal Advisor plus their one FNDH secretary. In FY 1979-80 the Regional Procurement/Contract Advisor will spend a portion of his time working as project manager to a ROCAP activity and the workyears in this line are reduced accordingly.

Line two under "Non-Mission Specific Personnel" reflects in FY 1978 the time that the ROCAP Assistant Program Officer was assigned on TDY to other LA USAIDs.

Line three reflects the time in work years that the three Financial Analysts in the ROCAP Controller Office spend in service to the four other C.A. USAIDs.

Line four, Financial Management Services for USAID/Guatemala, reflect that portion of the combined ROCAP-USAID/G Controller Office which will be spent in working directly on USAID/Guatemala activities and accounts.

F. Operating Expenses

The Operating Expense Budgets (Table B) for FY 1979 and 1980 reflect several inflation factors. The U.S. Mission in Guatemala is currently doing a wage survey and based on the information available at this time it is projected that there will be a considerable increase given to Foreign National employees. The salary and benefits of Foreign National employees are directly related to the Guatemalan labor laws, local labor practices and the supply and demand forces at work within the Guatemalan economy. All of these factors will result in an increase in costs both in FY 1979 and 1980. Accordingly, the Operating Expense Budget reflects a 20% increase in FN salaries occurring in July 1978 and an additional 15% increase occurring in July 1979. Based on inflationary trends the budgets also include a 10% increase in local Education Allowances in FY 1979 over FY 1978 and a 10% increase in local Quarters Allowance occurring in FY 1980.

The ROCAP budgets include a residence lease for only the Mission Director; all other employees will be reimbursed for residence costs by official housing allowances.

A considerable reduction in the Office Operations is occurring between 1978 and 1979 because of a reduction in ROCAP staff. The resulting space becoming available in the ROCAP building is being used by some of the USAID/Guatemala staff who have had to move out of the U.S. Embassy building. Accordingly, in FY 1979 and 1980 the USAID/Guatemala will share 50% of the cost of rent, utilities, and maintenance of the ROCAP building. There will be a slight increase in Office Operations costs in FY 1980 due to an increase in replacement of office equipment and official vehicles occurring that year.

Savings in operating expense costs have been effected and reflected in the FY 1979-1980 budgets as a result of the following actions:

1. Per diem expenses and temporary lodging costs have been reduced on arriving/departing personnel through the use of temporary apartments located in the ROCAP building.

2. In practice the mission has encouraged personnel on TDY longer than 30 days to engage lodging on a weekly or monthly basis and have reduced per diem by 50% after the first 30 days.

3. By improving the non-expendable property survey procedures the mission has facilitated the sale of excess property and effected overall savings by sale of property prior to high maintenance cost and when property can still command high sale price.

4. Procedure on use of long-distance calls has been tightened and costs reduced accordingly. However, at the same time local services cost and long-distance rate have risen approximately 30%.

5. A review of secretarial requirements and a more efficient increased sharing of services has reduced costs accordingly.

6. Changing motor pool shifts and staggering drivers duty hours have decreased drivers overtime.

7. A general review of overtime uses and further discouraging of overtime except in urgent cases has resulted in general decrease in overtime costs.

The net effect of these actions and overall personnel reductions in ROCAP is that the total operating expense budget for ROCAP which in FY 77 totalled $2,080.9, and in FY 78 approximated $1,421.8, will decline in FY 79 to $1,219.8. Depending upon the decision package chosen, ROCAP's adjusted total for FY 80 will either slightly increase to $1,389.6 under the proposed package, or continue to decline under the minimum package to approximately $844.7. In FY 81, this latter figure would theoretically be reduced to zero as continuing ROCAP support and project functions are managed under a different mode. Depending upon the mode chosen, many of these costs would then possibly need to appear on either USAID or AID/W budgets.

The FY 1979 and 1980 Operating Expense Budgets include several items which are shared by both ROCAP and USAID/Guatemala under the practice of having only one Controller Office and one Administrative Office for both missions. The cost of these items and services are prorated to each office based on the personnel levels of each mission. During FY 78, these were 50% for ROCAP and 50% for USAID. The derived percentage for the 1979-1980 budgets and the percentage to be used in distributing charges is 30% ROCAP and 70% USAID/Guatemala. Items which come under this cost allocation are:

1. General supplies and materials.

2. Motor pool operations, except Mission Directors assigned drivers and drivers overtime.

3. Warehouse personnel, rents and utilities.

4. Maintenance and repair services for office equipment.

5. Security services.

6. Repairs to residential equipment.

The combined ROCAP-USAID/Guatemala Administrative Office uses Personal Service Contracts for securing the services of individuals engaged in custodial, housekeeping, maintenance, transportation, and other service-type activities requiring skilled or unskilled labor. The cost for these contract services are usually budgeted and subsequently charged directly to both the ROCAP and USAID/Guatemala MOB using the percentages indicated above. In preparing the Operating Expense Budget, Table B, a question arose as to which line in the budget should be used to reflect the workyears and costs of these contract Foreign National employees. Rather than showing them under the heading of "Contract Personnel" on lines 28 or 29 which did not seem appropriate, the mission has included them in the section headed "Local Employees" with costs and workyears reflected on lines 20, 21 and 23 as appropriate along with Foreign National Direct Hire since they receive the same benefits as FNDH except for option to elect Civil Service Retirement and the salaries are based on the same local wage scale used for FNDH. The workyears of these PSC employees are also reflected on Table A captioned "Mission Operating Expense Funded Personnel Requirements" under the column headed FNDH.

As explained previously wherever possible in the ROCAP Operating Expense Budget and the USAID/Guatemala Operating Expense Budget we have attempted to budget and fairly charge the appropriate mission either directly or indirectly, through the 30-70 percentage or the 50-50 building charges, for their cost of the combined Controller and Administrative Offices. However, the AID/W practice of allocating to ROCAP the ceiling and funding for USDH and FNDH employees in the Controller Office, and allocating to USAID/Guatemala the ceiling and funding for USDH and FNDH employees in the Administrative Office, does not provide for a prorated sharing of these costs in the funds requested in the respective Operating Expense Budgets.

In order to accurately reflect the true overall cost of operating each mission, and still not change the allocation for each, Table B includes new lines 82a and 82b as non-add items.

Thus, the amount shown on line 82a was arrived at by taking the total costs of the USDH and FNDH employees in both the Controller Office and the Administrative Office (none of these costs having been previously allocated between the two missions) and prorating that total cost 50/50 in 1978, and for FY 79-80 prorating the costs 30% to ROCAP and 70% to USAID/ Guatemala. In the ROCAP budget the prorated cost is then reduced by the amount of the USDH and FNDH employee cost of the Controller Office and the difference is reflected on line 82a which when subtracted from line 82 will reflect the true cost of the ROCAP budget on line 82b.

These calculations decrease ROCAP's true operating costs by $176.2 and $192.1 in FY 79 and FY 80 (proposed) respectively. For the minimum package (adjusted total not shown in table), we estimate that approximately $117 would be deducted from line 82.

## OPERATING EXPENSE BUDGET

TABLE B

| EXPENSE CATEGORY | LINE NO. | OBJECT CLASS | EXPENSE RELATED TO | FY 1978 | | FY 1979 | | FY 1980 2/ MARK | | FY 1980 MINIMUM | | FY 1980 PROPOSED | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNITS | $ | UNITS | $ | UNITS | $ | UNITS | $ | UNITS | $ |
| PERSONNEL | 01 | | | 55.2 | 1011.5 | 45.3 | 923.7 | | | 28.3 | 614.9 | 46.5 | 1057.6 |
| U.S. Direct Hire | 02 | | USDH Workyears | 13.9 | 586.1 | 12 | 527.6 | | | 9. | 348.5 | 14 | 613.5 |
| U.S. Citizens Basic Pay | 03 | 110 | USDH Workyears | 13.9 | 499.0 | 12 | 422.0 | | | | | 14 | 522.0 |
| Part-time, Temp. U.S. Basic Pay | 04 | 112 | USDH Workyears | | | | | | | | | | |
| Differential Pay | 05 | 116 | USDH Workyears | | | | | | | | | | |
| Living Allowances | 06 | 118 | USDH Workyears | | | | | | | | | | |
| Other Pay | 07 | 119 | - | | | | | | | | | | |
| Education Allowances | 08 | 126 | No. of Dependents | 10 | 9.7 | 7 | 8.9 | | | | | 14 | 14.0 |
| Retirement | 09 | 120 | USDH Workyears | 13.9 | 34.9 | 12 | 29.5 | | | | | 14 | 36.5 |
| Transportation/Travel | 10 | | | | | | | | | | | | |
| Post Assignment - Travel | 11 | 212 | No. of Movements | 1 | 1.5 | 4 | 6.0 | | | | | 3 | 4.5 |
| Home Leave | 12 | 212 | No. of Movements | 5 | 7.0 | 9 | 10.5 | | | | | 2 | 2.0 |
| Post Assignment/Home Leave Freight | 13 | 22 | | | 13.7 | | 38.4 | | | | | | 20.3 |
| R & R | 14 | 215 | No. of Movements | 4 | 3.3 | | | | | | | | |
| Education Travel | 15 | 215 | No. of Movements | 5 | 4.1 | 2 | 1.0 | | | | | 2 | 1.0 |
| Medical Travel | 16 | 215 | | | 2.5 | | 1.7 | | | | | | 1.7 |
| Other Travel | 17 | 215 | | | 0.3 | | | | | | | | |
| Other Personnel Benefits | 18 | | | | 10.1 | | 9.6 | | | | | | 11.5 |
| Local Employees 1/ | 19 | | FNDH Workyears | 39.3 | 375.9 | 33.3 | 396.1 | | | 19.3 | 266.4 | 32.5 | 444.1 |
| Basic Pay | 20 | 114 | FNDH Workyears | 39.3 | 316.7 | 33.3 | 355.3 | | | | | 32.5 | 400.7 |
| Overtime, Holiday Pay | 21 | 115 | FNDH Workyears | 1.5 | 10.0 | 1.0 | 8.0 | | | | | 1.0 | 8.0 |
| Other Pay | 22 | 119 | | | 1.2 | | | | | | | | |
| Personnel Benefits | 23 | 129 | FNDH Workyears | 39.3 | 31.9 | 33.3 | 32.8 | | | | | 32.5 | 35.4 |
| Benefits for Former Personnel | 24 | 13 | | | 16.1 | | | | | | | | |
| Contract Personnel | 25 | | Workyears | 2.0 | 49.5 | | | | | | | | |
| PASA Technicians | 26 | 258 | Workyears | | | | | | | | | | |
| Other Reimbursable Details | 27 | 111 | Workyears | 1.0 | 33.7 | | | | | | | | |
| Experts and Consultants | 28 | 113 | Workyears | 1.0 | 15.8 | | | | | | | | |
| Other Technicians | 29 | 255 | Workyears | | | | | | | | | | |
| HOUSING | 30 | | | 19 | 141.7 | 12 | 117.6 | | | 9. | 107.3 | 14 | 147.2 |
| Acquisition of Land and Structures | 31 | 320 | No. of Residential Units | | | | | | | | | | |

1/ Included under this heading of "Local Employees" and under "FNDH Work Years" in this section are Foreign Nationals hired under PSC to perform custodial, housekeeping, maintenance, transportation services authorized by HB 31, 926.2.c. (1). 2/ No MARK provided ROCAP.

# OPERATING EXPENSE BUDGET

TABLE B

| EXPENSE CATEGORY | LINE NO. | OBJECT CLASS | EXPENSE RELATED TO | FY 1978 | | FY 1979 | | FY 1980 MARK | | FY 1980 MINIMUM | | FY 1980 PROPOSED | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNITS | $ | UNITS | $ | UNITS | $ | UNITS | $ | UNITS | $ |
| HOUSING Continued | | | | | | | | | | | | | |
| Rent | 32 | 235 | No. of Residential Units | 2 | 11.9 | 1 | 5.1 | | | | | 1 | 5.1 |
| Utilities | 33 | 235 | No. of Residential Units | 2 | 1.8 | 1 | 1.0 | | | | | 1 | 1.0 |
| Renovation | 34 | 259 | No. of Residential Units | | | | | | | | | | |
| Maintenance | 35 | 259 | Total Square Feet | | | | | | | | | | |
| Residential Furnishings and Equipment | 36 | | | | | | | | | | | | |
| Additions to Inventory | 37 | 311 | No. of Residential Units | | | | | | | | | | |
| Replacement | 38 | 311 | | | 7.8 | | 1.4 | | | | | | 20.4 |
| Transportation | 39 | 22 | | | .8 | | 3.0 | | | | | | 5.0 |
| Quarters Allowance | 40 | ~~172~~ 127 | No. of Residential Units | 17 | 102.9 | 11 | 90.8 | | | | | 13 | 99.7 |
| Mission Director | 41 | | | | | | | | | | | | |
| Rent | 42 | 235 | | | 11.4 | | 11.4 | | | | | | 11.4 |
| Utilities | 43 | 235 | | | 1.2 | | 1.2 | | | | | | 1.2 |
| Renovation of Residence | 44 | 259 | | | | | | | | | | | |
| Maintenance of Residence | 45 | 259 | | | 1.2 | | 1.0 | | | | | | 1.0 |
| Supplies and Materials | 46 | 26 | | | .4 | | .4 | | | | | | .4 |
| Furniture Procurement | 47 | 311 | | | | | | | | | | | |
| Official Residence Allowance | 48 | 254 | | | 1.2 | | 1.2 | | | | | | 1.2 |
| Representation Allowance | 49 | 252 | | | .8 | | .8 | | | | | | .8 |
| Vehicles | 50 | | | | | | | | | | | | |
| Acquisition | 51 | 312 | | | | | | | | | | | |
| Operation/Maintenance | 52 | 259 | | | .3 | | .3 | | | | | | |
| Portion of Lines 31-52 for Program Funded People | 53 | | | | | | | | | | | | |
| OFFICE OPERATIONS | 54 | | | 10 | 268.6 | 6 | 178.5 | | | 6. | 122.5 | 6 | 184.8 |
| Acquisition of Land and Structures | 55 | 320 | | | | | | | | | | | |
| Rent | 56 | 234 | | | 52.7 | | 29.1 | | | | | | 29.1 |
| Utilities | 57 | 234 | | | 9.2 | | 3.9 | | | | | | 3.9 |
| Renovations | 58 | 259 | | | | | | | | | | | |
| Building Maintenance | 59 | 259 | | | 8.7 | | 4.3 | | | | | | 3.3 |
| Office Furnishings and Equipment | 60 | | | | | | | | | | | | |
| Additions to Inventory | 61 | 310 | | | | | | | | | | | |
| Replacement | 62 | 310 | | | 2.4 | | 1.2 | | | | | | 3.4 |

OPERATING EXPENSE BUDGET TABLE B

| EXPENSE CATEGORY | LINE NO. | OBJECT CLASS | EXPENSE RELATED TO | FY 1978 | | FY 1979 | | FY 1980 MARK | | FY 1980 MINIMUM | | FY 1980 PROPOSED | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNITS | $ | UNITS | $ | UNITS | $ | UNITS | $ | UNITS | $ |
| OFFICE OPERATIONS Continued | | | | | | | | | | | | | |
| Other Equipment | 63 | 319 | | | | | | | | | | | |
| Transportation (Freight) | 64 | 22 | | | .2 | | | | | | | | |
| Communications | 65 | 230 | | | 22.2 | | 21.9 | | | | | | 21.9 |
| Security (Guard Services) | 66 | 259 | | | 23.0 | | 10.5 | | | | | | 10.7 |
| Printing and Reproduction | 67 | 24 | | | 31.7 | | 21.5 | | | | | | 21.5 |
| Operational Travel | 68 | | | | | | | | | | | | |
| International | 69 | 210 | | | 8.0 | | 11.6 | | | | | | 5.6 |
| Domestic | 70 | 210 | | | 40.5 | | 30.6 | | | | | | 30.8 |
| Charter/Contract Transportation | 71 | 259 | | | | | | | | | | | |
| Vehicles | 72 | | | | | | | | | | | | |
| Addition | 73 | 312 | No. of Vehicles | | | | | | | | | | |
| Replacement | 74 | 312 | No. of Vehicles | | | | | | | | | 1 | 5.0 |
| Maintenance | 75 | 259 | No. of Vehicles 3/ | 10 | 2.8 | 6 | 1.0 | | | | | 6 | 1.4 |
| Automotive Supplies and Materials | 76 | 26 | No. of Vehicles 3/ | 10 | 11.4 | 6 | 7.2 | | | | | 6 | 7.6 |
| Other Supplies and Materials | 77 | 26 | | | 31.0 | | 15.2 | | | | | | 16.7 |
| FAAS | 78 | 257 | | | 8.5 | | 9.8 | | | | | | 11.3 |
| Other U.S. Government Reimbursements | 79 | 258 | | | | | | | | | | | |
| Other 4/ | 80 | 259 | | | 16.3 | | 10.7 | | | | | | 12.6 |
| Portion of Lines 55-80 for Program Funded People | 81 | | | | | | | | | | | | |

102

3/ The number 10 in FY 1978 represents the 50% ROCAP shared cost of the combined ROCAP and USAID/G motor pool fleet of 20 vehicles. In FY 1979 the 6 represents 30% of the fleet of 20.

4/ See page 5 of 5 of Table B for detail.

| EXPENSE CATEGORY | LINE NO. | | FY 1978 | FY 1979 | FY 1980 MARK | FY 1980 MINIMUM | FY 1980 PROPOSED |
|---|---|---|---|---|---|---|---|
| TOTAL OPERATING EXPENSE BUDGET | 82 | | 1421.8 | 1219.8 | | 844.7 | 1389.6 |
| USAID/G Share of Combined Services | 82A | | (- 35.5) | (-176.2) | | | (-192.1) |
| Reconciliation Adjusted Total | 82B | | (1386.3) | (1043.6) | | | (1197.5) |
| Deduct from item 82 items not funded from Mission's allotment: | | | | | | | |
| Object Class 11 | 83 | | 532.7 | 422.0 | | | 522.0 |
| Object Class 12 | 84 | | 45.0 | 39.1 | | | 48.0 |
| Object Class 13 | 85 | | | | | | |
| Net FAAS (from line 78) | 86 | | 8.5 | 9.8 | | | 11.3 |
| Other - Explain on Attachment Storage Charges | 87 | | | 4.2 | | | 4.5 |
| Net Allotment Requirements | 88 | | 835.6 | 744.7 | | | 803.8 |
| Operational Year Allotment Requirement by Quarter | | | | | | | |
| First Quarter | 89 | | | 284.5 | | | |
| Second Quarter | 90 | | | 140.1 | | | |
| Third Quarter | 91 | | | 170.8 | | | |
| Fourth Quarter | 92 | | | 149.3 | | | |

| ADDITIONAL SCHEDULES AND ANALYSES | Attached | |
|---|---|---|
| | Yes | No |
| Use of Trust Funds | | x |
| ADP Equipment | | x |
| Budget Line 31 Detail | | x |
| Budget Line 55 Detail | | x |
| Budget Line 80 Detail | x | |

Minus cost of USAID/G Share.

OPERATING EXPENSE BUDGET TABLE B PAGE 5 OF 5

BUDGET LINE 80 DETAIL

ROCAP 596
MOB 80

OBJECT CLASS 259
(Thousands of $)

| | | | |
|---|---|---|---|
| Medical Expenses | 7.5 | 7.2 | 7.2 |
| Training English | .3 | | |
| Translation Services | .5 | .4 | .4 |
| Garbage Disposal | .1 | .1 | .2 |
| Fumigation of Warehouse | .7 | .2 | .3 |
| Drinking Water Service | .3 | .3 | .3 |
| Maintenance - Telephone Plant and Telephones | 2.5 | .7 | 1.4 |
| Maintenance of IBM Typewriters | 1.1 | .2 | .2 |
| Maintenance of NCR Accounting Machine | .6 | .6 | .7 |
| Repair of Furniture and Equipment | 2.2 | .6 | 1.4 |
| Cleaning Rugs | .5 | .4 | .5 |
| | 16.3 | 10.7 | 12.6 |

WORKFORCE REQUIREMENTS - SCHEDULE 1 - EXISTING POSITIONS 001 REGIONAL OFFICE FOR CENTRAL AMER 002

PROGRAMS

| MODE LEVEL | AUTHORIZED CEILING | BUDGETED POSITIONS | REQUESTED POSITIONS | IOI NON-CEILING POSITIONS | TOTAL FILLED POSITIONS | TOTAL VACANT POSITIONS |
|---|---|---|---|---|---|---|
| FY 78 | FY 78 | FY 79 | FY 80 | FY 78 1/ | 007 FY 78 12 | 0 FY 78 |
| 003 | 004 | 005 | 006 | | 010 | 011 |
| 18 | 12 2/ | 12 | 14 | FY 79 -0- | 008 | |
| | | | | FY 80 -0- | 009 | |

| LINE NO | POS NO | POSITION TITLE | P | P | G | I | G | STATUS OF POSIT. END OF FY 78 P=PLAN A=ACTUAL FOR FY79 (C) 79 & 80 (D) (E) | DATE POS TO (C) (D) (E) STATUS THRU FY | INCUMBENT TO CONT. IN POS. | REPLACEMENT POSITION REQUIRES GRADUATE INCUMBENT BY DATE | VACANT TO FILL VACANT BY DATE | FY 78 OR FY 79 IOI GRADUATE TO VACANT POSITION 023 | AOSC(S) APPLICABL TO POSITIONS (4 DIGIT AOSC ONLY) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 013 | 014 | A | L | O | N | R | OF | TO (C) | TO CONT. | MENT | POSITION | FY 79 IOI | APPLICABL | |
| | | | Y | A | S | A | C | POSIT. | (D) (E) | IN POS. | NEEDED | REQUIRES | GRADUATE | TO | |
| | | | | N | I | D | U | END OF | STATUS | THRU FY | BY DATE | INCUMBENT | TO FILL | VACANT | |
| | | | | | T | E | M | FY 78 | P=PLAN | | | BY DATE | VACANT | POSITIONS | |
| | | | | | I | | B | OR | A=ACTUAL | | | | POSITION | (4 DIGIT | |
| | | | | | O | | E | FY 79 | FOR FY79 | | | | 023 | AOSC ONLY) | |
| | | | | 0 | N | 0 | N | 0 (C) | 79 & 80 | | | | | | |
| | | | | 1 | | 1 | T | I (D) | | | | | YES NO | | |
| 012 | | | | 5 | | 6 | | 7 (E) | 8 019 | 020 | 021 | 022 | 024 025 | 026 | |
| | 255961012 | ROCAP DIR | FR | 01 | 01 | | D | | | 8/79 | 8/79 | | | N/A | |
| 1 | 255961018 | DEP ROCAP DIR | FR | 01 | 02 | | E | | 4/78 | 4/78 | | | | | |
| | 255961028 | SECY | FS | 06 | 07 | | D | | | 1/79 | 1/79 | | | | |
| 2 | 255962012 | REG DVL ADV | FR | 03 | 04 | | E | | 9/78 | 9/78 | | | | | |
| | 255963010 | LEGAL ADV | FR | 03 | 03 | | D | | | 10/78 | 10/78 | | | | |
| | 255964010 | CTLR | FR | 02 | 01 | | D | | | 12/79 | 12/79 | | | | |
| 3 | 255964027 | ACCNT FINL ANLST | FR | 04 | 04 | | E | | 5/78 | 5/78 | | | | | |
| 4 | 255964035 | ACCNT FINL ANLST | FR | 04 | 04 | | E | | 6/78 | 6/79 | 6/79 | | | | 1) See Footnote |
| | 255965011 | PROG OFF | FR | 03 | 04 | | D | | | 6/80 | 6/80 | | | | |
| 5 | 255965021 | ASST PROG OFF | FR | 05 | 04 | | E | | 9/78 | 9/78 | | | | | |
| | 255966011 | CAP RSRS DVL OFF | FR | 03 | 03 | | D | | | 9/80 | 9/80 | | | | |
| | 255966015 | CP PRJ DVL OFF | FR | 04 | | | D | | | 6/80 | 6/80 | | | | |
| 6 | 255966022 | ASST GEN DVL OFF | FR | 05 | 06 | | E | | 4/78 | 4/78 | | | | | |
| | 255968211 | SPL MGT OFF | FR | 04 | 02 | | D | | | 2/81 | 2/81 | | | | |
| 7 | 255968411 | GEN ENG OFF | FR | 02 | 01 | | E | | 4/78 | 4/78 | | | | | |
| | 255968413 | GEN ENG ADV | FR | 04 | 05 | | D | | | 5/79 | 5/79 | | | | |
| | 255968510 | AG DVL OFF | FR | 03 | 02 | | D | | | 12/80 | 12/80 | | | | |
| 8 | 255968611 | HSNG ADV | FR | 03 | 02 | | E | | 7/78 | | | | | | REGIONAL SER/H - Not Really ROCAP Employees as of 10/77 |
| | 255968612 | HSNG ADV | FR | 02 | | | D | | | 12/80 | 12/80 | | | | |
| | 255968618 | HSNG ADV | FR | 03 | 03 | | D | | | | | | | | |
| | 255968624 | HSNG ADV | FR | 04 | | | D | | | | | | | | |

SER/H

plus two new D positions listed on schedule 2





1) Position 255964035; Accnt. Finl. Anlst. Being eliminated and new position No. 255964022; Dpt Cont/Final. Anlst. being established simultaneously. Incumbent remaining until June 1979.

2) ROCAP authorized ceiling per STATE 307053, dated 24 Dec. 77, is currently 12, including 3 SER/Housing slots which have been transferred to SER/H rolls. Please note that ROCAP will require 12 positions net, not counting SER/H slots, necessitating an increase of 3 slots.

RGIONAL OFFICE FOR CENTRAL AMERICAN PROGRAMS

WORKFORCE REQUIREMENTS - SCHEDULE 1 - EXISTING POSITIONS 001 002

| MODE LEVEL | AUTHORIZED CEILING | BUDGETED POSITIONS | REQUESTED POSITIONS | IDI NON-CEILING POSITIONS | TOTAL FILLED POSITIONS | TOTAL VACANT POSITIONS |
|---|---|---|---|---|---|---|
| FY 78 ---- | FY 78 ---- | FY 79 ---- | FY 80 ---- | FY 78 ---- 007 | FY 78 ------ | FY 78 ---- |
| 003 | 004 | 005 | 006 | | 010 | 011 |
| | | | | FY 79 ---- 008 | | |
| | | | | FY 80 ---- 009 | | |

| LINE NO. | POS NO | POSITION TITLE | PAY | PROSIT | GRADE | INCUMBENT | STATUS OF POSIT. END OF FY 78 OR FY 79 (C) (D) (E) | DATE POS TO (C) (D) (E) STATUS P=PLAN A=ACTUAL FOR FY78 79 & 80 | INCUMBENT TO CONT. IN POS. THRU FY | REPLACEMENT NEEDED BY DATE | VACANT POSITION REQUIRES INCUMBENT BY DATE | FY 78 OR FY 79 IDI GRADUATE TO FILL VACANT POSITION 023 | AOSC(ST APPLICABL TO VACANT POSITIONS (4 DIGIT AOSC ONLY) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 013 | 014 | | | | | | | | | | | | |
| | | | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| | | | 1 | 1 | 1 | 1 | 1 | | | | | | | |
| 012 | | | 5 | 6 | 7 | 8 | 8 | 019 | 020 | 021 | 022 | YES: NO 024:025 | 026 | |

1 :: 255961018::DEP ROCAP DIR ELIMINATED

2 :: 255962012::REG DVL ADV ELIMINATED

3 :: 255964027::ACCNT FINL ANLST ELIMINATED

4 :: 255964035::ACCNT FINL ANLST ELIMINATED

5 :: 255965021::ASST PROG OFF ELIMINATED

6 :: 255966022::ASST GEN DVL OFF ELIMINATED

7 :: 255968411:: GEN ENG OFF ELIMINATED

8 :: 255968611::HSNG ADV ELIMINATED Regional SER/H psn - not really ROCAP psn after 10/77.

Work force Requirements - Schedule 2 - New Positions Thru FY 79 [001] ROCAP - 596 Country/Organization [002]

Direct-Hire Only

| LINE NO 003 | Position Title 004 | PPALYAN 005 | GRADE 006 | Est. Date SPAR to be sent to AID/W 007 | Date Employee required on duty 008 Earliest 009 | Latest 010 | Required AOSC's for new position 011 Primary 012 | Secondary 013 | Tertiary 014 | New ceiling required 015 Yes 016 | No 017 | Mode clearance required 018 Yes 019 | No 020 | Will IDI graduate be assigned to position 021 Yes 022 | No 023 | Remarks 024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NA | 255964022 | | | | * | | | | | | | | | | | |
| NA | 255964037 | FSR | 05 | August 78 | ** - | - | 0504 | - | - | - | X | X | | X | - | SPAR Submitted 5/3/78 to LA/EMS |

* This position replaces position No. 255964035 and incumbent of position remains at post to fill new position.

** Position of Financial B&A established for a IDI incumbent of position is currently

## TABLE VI – FUNDING FOR SPECIAL CONCERNS

DECISION UNIT: ROCAP

| PROJECT NUMBER AND TITLE | APPROP CODE | SPECIAL CONCERN CODE | OBLIGATIONS ($ 000) PY: 1978 PROJECT TOTAL | PY: 1978 SPECIAL CONCERN | CY: 1979 PROJECT TOTAL | CY: 1979 SPECIAL CONCERN | BY: 1980 PROJECT TOTAL | BY: 1980 SPECIAL CONCERN |
|---|---|---|---|---|---|---|---|---|
| 596-0040 SIECA Institutional Assistance | EH | RESA | 387 | 387 | 175 | 175 | | |
| 596-0048 Agricultural Research and Information System | FN | ATNL | | | 842 | 150 | 758 | 200 |
| 596-0065 Regional Nutrition Programs | FN | RESA | 500 | 250 | 480 | 240 | | |
| | | RESD | | 250 | | 240 | | |
| 596-0066 Transfer of Technology | EH | ATNL | 200 | 50 | 210 | 50 | | |
| | | RESD | | 150 | | 160 | | |
| 596-0073 Regional Horticultural Crop Development | FN | RESA | | | | | 439 | 439 |
| 596-0082 Urban Pollution Baseline Study | SD | ENVR | | | | | 190 | 190 |
| 596-0083 Small Farm Production Systems | FN | RESA | | | | 700 | | 700 |
| | | RESD | | | | 500 | | 500 |
| | | LTRG | | | 1465 | 265 | 1472 | 272 |
| 596-0084 Light Capital Technology Network | FN | ATNL | | | | | 1000 | 800 |
| | | ENER | | | | | | 100 |
| | | RESD | | | | | | 100 |
| 596-0086 Energy Feasibility Studies Loan | SD | ENER | | | | | 7000 | 7000 |

## ROCAP EVALUATION NARRATIVE

On April 4, 1978 ROCAP submitted an information memorandum to LAC/DP and PPC/E containing an analysis of the impact and utility of our evaluations over the past two years. Copies are available at these offices. After reviewing our experience with twenty evaluations, ROCAP concluded:

1. We question any unvarying requirement for annual project evaluations. The timing and number of evaluations during LOP varies according to project requirements; one ROCAP project will be evaluated three times in eighteen months, another once every eighteen months. In Missions where routine project reviews are held on a monthly or bi-monthly basis, and regular reviews are held less frequently with borrower/grantee, rigid adherence to annual reviews appears wasteful of Agency resources.

2. Qualified evaluators, who command the evaluated institutions' respect and establish credibility, and who are able to bring useful insights, experience and advice to their assignments, produce the most useful reports. Thus, it is essential to select evaluators extremely carefully, and if necessary, accelerate or delay an evaluation in order to get the best evaluator. Further, in-depth exit conferences are essential.

3. With the sole exception of LA Bureau distribution of the LAAD evaluation, no AID/W input or comment, favorable or otherwise, has ever been received regarding the quality of our evaluations. We suspect that our work has had little, if any, impact on non-ROCAP activities. Hopefully, however, the LAAD evaluation will influence Agency programming.

4. We have the impression that relative to other Missions we have a vigorous evaluation program. We have found it useful in project design and management, and in the provision of assistance to our counterparts. We intend to keep up the evaluation pace.

With regard to FAA Section 102(d), ROCAP has attempted to facilitate a DSB funded effort to design and collect social progress indicators in El Salvador, as part of a possible wider effort in Central America. Unfortunately, some three years of on-site discussions and negotiations have failed to produce an acceptable project design. ROCAP has recommended that project planning be passed to SIECA, which in the interim period has elaborated a methodology and program approach which may be more immediately applicable.

Finally, ROCAP is purposefully designing its proposed projects in Small Farm Production Systems and Light Capital Technology Network to determine the cost-effectiveness of varying approaches to small farmer access and use of improved cropping and farm management techniques. As elaborated in the Research and Development section of this ABS, ROCAP believes that too little effort has been made to date on seeking alternative and less costly approaches to small farmer problems.

## MISSION EVALUATION SCHEDULE FOR OPERATIONAL YEAR AND BUDGET YEAR

| Project Title and Number/Subject | Number and Date of last PAR/PES Submitted | Proposed Date of next PES | Period to be Covered | Remarks |
|---|---|---|---|---|
| **Food and Nutrition** | | | | |
| 0048 Agricultural Research and Info. System | 78-4 (CAPTO A-16) April 1978 | January 1979 | 19 months | Assumes continuation of activity beyond March 1978. |
| 0063 Soil Fertility | 77-6 (CAPTO CIRC. A-26) Sept. 1977 | October 1978 | One year | Project terminated April 1978. |
| 0064 Small Farm Cropping Systems | 77-3 (CAPTO A-30) June 1977 | See Project 0083 | - | Project 0083 continues and expands scope of this activity. Evaluation therefore will be contained in PP for new activity. |
| 0065 Nutrition Programs | 78-2 (CAPTO CIRC. A-28) October 1977 | June 1978 | Two years | - |
| 0068 LAAD Agribusiness (T-015) | 78-3 (CAPTO A-05) February 1978 | - | - | Final Evaluation. |
| 0069 CABEI Reg. Rural Agribusiness Development (T-016) | - | September 1978 | Two years | Activity displaying longer than anticipated start-up |
| 0073 Regional Horticultural Crop Development | - | March 1981 | 15 months | FY 1980 start |
| 0074 Regional Agricultural Trade | - | May 1980 | 15 months | FY 1979 start |

| Project Title and Number/Subject | Number and Date of last PAR/PES Submitted | Proposed Date of next PES | Period to be Covered | Remarks |
|---|---|---|---|---|
| 0083 Small Farm Production Systems | - | July 1980 | 21 months | FY 1979 start. Timing in accord with second project planting season. |
| 0084 Light Capital Technology Network | - | November 1980 | 15 months | FY 1980 start. |
| Education | | | | |
| 0040 SIECA Institutional Assistance | 78-5 (CAPTO A-17) April 1978 | December 1979 | 19 months | Final Evaluation. |
| 0066 Transfer of Technoloty | 78-1 (CAPTO A-47) October 1977 | July 1978 | 21 months | - |
| 0067 Rural Sector Management | - | September 1978 | two years | See Decision Memorandum of February 1978, copy forwarded to LAC/DP/ES. Timing for evaluation delayed to permit fuller impact on cooperating institutions. |
| Selected Development Activities | | | | |
| 0045 Tourism Infrastructure (L-013) | Letter dated August 12, 1975 | December 1978 | three years | Start-up of sub-projects have just begun. Progress will be judged at halfway mark to TDD. |
| 0056 Highway Infrastructure (L-014) | September 29, 1976, Memorandum | December 1979 | three years | All projects on schedule. No major problems. |

| Project Title and Number/Subject | Number and Date of last PAR/PES Submitted | Proposed Date of next PES | Period to be Covered | Remarks |
|---|---|---|---|---|
| 0058 Housing Technical Assistance | 78-6 (CAPTO A-18) May 1978 | - | - | Final Evaluation. |
| 0060 SDA Belize | 77-2 (CAPTO A-04) January 1977 | - | - | Project terminated in FY 1977. Report on file regarding the one SDA donation made during FY. |
| 0082 Regional Urban Pollution Baseline Survey | - | June 1981 | 18 months | FY 1980 start. |
| 0086 Non-Conventional Energy Feasibility Studies Loan | - | September 1981 | 18 months | FY 1980 start. |

# RESEARCH AND DEVELOPMENT

## A. Research Needs in Use of the Private Sector in Small Farmer Outreach

The Problem: Rural development is the result of improved decisions made by tens of thousands of small and medium sized farm operators. These decisions must be derived from more profitable production information based on research, better knowledge of markets, more effective use of credit and physical infrastructure and availability of essential inputs.

Considerable strides have been made in improving the quality of research, input and credit availability, more timely market news, etc.; however, farm production and profit continue to lag considerably behind available knowledge. Increased national production continues to be based largely on expansion of agricultural production into new areas rather than increases in productivity and profit on existing farms. As new lands available for production become more limited in many countries, expansion of rural employment, increased farm family income and more effective use of existing factors of production will require that cost-effective and usable methods be found to encourage small farmer adoption of more profitable production alternatives.

LDC efforts in this area have largely involved use of the public sector, usually the national extension agency with some complementary information flowing from specialized public credit and marketing institutions. However, the private sector firms, cooperatives, OPGs, production and marketing associations and input suppliers can also be major information agents. Unfortunately, those agencies, other than input suppliers, are usually inadequately motivated and unconnected to sources of profitable new knowledge, and usually are not designed to effectively disseminate information to large numbers, e.g., tens of thousands of farmers in a manner conducive to making rapid changes on large numbers of farms at low cost.

Most if not all of the public extension services in Latin America are based on the U.S. "model." Most require large numbers of agents working to a considerable extent with farmers on a one-to-one basis. If analyzed critically, it is doubtful if the total increase in income per farmer assisted would equal the cost of the services provided at the present

time. Too, expansion of single crop research results and recent increased multiple cropping and farming systems require a more dynamic, positively oriented information transfer system -- both public and private -- so that large numbers of farmers can more rapidly change to new production models. Information transfer may be the major bottleneck in the small farmer development process.

Numerous experiments are being conducted throughout Latin America, largely in the public sector, to find more effective ways to reach various segments of the rural farm population. The Basic Village Education Project, mobile agricultural schools, regional training centers, use of television, expanded use of cooperatives and associations, supervised credit, INVIERNO, cooperatively operated farms are only a few attempts to improve information transfer effectiveness by concerned governments. There remains one area, however, which has fallen largely outside A.I.D.'s concerns but which may offer another approach to small farmer information transfer. This would involve an innovative use of the private sector.

The private sector in Central America is well established, strong and growing. Given the agricultural nature of these economies, each country has a widespread network of machinery suppliers, fertilizer distributors, seed agents, etc. Very little effort to date has gone into seeking or testing how this established network can be focused on serving the small farmer. For example, in the Central American private sector, new methods of distributing information with sale of pesticides and fertilizers, expanded use of production bulletins, use of production agents by food processors, etc., are increasingly being used to more effectively reach their small farm clients.

Suggested Response: Virtually all of A.I.D.'s past research and program efforts to reach the small farmer have concentrated on the public sector or semi-private institutions such as cooperatives. This has required substantial subsidy in the form of technical assistance, direct operating budget support, training, etc. One of the major problems faced is that much of this effort requires constant up-grading, as institutions vary in effectiveness and focus, and trained personnel turnover is quite high. There are several cases, however, where selected private sector approaches by A.I.D. have been judged to have actual or potential small farmer impact:

1. A recent evaluation of LAAD sub-lending activities to agribusiness in Central America included an in-depth analysis of the effect of a frozen food processor on the income of its small farm suppliers. The company has a narrow line of frozen vegetables which must meet U.S. standards for export and which

must be produced in sufficient volume for the U.S. market (current exports are 4 million pounds a year and are projected to eventually reach 50 million pounds annually). The company employs an agrónomo whose training is minimal and whose activities are crop specific. His cost is included in company operations. His relationships with small farmers relate only to specific crops and his efforts, coupled with the company's policy of higher than market prices are resulting in a major expansion of production of these crops by small farmers in the highland areas. The company introduces new seeds, new techniques and higher standards of quality through this low-cost and increasingly widespread approach. The efforts of the company's agrónomo may be compared to a public sector extension agent who is spending much of his time in the office or attending to a wide variety of cropping, credit and supervision activities.

2. A recent study of the seed industry in Central America revealed that over 60% of all corn grown in El Salvador comes from locally produced hybrid seed. Eighty-five percent of the seed corn in El Salvador is now being produced by the private sector under the direction of GOES technicians. No other Central American country even comes close to this performance. One reason is that El Salvador through legislation has encouraged private sector production of improved seeds. There are several companies of middle and larger farmers who are organized to grow hybrid seeds which are then certified by the GOES. (This activity is also being supported by a LAAD subloan.)

3. Again in El Salvador a small farm equipment manufacturer is being supported by a LAAD subloan to adapt and manufacture small farm implements for sale through distributors in the countryside on credit terms manageable by small farmers.

4. An A.I.D. project in Haiti may involve the use of rural money lenders for distribution of small farmer agricultural credit. A study may be now under way to determine the cost of such an approach in the absence of a national rural credit extension service.

5. A recent study in Nepal on how information on new techniques flowed to 69 selected small farmers indicated that among the most frequently used channels for information flow was commercial visitors. Smaller farms claimed more visits than larger farms.

The above examples are limited. However, their conceptual approach involves private sector outreach to small farmers in an innovative and cost-effective manner.

Little research has been done on using the private sector as a "new tool" in A.I.D.'s efforts to reach the small farmer. Innovative and non-traditional uses of A.I.D. funds may be required.

For example, in the area of light capital technology, there seems to be no secret in identifying LCT implements for testing their adaptation to a local environment. The job while ambitious is within the bounds of known mechanical engineering concepts. There remains, however, a gap in the movement beyond the prototype step where little thinking has been done on how to actually introduce the implements into the market place at a price and location which is within the small farmer's reach. The assumption seems to be that a better approach will automatically be perceived by the small farmer as beneficial and that he will receive this new knowledge through its promotion by national public sector development programs. Research may suggest an alternative though not exclusive approach.

Assuming that demand by the small farmer for these new technologies will need to be induced, the major problem to be solved may be the exploitation of the potential market, and not the mechanical problems of manufacturing a given piece of machinery. This may involve a process similar to that followed by Sears and Roebuck. As is known, Sears does not manufacture its products. Sears is a merchant. Sears first determines the potential demand for a given consumer need, designs a product to meet it, looks for local manufacturers of compound parts, organizes the assembly of such products and then mounts a merchandising campaign to convince potential consumers that their quality of life will be seriously disadvantaged if they do not have one of these items in their homes. In the process it provides credit at reasonable terms and a service organization to maintain the item. Training is sometimes provided in its use (sewing machines, for example). Finally, the item is placed in a catalog and is made available through the local post office. It was this process which gave the most remote farmer in the U.S. the opportunity to conceptualize, order, receive, and use small farm implements.

What is required to induce the LDC private sector to seek such a small farmer exposure? Should A.I.D. subsidize a share of the costs of exploiting the small farmer market until such time as it can be profitable and self-sustaining? How can A.I.D. exploit, in the case of farm inputs, established distributorships, highly qualified management, an established resource base, and knowledge of the local market, in a manner similar to A.I.D.'s use of established public sector

infrastructure for small farmer ends? Finally, what is the small farmer impact, per dollar invested of A.I.D. funds, and how would this compare to a comparable expenditure through other, more traditional small farmer outreach mechanisms?

This may require research efforts to explore alternative uses of A.I.D. funds. For example, company X who had in its product line light capital technology techniques, technology or machinery, would be approached as to their interest in developing the market potential of small farmers in country Y. Utilizing their own funds, a market survey would be prepared indicating prime product areas, potential users, and potential sales projections over a five-year period. At the same time promotional costs, including possible credit terms and their costs, would be calculated. The company would be asked to establish a break-even point in the five-year period. A.I.D. would then agree to pay for up to 50 percent of these costs until break-even point is reached or until the effort proved unsuccessful. The company would also assume the necessary steps to manufacture the item, perhaps in the local market (or in the case of the Central American Common Market, one of the countries in the region where factor costs can be optimized).

These are only a few possibilities where private sector involvement may make development sense. Other experiences or ideas are unknown. Accordingly, ROCAP proposes that A.I.D. consider a research project developing recommendations for use of the private sector as a cost-effective method of technology transfer to small farmers. The hypothesis to be tested is whether A.I.D., especially in Latin America, should seek to use this channel as a "new tool" to reach the large masses of rural poor as the region moves into the middle income range.

A potential collaborative research institution in Central America is the Central American School of Business Administration (INCAE), a highly-regarded, private-sector oriented institution, offering a Master of Business Administration Degree, patterned after and associated with the Harvard Business School.

RESEARCH AND DEVELOPMENT

B. Tropical Crops Research

The Problem: Of an estimated 6.4 billion areable hectares of land in the world, approximately 1.5 billion acres are located in the tropics. This area has the largest variety of annual, biennial and perennial crops of any other ecological region of the world.

Some tropical and sub-tropical crops such as bananas, coffee, citrus, avocado, mango, papaya, cacao and rubber are commercially produced for local consumption and export and have had considerable research. Many more are grown only for home use or local market. A number of the latter are also traded internationally to a limited extent, but have received little research attention. Examples include vanilla, ginger, allspice, chicle, plantain, agave, peach, palm, etc. Others, including a number of tropical fruits (naranjilla, soursap, zapotes, etc.), and a range of locally eaten herbs and leaves (see Sawyers "Edible weeds of the Tropics," Puerto Rico, 1975) contribute to the diet of poor people in tropical regions; however, little is known of their commercial or nutritional value since little or no research has been conducted on them.

Technical assistance being provided by A.I.D., the Rockefeller Foundation, the international centers, and others at present concentrate almost exclusively on "food production" with major emphasis on corn, beans, sorghum, wheat, rice, cassava and similar crops. In so far as a shortage exists locally, there is a good market. However, when surpluses develop they compete almost directly with more efficient mechanized production in the more developed countries and consequently cannot usually compete economically.

Preliminary analyses conducted in several Latin American countries have indicated that, using currently known good production practices, only about forty percent of the additional males entering the labor force would be needed to attain self-sufficiency in basic food crop production for the increased population we face in the year 2,000. The remaining sixty percent of males, plus a large portion of the female work force, must find either other rural employment or move to cities, thus increasing the urban labor force.

In order to expand rural employment opportunities in areas in which the tropics has an ecological and economic advantage, further understanding and experience in growing and marketing truly tropical products is urgently needed. Few institutions in the LDCs are presently engaged in developing the essential knowledge base on tropical crops and almost no university in more developed countries is attempting to conduct this research or train students to work on this vast opportunity. Too, since U.S. technical advisors are not usually schooled in tropical agriculture, our assistance programs are largely projected, in production terms, toward "that which we know best." Consequently, our bilateral assistance partners are increasingly moving toward becoming producers of temperate crops rather than expanding intrinsic production options, thereby complementing and not competing with temperate producers.

Proposed Response: This proposed research could be undertaken by either the Latin American Bureau or the Development Services Bureau.

Using a consortium of U.S. universities and the USDA with one or more key regional and/or national counterpart institutions in tropical LDCs, a research program in tropical crops would be instituted. The initial activity (Phase I) would involve an evaluation of a range of research options to identify those tropical crops meeting certain criteria. These might include:

1. Potential role in small farm systems of production,

2. Potential local and export market demand,

3. Potential size of geographic area in which the commodity might be grown,

4. Previous research conducted on the crop,

5. Short and long range potential for increasing profitability of the crop for local, regional and/or export markets,

6. Potential secondary role of the crop for animal feeding, oil extraction, etc. (e.g., its dual purpose potential),

7. Potential nutritional value,

8. Processing potential.

From the best options above, further investigation would be necessary to identify key production and market constraints and estimates of producer economic benefits should the identified major constraints be removed.

It is estimated that the initial phase of this program could be completed in a twenty-four month period.

In Phase II one or more U.S. institutions working at and with a tropical counterpart institution would undertake research to overcome key constraints for one or more of the commodities found most promising. A total of up to ten of the most promising commodities would be studied. Where possible, their monocropping and multiple cropping potential would be analyzed and breeding undertaken as necessary to increase adaptability, enhance nutritional value, increase marketability, etc.