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UNCLASSIFIED

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

HONDURAS

PROJECT PAPER

RURAL TECHNOLOGIES

AID/LAC/P:022

Project Number:522-0157

UNCLASSIFIED

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT PAPER FACESHEET

1. TRANSACTION CODE: A (A = ADD, C = CHANGE, D = DELETE)

PP

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3. COUNTRY ENTITY: HONDURAS

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5. PROJECT NUMBER (7 digits): 522-0157

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7. PROJECT TITLE (Maximum 40 characters): RURAL TECHNOLOGIES

8. ESTIMATED FY OF PROJECT COMPLETION: FY 84

9. ESTIMATED DATE OF OBLIGATION: A. INITIAL FY 79; B. QUARTER 4 (Enter 1, 2, 3 or 4); C. FINAL FY 82

10. ESTIMATED COSTS ($000 OR EQUIVALENT $1 =)

A. FUNDING SOURCE	FIRST FY B. FX	FIRST FY C. L/C	FIRST FY D. TOTAL	LIFE OF PROJECT E. FX	LIFE OF PROJECT F. L/C	LIFE OF PROJECT G. TOTAL
AID APPROPRIATED TOTAL						
(GRANT)	(485.0)	(365.0)	(850.0)	(2,075.0)	(6,855.0)	(8,930.0)
(LOAN)	( )	( )	( )	( )	( )	( )
OTHER U.S. 1.						
OTHER U.S. 2.						
HOST COUNTRY	10.8	53.6	64.4	227.4	4,879.4	5,106.8
OTHER DONOR(S)						
TOTALS	495.8	418.6	914.3	2,302.4	11,734.4	14,036.8

11. PROPOSED BUDGET APPROPRIATED FUNDS ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE C. GRANT	PRIMARY TECH. CODE D. LOAN	E. 1ST FY 79 F. GRANT	E. 1ST FY 79 G. LOAN	H. 2ND FY 80 I. GRANT	H. 2ND FY 80 J. LOAN	K. 3RD FY 81 L. GRANT	K. 3RD FY 81 M. LOAN
(1) FN	200 B	200		850.0		2,650.0		1,500.0	
(2)									
(3)									
(4)									
TOTALS									

A. APPROPRIATION	N. 4TH FY 82 O. GRANT	N. 4TH FY 82 P. LOAN	Q. 5TH FY 83 R. GRANT	Q. 5TH FY 83 S. LOAN	LIFE OF PROJECT T. GRANT	LIFE OF PROJECT U. LOAN
(1) FN	3,930.0		0		8,930	
(2)						
(3)						
(4)						
TOTALS					8,930	

12. IN-DEPTH EVALUATION SCHEDULED: MM 11, YY 80

13. DATA CHANGE INDICATOR. WERE CHANGES MADE IN THE PID FACESHEET DATA, BLOCKS 12, 13, 14, OR 15 OR IN PIP FACESHEET DATA, BLOCK 12? IF YES, ATTACH CHANGED PID FACESHEET: 1 = NO, 2 = YES

14. ORIGINATING OFFICE CLEARANCE

SIGNATURE

TITLE: J. B. Robinson, Director, USAID/H

DATE SIGNED: MM 06, DD 22, YY 79

15. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION: MM 06, DD 26, YY 79

AID 1330-4 (3-78)

PREFACE

The Project, as presented herein, has a total cost of $14,036,800, of which $8,930,000 is the amount of A.I.D. financing.

Due to the innovative nature of the Project in the Honduran context, the DAEC approved initial A.I.D. funding in the amount of $5,000,000, which is approximately the planned A.I.D. disbursement level for the first three years of the five year Project life. An evaluation of the first two years of Project experience will be completed early in the third year of the Project, and an amended Project Proposal will be submitted to AID/W for approval of the remainder of the Project funds. All Project activities except the Experimental Credit Activity will be commenced during the initial three years of the Project.

AUG 6 1979

ACTION MEMORANDUM FOR THE ASSISTANT ADMINISTRATOR (LAC)

FROM: LAC/DR, Marshall D. Brown

Problem: To approve a $5 million grant for the Honduras Rural Technologies Project, No. 522-0157, and to authorize $850,000 in FY 1979.

Discussion: The project focuses on technological constraints to improving the well being of small farmers, small entrepreneurs, and poor rural households. Its purpose is threefold: (1) to increase the effective utilization of labor and land on small farms through the use of improved light capital farm implements and structures; (2) to increase small-scale rural industrial productivity and employment through the introduction of improved production and management systems in existing small enterprises and through the establishment of new pilot enterprises; and (3) to increase utilization by the rural poor of low-cost appropriate technologies or products designed to improve the quality of life.

Although only $5 million of AID funding is approved at this time, the Project Paper describes a longer term project having a total cost of $14,036,800, of which it is proposed that $8,930,000 be financed by an AID grant and $5,106,800 by GOH counterpart. The AID grant would be used for personnel ($2,772,800), technical assistance ($1,349,300), commodities ($346,400), training ($408,500), small enterprise and appropriate technology and dissemination funds ($3,500,000), and other costs ($553,000). The GOH counterpart will be used for personnel ($2,951,700), commodities ($555,400), training ($78,700), small enterprise and appropriate technology and dissemination funds ($700,000), and other costs ($821,000).

The DAEC review meeting was held on July 5, 1979, at which time the initial two and one-half years of project funding ($5 million) were approved. Following a detailed evaluation of the project in late 1981-early 1982, an amended Project Paper will be submitted to AID/W for approval of the remainder of the project. The following modifications were made in the Project Paper after the DAEC meeting:

1. A detailed implementation plan was added which quantifies and relates output targets, beneficiaries, and institutional changes to expenditures over time.

2. A description of technologies likely to be disseminated in the early years of the project was added, e.g., water wheels, threshers, grain dryers, hand plows, Lorena stoves, roof catchment systems, and bio-gas plants.

3. Project costs were recalculated and presented in the PP according to a functional breakdown, i.e., management and coordination, identification and information, development and adaptation, and dissemination.

4. A description of procedures to be followed in carrying out a mid-term review of the project and in preparing a PP amendment for the remainder of the project was added.

The project was not included in the FY 1979 Congressional Presentation. An Advice of Program Change has therefore been prepared and forwarded to the Congress. The waiting period will expire on August 6, 1979. An IEE recommending a negative determination was approved by the AA/LAC on June 5, 1979.

Recommendation: That you sign the attached Project Authorization and Request for Allotment of Funds (PAF) for the Honduras Rural Technologies Project.

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

ASSISTANT
ADMINISTRATOR

PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS

Name of Country: Honduras

Name of Project: Rural Technologies

Number of Project: 522-0157

Pursuant to Part I, Chapter 1, Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize a Grant to the Republic of Honduras the "Cooperating Country" of not to exceed Eight Hundred and Fifty Thousand United States Dollars ($850,000) to help in financing certain foreign exchange and local currency costs of goods and services required for the project as described in the following paragraph.

The project consists of developing the capacity of the Cooperating Country to improve incomes and the standard of living in rural areas through the development, adaptation and dissemination of technologies appropriate for use by small farmers, small rural enterpreneurs, and rural households. (Hereinafter referred to as the "Project"). Through a process of analyzing national policies that affect employment in Honduras, the project will also endeavor to influence policy changes that would favor a more efficient utilization of national factor endowments. Pilot rural industries will be developed to reinforce complementary existing industries and agricultural activity and to generate additional rural employment.

Eight Hundred and Fifty Thousand United States Dollars ($850,000) of the financing authorized and approved for the project will be obligated when the Project Agreement is executed. Within the proposed five year project of $8,930,000, I approve the total level of AID appropriated funding of not to exceed Five Million United States Dollars ($5,000,000), grant during the period FY 79 through FY 82. I approve further increments during that period of funding up to $4,150,000, subject to the availability of funds in accordance with AID allotment procedures.

IV

I hereby authorize the initiation of negotiation and execution of the Project Agreement by the officer to whom such authority has been delegated in accordance with AID regulations and Delegations of Authority subject to the following essential terms and major conditions, together with such other terms and conditions as AID may deem appropriate.

1. Source, Origin or Nationality of Goods and Services

Except for ocean shipping, goods and services financed by AID under the project shall have their source, origin or nationality in Member Countries of the Central American Common Market or in the United States except as AID may otherwise agree in writing. Except as AID may otherwise agree in writing, ocean shipping financed under the Grant shall be procured in the United States.

2. Conditions Precedent to Disbursement for Other Than Technical Assistance and the Project Coordination, Management and Administration Activity

Prior to any disbursement or the issuance of any commitment document under the Grant, to finance other than technical assistance or costs associated with the Project Coordination, Management and Administration Activity, the Grantee shall furnish, in form and substance satisfactory to AID:

(a) A detailed description of the procedures and mechanisms to be utilized by the Grantee for the disbursement and control of Project funds; and

(b) Evidence that the personnel required to implement these procedures have been or will be employed at such time as their services are required.

3. Conditions Precedent to Disbursement for the Activities of Institutions Other Than the MOE, MNR and CDI

Prior to any disbursement or the issuance of any commitment document under the Grant, to finance the activities of institutions other than the Ministry of Economy (MOE), the Ministry of Natural Resources (MNR), and the Center for Industrial Development (CDI), the Grantee will furnish, in form and substance satisfactory to AID:

(a) An agreement executed between such other institution and an authorized representative of the Grantee. Such interinstitutional agreement will include a full description

of the responsibilities of the parties, including but not limited to, a budget of the contributions of each of the parties, reporting requirements, and a description of the means for evaluating the effectiveness of the activity.

4. Conditions Precedent to Disbursement of Grant Assistance to Existing Small Enterprises and Blacksmiths

Prior to any disbursement or the issuance of any commitment document under the Grant, for the purpose of donating equipment or otherwise providing grant assistance to any existing small enterprises or blacksmiths, the Grantee will furnish in form and substance satisfactory to AID:

(a) A description of the process to be used in selecting the small enterprises or blacksmiths to be benefited, including the criteria to be employed in the selection;

(b) The criteria to be employed in determining the appropriate amount and form of assistance required; and

(c) A description of the method(s) to be used to help insure that the Grant or equipment donation is used for the intended purpose.

5. Conditions Precedent to Disbursement for New Enterprise Development

Prior to any disbursement or the issuance of any commitment document under the Grant for equity or grant financing of new industry development, the Grantee shall furnish in form and substance satisfactory to AID:

(a) Criteria for initial and final project selection;

(b) The methodology to be used for determining the technical, economic and financial feasibility of the project;

(c) guidelines for determining the preferred mode of financing and disbursement, and control procedures; and

(d) Model agreements to be used when providing such financing.

6. Special Covenant

The Grantee covenants that, unless AID otherwise agrees in writing, any and all reflows to the Small Enterprise Fund will be used solely in accordance with the purposes originally established for the Fund.

VI

Assistant Administrator
Bureau for Latin America
and the Caribbean

Aug 7 1979
Date

Clearances:

LAC/DR, C. Peasley _____ date 7/26/79
LAC/DR, M. Brown _____ date _____
LAC/CEN, W. Luken _____ date 7/26/79

GC/LAC;JLKessler:ec:7/26/79:x29182

RURAL TECHNOLOGIES PROJECT

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ACRONYMS

AGRINTER - Interamerican System of Agricultural Information.

AGRIS - Agricultural Research Information Service.

A.I.D. - United States Agency for International Development.

AID/W - A.I.D. Washington Offices.

AITEC - International Technical Action.

ANAH - National Artisans Association.

ANDI - Association of National Industries

ANPI - National Association of Small Industries.

ATAC - American Technical Assistance Corporation.

BANAFOM - National Development Bank.

BANTRAL - Central Bank.

CATIE - Tropical Agricultural Research and Training Center.

CCTI - Technical Industrial Cooperation Center.

CDI - Industrial Development Center.

CEDIA - Agricultural Documentation and Information Center of the Ministry of Natural Resources.

CIIBANTRAL- Industrial Information Center of the Central Bank.

CII-UNAH - Industrial Information Center of the National Autonomous University of Honduras.

CIDA - Canadian International Development Agency.

CIMMYT - International Maize and Wheat Improvement Center.

CONADI - National Investment Corporation.

CONSUPLANE- National Economic Planning Council.

CPA - Agricultural Policy Commission.

CSUCA - Superior University Council for Central America

DAA - Small Farmer Development and Adaptation Unit.

DIFOCOOP	-	Direction of Cooperative Development
DSTEY	-	Development Support Bureau, Office of Energy, AID/W.
DSB/RD	-	Development Support Bureau, Office of Regional Development AID/W.
EAP	-	Panamerican Agriculture School
FACAH	-	Federation of Savings and Loan Cooperative Association.
FAO	-	Food and Agricultural Organization.
FONDEI	-	Industrial Development Fund.
GOH	-	Government of Honduras.
ICAITI	-	Central American Institute for Industrial Technological Research.
INA	-	National Agrarian Institute.
INFOP	-	National Institute of Professional Training.
IDB	-	Interamerican Development Bank.
ITDG	-	Intermediate Technology Development Group.
IICA	-	Interamerican Institute for Agricultural Science
ITIS	-	Intermediate Technology Information Service of the Ministry of Natural Resources.
JNBS	-	National Social Welfare Board.
LAC/DR	-	Latin American and Caribbean Bureau, Office of Development Resources AID/W.
MOE	-	Ministry of Economics.
MNR	-	Ministry of Natural Resources.
NTIS	-	National Technical Information Service.
OAS	-	Organization of American States.
PVO	-	Private Volunteer Organizations.
ROCAP	-	Regional Office of Central American Programs.
SIATES	-	Information and Technical Assistance Services to Enterprises.
TIRS	-	Technical Information and Resource Service - CDI.
UNAH	-	National Autonomous University of Honduras.
UNDP	-	United Nations Development Programme.

I. BACKGROUND

A. Overview

1. The Role of Small Farmers and Rural Industry in Honduras Development

a. GOH Strategy

Transformation of the rural sector through the Agrarian Reform program and through building of agricultural institutions and delivery systems is a high priority of the Government of Honduras. Its strategy is to improve access of the reform farm groups and small independent farmers to the resources provided by these institutions. A high priority has also been given to the development and delivery of farm technologies in the draft GOH National Development Plan 1979-1983. Agrarian Reform and traditional small farmers, representing the largest group of the rural poor, are in need of new and improved technologies. Efforts for developing and designing appropriate farm technologies have just begun and will require continuous strengthening over the next few decades.

The importance of small-scale industry in the development of Honduras, stated in the draft National Development Plan, has only recently been recognized. Experimentation with delivery of services and benefits to small-scale industry began during the 1974-1978 Plan. However, much of this work has been carried out with urban small enterprise.

b. Rural Poverty -- Small Farmers and Small Enterprises

(1) The extent of rural poverty among the 66 percent of the population that live in the rural areas is estimated at 360,000 families (93 percent of rural families and 61 percent of the total population). The level of rural poverty measured in terms of income is substantial; estimates of annual per capita income among this group range from $50 to $260. More than 90 percent of rural farm housholds are below the poverty level as defined by income criteria. 1/

(2) In the small farm sector, traditional farmers principally produce corn, beans, sorghum and rice. Almost 90 percent of production on these farms is in these basic grains for subsistence. The level of technology is traditional, utilizing primitive planting sticks, machetes, hoes, and axes. For the most part the small farmer is not integrated into the national market except to the extent to which he sells

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1/ $255 in 1977 dollars; a more detailed description can be found in the GOH/AID Agricultural Sector Assessment 1978.

some of his grain for cash, which is later used to buy back grain for family comsumption.

The small farmer has few alternatives for changing his technology except at great risk. The alternative technologies available to him are intensive capital technologies using modern inputs. His access to these technologies is limited by the quality and size of his land resources, and by lack of access to credit and technical assistance.

The small traditional farmer lacks knowledge and information about markets and has little leverage in the market because of his isolation and the small size of his production.

(3) Small-scale enterprise in the rural areas 1/ is an important source of employment and income generation. Small enterprise 2/ includes an estimated 75,000 manufacturing enterprises with total employment upwards of 175,000 people, including the entrepreneur. The cost required to establish a workplace in the average small rural enterprise is approximately $110.

Manufacturing activity is traditional; ninety-five percent of all productive enterprises in the rural areas use very simple technology and are in effect micro-enterprises. Average employment is 2.3 persons per enterprise. The bulk of these enterprises produce consumer items such as clothing, food, wood products, and shoes. Production is sold in a very limited local area and there are few forward linkages to the modern industry sector and few backward linkages to the farm sector.

The rural entrepreneur, like the small farmer, is similarly constrained by his lack of information about markets and technologies and his limited managerial capability. Because of this and his fragile capital base he must limit his production to a fixed market demand which has continuity over the long term. His size and his isolation give him little leverage to expand into new products and/or markets, or to capture adequate quantity and quality of prime material inputs. Expansion of production often represents a risk that is beyond his managerial capacity.

The GOH has not yet developed an aggressive strategy to move rural enterprise from its traditional production and marketing approaches toward a modernized sector. The rural enterprise subsector not only has potential for increased

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1/ All statistics and estimates are from the Survey of Rural Industries, CDI and USAID/H, 1979. (See Annex G)

2/ Throughout the project paper the rural enterprise target group is referred to as small enterprises or micro-enterprises which includes both the artisans (0-4 employees) and small enterprise (5-19 employees) as defined by the GOH.

employment but will be needed in the long run to satisfy increased demand coming from the farm sector as it expands.

c. Employment and Underemployment

Estimates of unemployment in the rural areas range from 5 to 30 percent and virtually all rural landless are underemployed or have limited seasonal employment opportunities. 1/ Those small farmers with farms in the 1 to 35 hectare range are employed only 180 days per year.

At the present time, the industrial sector in Honduras has a relatively high capital intensive industry base located in the urban areas of Tegucigalpa, San Pedro Sula, and to some extent in La Ceiba. Approximately 90 percent of the small, medium and large industries are located in these urban areas and employ about 40,000. This modern industry relies heavily on imported capital equipment and inputs, with few forward or backward linkages into the rural areas. Of some 75,000 micro-industries which employ 175,000 2/ about 90 percent are in the rural areas and produce primarily for local consumption with little output of semi-finished products destined for the modern urban based industries.

B. Development Strategy

1. Growth with Equity. A development approach which focusses on small farmers and rural industry fits current thinking with regard to the "growth with equity" strategy, i.e., the key to development is in increasing participation in productive enterprises; incorporating small farmers into commercial agriculture and expansion of rural industries. The objective of equitable growth is most likely to be achieved through stimulation of the small farm and small scale industry sectors.

Experience indicates that farmers will not produce more unless they can market and receive a fair price for their goods and obtain fertilizer and other inputs needed to increase output. Expanding agricultural production will require increased production of farm implements, processing industries, fertilizers, irrigation equipment and construction materials at prices farmers can afford. Through the expansion or establishment of small industries in the rural areas not only will the small farm sector be served but increases in employment in industries will create increasing demand for farm products.

In Honduras, expansion of farm production through the strategy of improving technology and the GOH systems for its delivery is already underway. However, there is need for a strategy to accelerate the movement of the traditional rural industry sector to a higher

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1/ Unpublished estimates of CONSUPLANE.

2/ Survey of Rural Industries, CDI/USAID 1979

level of production and productivity using appropriate technologies.

The challenge presented by this development strategy is to develop systems which both find and deliver technologies appropriate to the small farmers and rural entrepreneurs in terms of their resources and capabilities. A development strategy for Honduras which is focussed on building the institutions and systems to deliver appropriate technologies to both the small poor farmer and rural entrepreneur is in accord with both current development theory and the mandate of Congress to attack the problems of rural poverty.

C. The Role of Appropriate/Light Capital Technology As a Development Tool

The now somewhat discredited development strategy referred to as "trickle down" has as its goal rapid expansion of industrial capacity in the modern sector. It assumes that the traditional sector cannot, by its nature, expand productivity or incomes. Rapid expansion is accompanied by importation of existing technologies from developed countries which typically are capital intensive and very often inappropriate to the natural, human and infrastructural endowments of the LDC. The dilemma faced by the LDC is to accept inefficient production with little increase in GDP in the traditional sector or to buy sophisticated technology, which often results in unusable capacity, dependence on foreign technicians, and inefficient use of resources. The lack of effective alternatives within these two extremes contributes to "low productivity, low income, rural to urban migration and lack of basic services, particularly in the rural areas." 1/

An objective of appropriate technology 2/ is to provide some alternatives for LDC's and to assist them in understanding the consequences of their choice. It is most appropriate in Honduras which lacks both capital and skilled human resources that the technologies be designed to conserve capital and utilize relatively abundant unskilled labor.

However, more than the existence of new or improved technologies is required to solve the problems in the rural farm and nonfarm sector. Abundant new and appropriate technologies which can be applied in the two

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1/ Peter Askin; Intermediate Technology: An Informal Survey; page 364.

2/ There are an interesting array of definitions of appropriate/intermediate/light capital technology in the literature. It is not the purpose of this project to enter the great debate. We therefore have decided to accept the following working definition -- tools, production systems, techniques or methodologies which take advantage of the relative scarcity of capital and surplus of labor, i.e., technologies which require a small amount of capital investment per worker employed.

rural subsectors can be found in the technology information systems around the world. What is lacking for the application of an appropriate technology strategy are indigenous development, adaptation and testing institutions, an adequate human resource base, and effective delivery systems. 1/

The strategy envisioned in this project is focussed on a problem-solving approach to the needs and conditions of the small farmer and the rural entrepreneur and the expansion or establishment of a Honduran development, adaptation and delivery system.

D. National Development Goals

The National Development Plan 1979-1983 in its current draft form emphasizes increased employment and income. This had been a goal in the previous development plan but it has now taken more concrete form, i.e., in the emphasis on increasing employment in the farm sector through the development and delivery of appropriate technologies and; in the industrial sector by increasing availability of technical assistance and establishing an incentives structure for small and medium scale industries which encourages decentralization into rural areas. The implementation element of the plan deals with specific projects aimed at import substitution and stabilization goals in the frontier zone and lacks a specific industrialization strategy in the rural areas to achieve increased employment and income.

However, priority is accorded to small scale industrialization in the 1979-1983 Plan and recent actions of the GOH to approve a Small and Medium Industry and Artisan Law and a law that establishes an important development role in small scale industrialization in the semiautonomous institution, Centro de Desarrollo Industrial (CDI) represents a policy commitment to this sector.

E. GOH and International Donor Programs in Small Farmer Technologies and Small Scale Industry and Artisanry Development. 2/

There are no programs dealing with the technology needs of small farmers other than the current Ministry of Natural Resources/AID Small Farmer Technology Project (522-0123), the Agricultural Sector II Program and the Agricultural Research Project (522-0139) which are described elsewhere.

1/ This need has been clearly stated in the World Food and Nutrition Study carried out by the National Academy of Sciences in 1977, by the U.S. paper prepared for the United Nations Conference on Science and Technology, and by several A.I.D. policy papers over the last few years.

2/ More detailed descriptions of these programs are in Annex I.

In the development of small industry there are and have been several activities. In 1960 the Centro Cooperativo Técnico Industrial (CCTI) was established by the GOH with the help of ICA. It's purpose was to serve as a center for industrial development programs. It has provided technical assistance and training to small industry and commerce. Until recently its programs have dealt primarily with artisans. Other GOH agencies also have programs for financing of small enterprise such as the National Corporation for Forestry Development (COHDEFOR) and training such as the National Institute for Professional Training (INFOP). In addition to an earlier small industry guarantee fund, the Central Bank has recently signed a US $20 million program with the World Bank for credit to small and medium industry. The National Development Bank had until 1977 an active program in industrial credit. The National Investment Corporation (CONADI) also has programs to stimulate industrial development in large scale industrial projects. Recently the GOH issued decree laws to provide incentives to small and medium industry as well as to reorganize the CCTI into an Industrial Development Center (CDI) with a broader scope and responsibility in small and medium industrial development.

In addition to the World Bank loan, the Interamerican Development Bank is negotiating a US $500,000 credit fund with CDI for urban artisans, and, the OAS and UNDP are providing CDI some industrial development technical assistance.

Whereas in the small farmer technology area there are no other directly related GOH or donor activities, in the small industry sector there is a variety of projects and activities. None of these current activities are directly aimed at rural small scale industries. The Rural Technologies Project which is exclusively focussed on the rural, small enterprise is additional and complementary to current GOH and donor programs.

F. U.S. Mission Strategy

The January 1979 Country Development Strategy Statement (CDSS) outlines the U.S. approach to effective development in Honduras, i.e., available resources (natural, human, financial, and technological) must be better utilized to achieve growth with equity objectives. The U.S. mission strategy is to strengthen and improve management and technological processes and structures. Special emphasis is given to planning and analysis, development management, delivery systems, human resource development, and technologies appropriate to Honduras' conditions.

An integral part of the strategy for agricultural development is the development, adaptation and delivery of appropriate technologies for small farmers. Delivery of appropriate technologies for small rural industries and rural households is emphasized as an important complementary strategy for reaching the nonfarm rural poor.

The Rural Technologies Project which is described in the remainder of the project paper seeks to build the necessary Honduran institutions to develop, test, demonstrate and deliver light capital

technologies and related technical assistance to small farmers, small rural enterprises and to rural poor families. Its goal is to improve incomes of small farmers and entrepreneurs; and to improve the quality of rural living.

G. Origin of the Project

In 1975, A.I.D. assisted the GOH with an agricultural sector program through the Ministry of Natural Resources (MNR). Part of that program was designed to assist Agrarian Reform farms. During program development A.I.D. and the MNR concluded that one of the problems of the agrarian reform groups as well as the small independent campesinos was the lack of tools, implements and machinery.

As a result the MNR/A.I.D. developed the Small Farmer Technologies Project (522-0123) in 1976. Its goal is to increase the productivity of small farmers by improving access to choices of technology suitable to their needs and conditions. Its strategy is to develop a capacity within the agricultural sector for identifying and developing a wide range of farm technologies; to select appropriate technologies for each of a number of types of farming enterprises with differing ecological, social, agronomic and organizational conditions; and to finance relevant farm investments based upon detailed farm investment plans.

Congressman Clarence D. Long visited Honduras in January 1978, and took great interest in the campesinos; their problems; their aspirations. Although favorably impressed with the light capital technologies -- in use and proposed -- he forsaw the great and positive impact which would occur if light capital technologies were employed on a nationwide basis. He was concerned about impact within a relatively short period of time. Mission interest largely coincided with that of the Congressman. There was also growing interest on the part of the GOH in part stimulated by the AID/MNR sponsored Small Farmer Technology Seminar, held at El Zamorano, Honduras in May 1978. The Seminar hosted a number of participants from several countries representing a wide variety of expertise. Subsequent discussions between A.I.D. and the GOH led to the conclusion that the GOH should accelerate its efforts in small farmer technologies and expand its scope of activity to encompass rural productive industries. The Development and Adaptation unit formed under the original project was seen as an initial effort in establishing a national capacity for development of appropriate small farmer technologies. It was determined that this effort should be amplified substantially and expanded to include the rural small-scale industry subsector and rural households.

H. Rationale

The largest portion of the rural poor in Honduras consist of small farmers, landless laborers and rural unemployed. Except for the Agrarian Reform Program, few past efforts have been focussed

on improving productivity or expanding employment opportunities in the rural areas where they live.

The Small Farmer Technology component of the Rural Technologies Project is designed to increase the productivity of small farmers by improving access to choices of technology suitable to their factor endowments. The greatest single constraint to increased income in the rural areas, given the relative fixity of land and available investment capital, is rudimentary technology which is now widely used. The development of technology which is appropriate to the limited endowment of small farms is a more viable alternative than attempts to consolidate thousands of micro-farms on the one hand, or generating alternative employment opportunities for micro-farmers, on the other.

The expansion of the Rural Technologies Project into a broader area than the original Small Farmer Technologies Project is based on a dual rationale. First, there are a number of industries with important linkages to the agricultural sector in addition to the blacksmiths originally identified to produce the new technologies. Agro-industrial processing industries can contribute to increases in the demand for certain kinds of produce. Some types of technology require carpentry and wood-processing as well as blacksmithing, e.g., plows, water wheels and grain storage facilities. The 1979 GOH/USAID Rural Industry Survey has shown that all types of industry flourish in the regions of greater agricultural production because of backward and forward linkages to the agricultural sector.

In addition, it has become clear that small-scale rural industry has the potential to contribute to a broader GOH development goal, i.e., an increase in employment and income for the rural poor majority. The preliminary findings of the Rural Industry Survey are consistent with findings in recent studies, principally the Sierra Leone small-scale industry study, which has shown that small-scale industry can contribute to meeting both employment and output objectives in a developing nation. These industries generate more output and more employment per unit of capital than do the large-scale industries. The labor intensity of small-scale industrial firms in Sierra Leone was 17 times higher than in large-scale firms, and the output capital ratio was over twice that of large-scale industries. It was concluded that small-scale industries could generate the maximum industrial output and employment per unit of scarce capital. Furthermore, contrary to some economic theory, profit objectives need not be foregone when investing in small-scale industry. Small-scale industries in Sierra Leone generated a positive profit.

The most important constraints of small enterprise, identified in both surveys, are lack of management skills; lack of access to technical information and improved technologies, and; lack of knowledge of market opportunities.

The expansion of assistance beyond the original small farmer orientation will contribute to the achievement of GOH income and

employment goals in the rural areas. It also has the potential of reducing some of the rural-urban migration.

The inclusion of rural households in the project has two objectives: increase in the quality of life of the rural poor, and improved utilization of family resources.

The rationale for this component of the Project is that while numerous technologies have been developed elsewhere for improvement of household conditions, there is no system in Honduras for testing their appropriateness for local cultural conditions or for delivering such technologies.

I. Project Strategy

The key problems of the target groups are lack of access to new or improved technologies, technical assistance and information.

The strategy for getting at these problems is to build systems for identifying the constraints of small farmers, entrepreneurs and rural families, and; to develop, adapt and deliver appropriate technologies designed to fit the needs and conditions of these target groups.

The underlying approach taken by the Project is one of problem solving. The target groups' problems are at the center and are the source of the action. In this sense, the approach differs from projects that deliver pre-determined technologies and solutions. The project, therefore, will build the indigenous capacity to seek out and identify problems in their context and find and deliver those solutions which fit the target groups' needs. As a result, there is a very heavy emphasis in the project on problem analysis, studies, development and adaptation capacity, information systems and policy analysis.

A guiding principle of the project strategy is to utilize and build on existing Honduran institutions and capabilities to the maximum extent; to capitalize on already established roles and interests which are both appropriate and needed to reach the project goals and; to forge these institutions into a purposeful, collaborative network with common goals. No new institutions are established; current organizational roles and capacities are expanded and extended. As a result the number of institutions and units involved in the project is substantial; high quality management and coordination skills and administrative arrangements are essential. For that reason the management and administration elements of the project receive special emphasis.

As a corollary to the problem-solving approach and the principle of utilizing existing institutions, the Project has three systems

organized around the target groups, i.e., small farmers, rural entrepreneurs and rural families. 1/ Essentially one development and adaptation and information network will serve all three systems. However, each system will have its own problem identification and analysis element as well as its own delivery and dissemination sub-system, e.g., blacksmiths, machine shops, extensionists and promoters of the GOH agricultural agencies are the key elements in the delivery system for small farmers. The rural enterprise delivery system is composed of a small industry extension staff specifically organized to serve its client group. The voluntary agencies, Peace Corps and other social service organizations which are located in the rural areas make up the core delivery element for the appropriate technologies for the rural households system.

A second, but no less important, guiding principle of the project is that development of the capability of the target groups as well as the Hondurans who will work in the project systems is essential for achieving both institution building and project goals. As a result, there is a substantial element of short and long term training as well as support to the National University of Honduras (UNAH) to build its capacity to mold and produce the necessary human resources.

J. Relationship to Other A.I.D. Programs

The Small Farmer Technologies Project (522-0123), which is grant funded, will be absorbed by the Rural Technologies Project as a central component (see "Origin of the Project"). The original project was to provide funding to the Pan American Agricultural School (EAP at El Zamorano) under a contract arrangement with the Ministry of Natural Resources for 3 1/4 years beginning in the Transition Quarter of 1976. The funding was based on modest expansion of EAP facilities and use of faculty and students for staff. Because of resource problems and policy changes at EAP no action was begun on the project and the contract with EAP was cancelled in November 1978. Arrangements were then undertaken to establish the SFT unit within the MNR Agricultural Research Program. By March of 1979 initial staffing actions were begun.

During 1978 the conceptual basis for the original project ideas was expanded to include both a saturation demonstration phase for the implements developed by the SFT unit and a technical assistance extension service for rural industries.

The proposed Rural Technologies Project increases the time for the SFT element to five years. The current grant will provide funding to build a facility, hire full time staff, provide equipment, purchasing of prototypes and vehicles for the first year of the project (This is shown as non-add funding in the project budgets). The Rural Technologies Project will provide funding beginning the second year for continuation and expansion of these activities through the fifth year.

1/ These systems are described in the following section.

The technological improvements developed by this Project will be entirely consistent with, indeed complementary to the development of new agronomic practices and technologies under the Agriculture Research Project (522-0139). The Director of the National Agricultural Research Program is responsible for supervision of the mechanical and the agronomic research elements, and both units will be physically located together at the Comayagua Research Station. One of the agricultural engineers will be assigned to work with the agronomic unit, and all program plans will be coordinated among the researchers.

This project will also complement and be supported by the proposed Agriculture Sector II Program. The expansion and improvement of the MNR Extension Service will provide a firm basis for coordinated demonstration and dissemination of plans and programs for the agricultural implements, machinery and farm structures to be developed by this Project. In addition, human resource development under Agriculture Sector I and II will provide an expanded pool of long term participant agricultural engineers and rural sociologists from which the Rural Technologies Project can draw.

The current ROCAP project with ICAITI in appropriate technology research and technology transfer will be a source of direct assistance to both the Centro de Información Industrial (UNAH) and the Centro de Desarrollo Industrial (CDI). In fact, arrangements have been made for the ICAITI representative in Honduras to work closely with the CDI.

The proposed ROCAP project on fuelwood and energy is being carefully coordinated to assure that the energy development and adaptation capability at the UNAH, under the Rural Technologies Project, will be able to capitalize on the work of ICAITI and CATIE.

Other planned USAID/H programs in Water Management and Natural Resources will be carefully linked with this project to assure mutual support and close coordination.

II. DESCRIPTION OF PROJECT SYSTEMS

A. Project Design

During the development of the original Small Farmer Technologies Project (522-0123) a number of surveys were carried out to identify current technologies and constraints of small farmers as well as blacksmiths. The Small Farmer Technologies Seminar held at El Zamorano in May 1978, also added to the knowledge about technology levels and needs of small farmers and blacksmiths. Recommendations from the seminar participants dealt with the need for a systems approach to developing and delivering new technologies and methods for identifying needs.

Additional data about small farmers was generated by the 1975-1978 ATAC Survey of small farmers and the AID/GOH Agricultural Sector Assessment of 1978.

In 1978, the Intermediate Technology Development Group (London) carried out several consultancies which resulted in a series of design recommendations for appropriate technologies systems for both small farmers and rural entrepreneurs. As a follow-up, contracts were made to VITA and AITEC of Costa Rica to analyze and provide design advice on management and technical assistance to rural enterprise and appropriate technology information systems. Additional assistance was provided by AID/W technical personnel from LAC/DR and DSB/RD.

A contract was made with a local consulting firm to carry out analytical studies of the role of industry, rural employment and income, and evaluations of public and private programs related to rural industrialization.

An analysis of rural industry was carried out January-April, 1979 by surveying over 2,000 rural entrepreneurs in selected zones of Honduras. The survey design was a joint effort of CDI, A.I.D. and the Department of Economics of Michigan State University (under a contract with AID/DSB/RD). 1/

The primary role in design of the project was assigned in September 1978 to a GOH Rural Technologies Working Group, headed by the Executive Director of the Technical Secretariat of the Agricultural Policy Commission.

The project design that resulted from this process is basically three systems which develop and deliver new and improved technologies for three target groups: small farmers, small rural enterprises and poor rural households. The three systems each have development, testing, demonstration and dissemination functions. However, they

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1/ A complete description of the survey as well as a resulting analytical profile of rural enterprise is contained in Annex G.

use in common some information organizations as well as development and testing organizations. The systems are designed to build on and to use to the maximum extent existing institutional capacities and skills.

B. The Small Farmer Technology System

This system includes the Small Farmer Technologies Development and Adaptation Unit (D & A) under the Ministry of Natural Resources and the Centro de Desarrollo Industrial (CDI) as the two central organisms supported by a number of information and technology testing institutions. (See Illustration). The initial effort of the Small Farmer Technology D & A unit, working in close collaboration with the agronomic research team 1/ will be to identify needs of small farmers in varying conditions. Another way in which needs will be identified will be by conducting research and statistical surveys of small farmers including labor, capital and technology utilization over an entire agricultural year.

Other sources for the identification of needs for mechanical technologies for small farmers will be through contacts with e.g., agricultural extension agents, promoters of the National Agrarian Institute and campesino labor unions. Once a widespread need is established the D & A technicians in collaboration with the technical information officer will search for possible solutions through the information centers in Honduras such as, CDI, CII-UNAH, CEDIA; and through external information systems and consulting organizations such as, Georgia Tech, Brace Institute, VITA, ITDG, etc. The D & A technicians will sift through the information to identify the technical solutions that seem to be the most promising in terms of the Honduran small farmer. CDI's industrial engineers will be collaborating with the D & A unit in reviewing possible solutions in terms of availability of materials and practicability of local production.

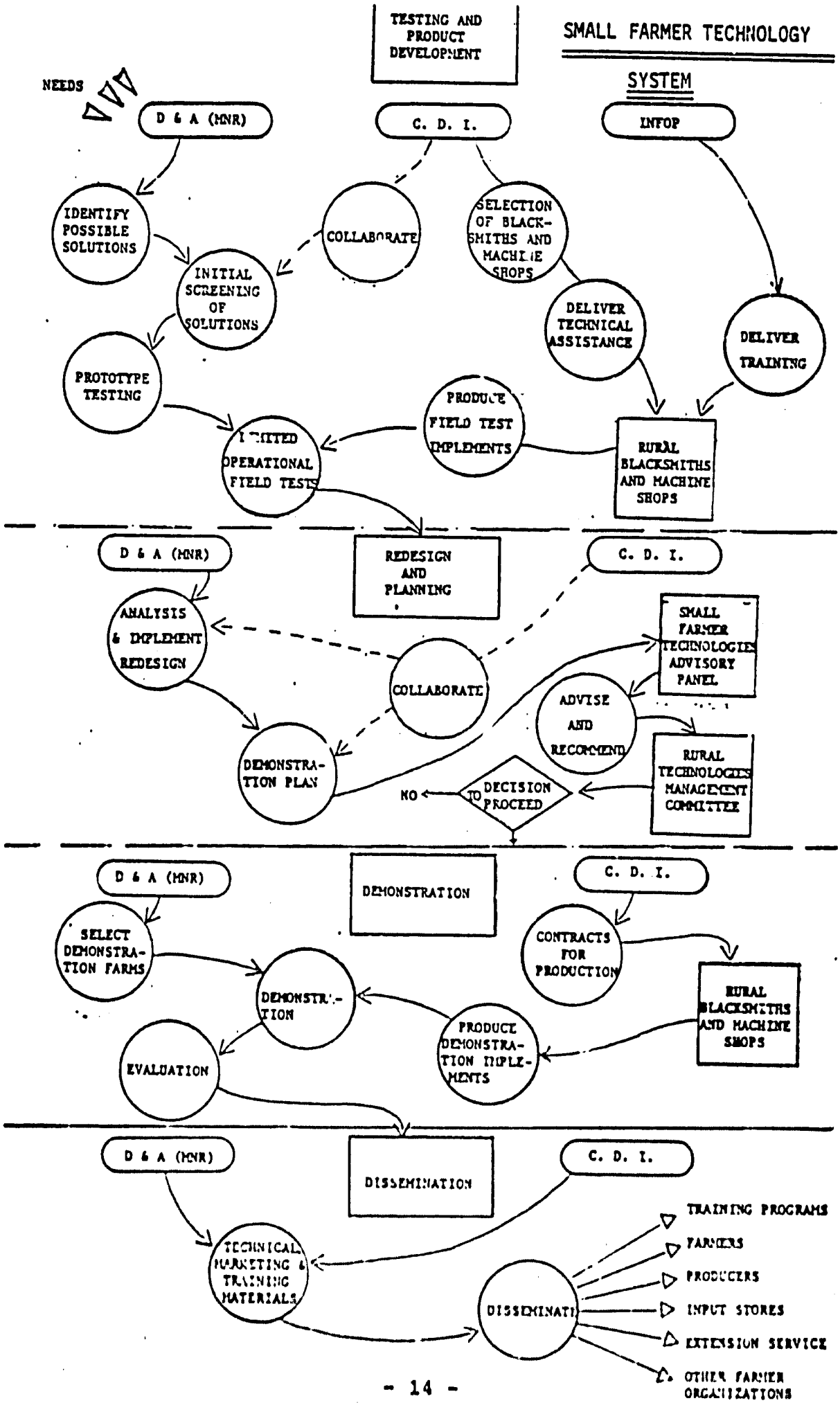
The selected prototype implements or machines which will be purchased or fabricated will then be tested on the experiment station and, in some cases on local farms near the experiment station. Those prototypes which meet the test of appropriateness at this stage will be produced in a limited quantity for more rigorous field testing. CDI will contract with a selected group of 75-100 blacksmiths and machine shops 2/ to produce the additional prototype items for field testing.

Once field tests have been completed, a program will be worked out jointly between the D & A unit and CDI for broad-scale production (by the blacksmiths) and demonstration of the new technology.

1/ This team is partially funded by AID Project 522-0139.

2/ The blacksmiths and machine shops will be selected on the basis of proximity to the target farmers and will have received technical assistance and equipment from CDI and training from INFOP.

SMALL FARMER TECHNOLOGY SYSTEM



That program plan will be submitted to the Small Farm Technologies Advisory Panel for their review and suggestions and to the Rural Technologies Management Committee for a management decision. The program would include maximum use of agricultural extensionists, INA promoters, campesino unions and other institutions dealing with small farmers in the selection of demonstration farms, for training of farmers in the use of new implements, and for information dissemination.

Upon completion of the on-farm demonstration, an evaluation will be made of the implement in terms of technical and marketing criteria. The results of the evaluation will be incorporated into training programs, and technical, production and marketing pamphlets and information for distribution to blacksmiths, producers, extensionists and other information dissemination organizations dealing with small farmers.

C. Rural Industrial Assistance and New Industries System

1. Rural Industrial Assistance

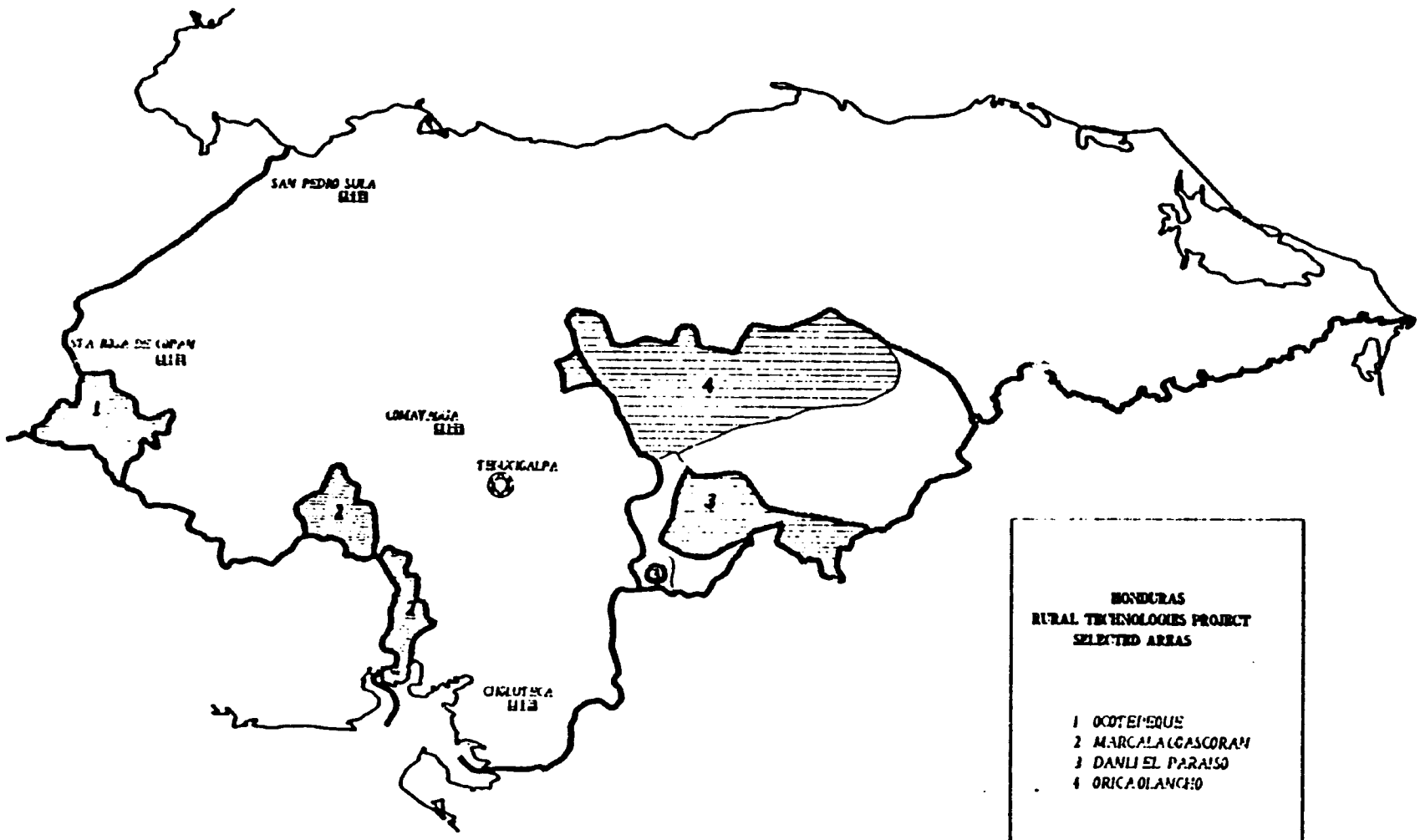
This system has as its objective the delivery of management and technical assistance to existing rural industries, and to selected blacksmiths and machine shops and; the expansion and creation of new industries in the four selected rural zones in Honduras (Departamento de Ocotepeque, Marcala-Goascorán, the Jamastrán and Guayape Valleys. See map).

The central organization in carrying out this system is the Centro de Desarrollo Industrial (CDI). One part of the system is for the delivery of technical and management assistance to existing enterprises in four selected rural zones.

The following diagrams illustrate the way in which the system will operate and the delivery and feedback system.

Each zone will have between two and four extension workers who are trained primarily in business management. They will provide day-to-day contact with participating entrepreneurs, continuing monitoring of progress, and identification of training needs. The extension workers will be backstopped by a Zonal Office in each of the four zones. This office will be staffed with middle level personnel who will work with the extensionists and the entrepreneurs in identification and solution of problems, development of plans for business improvement, etc. The Zonal Office will also be providing assistance directly to selected blacksmiths and machine shops who are participating in the Small Farmer Technology System. 1/

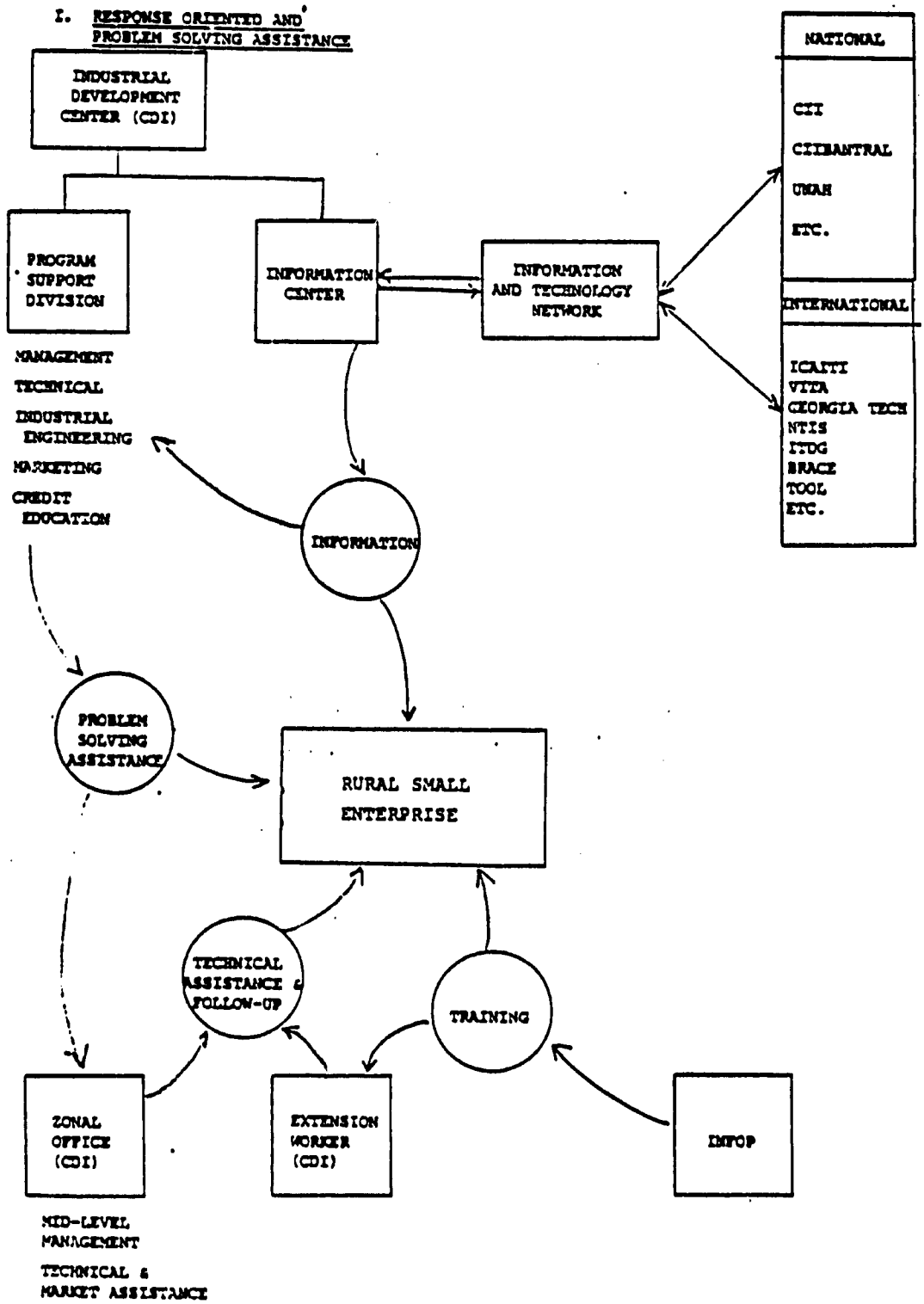
1/ Zonal Offices will also provide this assistance to blacksmiths and machine shops in areas outside the four zones.



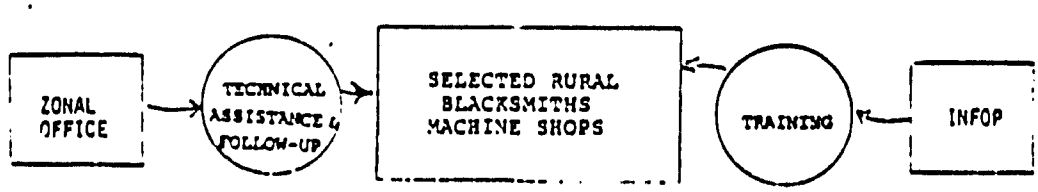
UNCLASSIFIED

RURAL INDUSTRIAL ASSISTANCE

I. RESPONSE ORIENTED AND PROBLEM SOLVING ASSISTANCE



II. DIRECTED ASSISTANCE:
SMALL FARMER TECHNOLOGY ELEMENT



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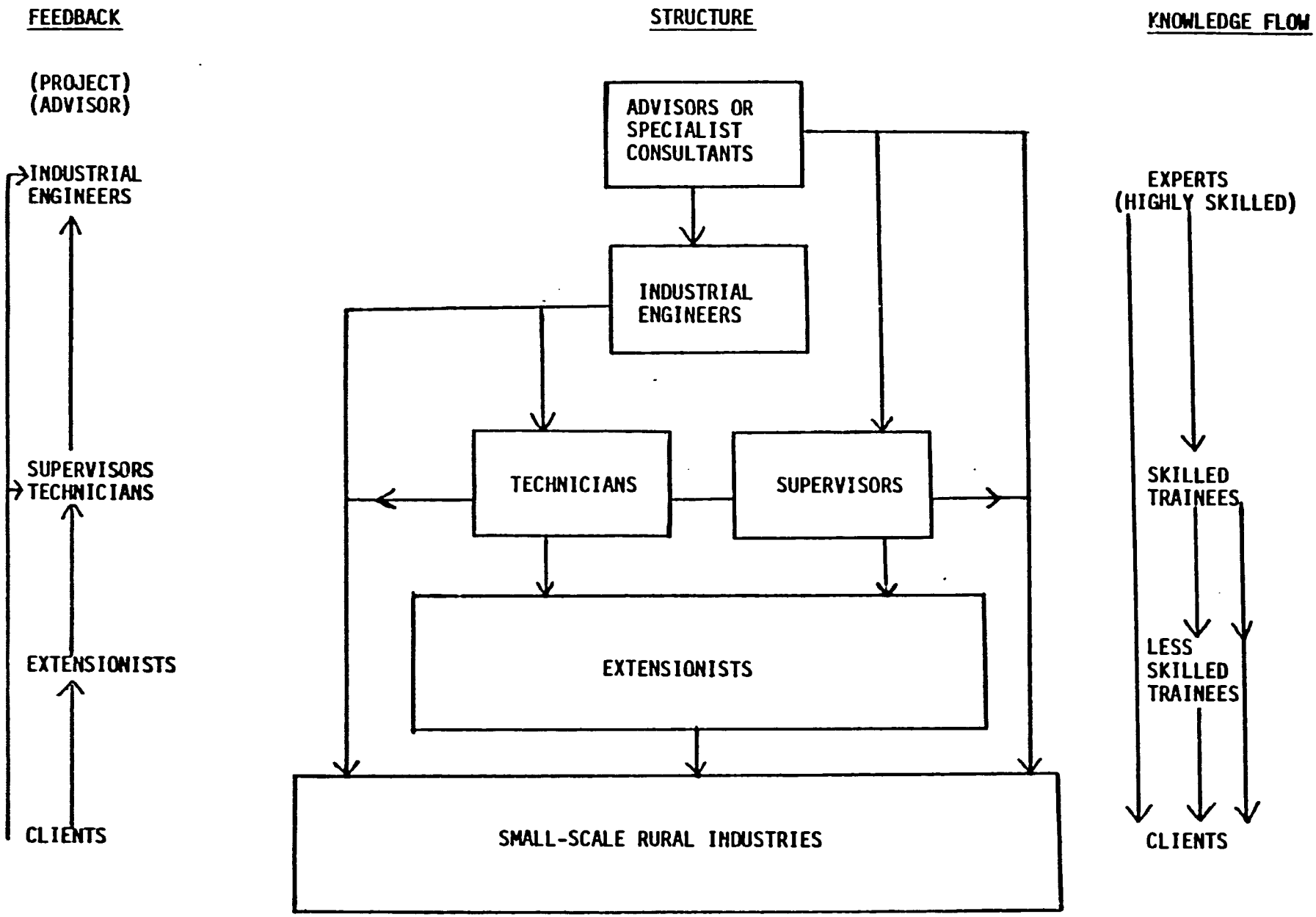
DELIVERY AND FEEDBACK SYSTEM FOR TECHNICAL ASSISTANCE TO RURAL INDUSTRY



The field staff will be backstopped by the CDI Program Support Division in Tegucigalpa, staffed with more highly trained specialists and; by the CDI Information Center and its network.

INFOP will be working in collaboration with the CDI Program Support Division and field staff in training design and, will offer more formalized training courses in technical and management subjects related to the needs of the rural enterprises.

2. New or Expanded Industries

The approach to expanding current industries or establishing new indutries has as its objective increasing the value added in the rural area to capitalize on natural resources such as stone, clay and wood, and productive resources, particularly farm and livestock products.

Four types of industries will be explored:

-- Industries for which raw materials can be produced in the rural areas, such as food and beverages, wood products, leather and ceramics;

-- Irdustries where the production process is simple and/or labor-intensive, such as natural textiles, glass products, and building materials;

-- Industries where subcontract relations between small and large firms can be promoted, such as metals, machinery and tools, parts and components;

-- Agricultural products industries which may contribute to the increase of farm incomes.

The program would develop in four stages:

Stage I

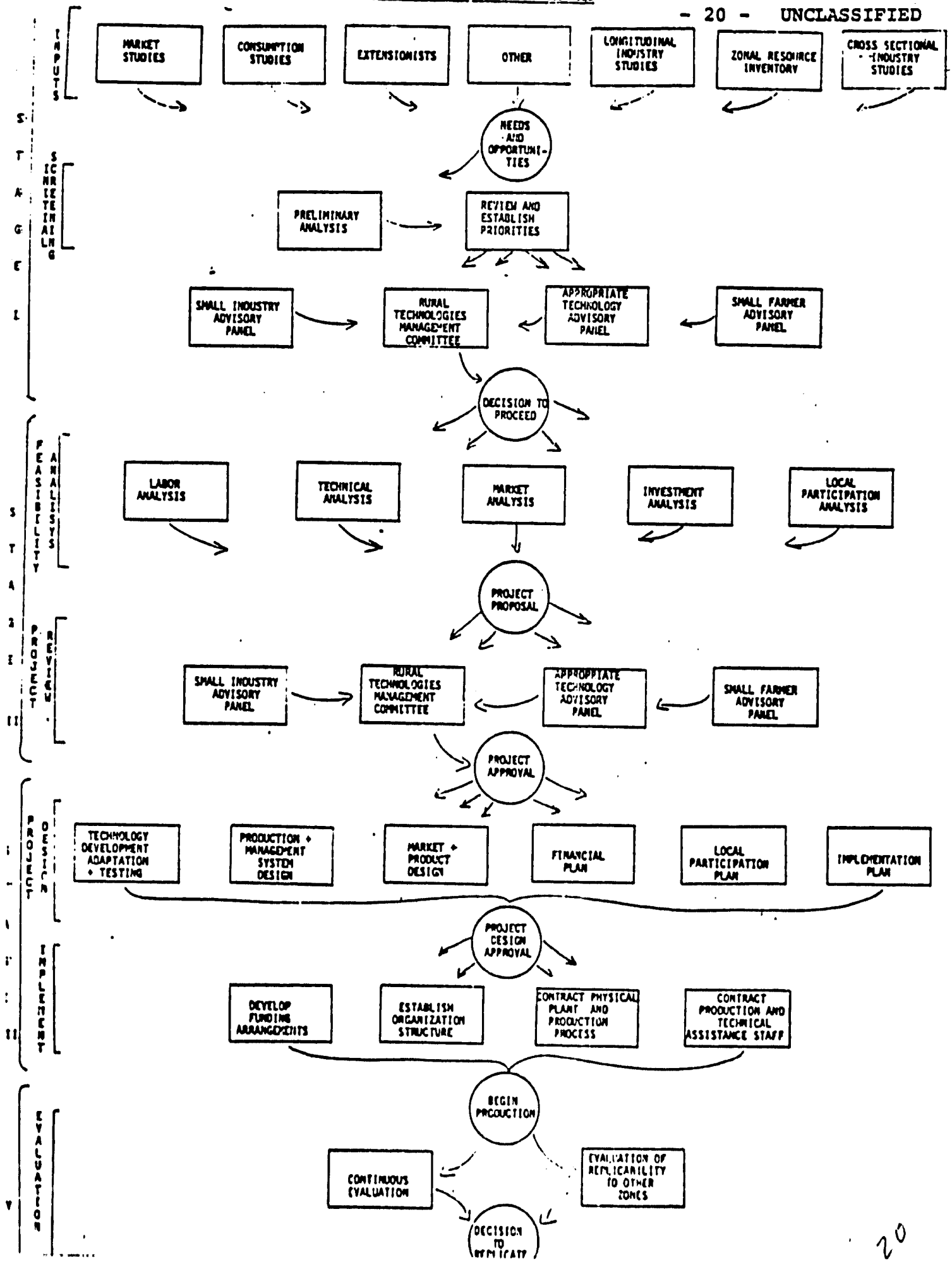
a. Undertake studies to identify unsatisfied local demand for basic agricultural and other products.

b. Study the structure of the producers outside the local area to determine feasibility of competitive production.

c. Identify where local raw materials are (or can be made) available which can be used to satisfy the demand.

d. Select likely areas and products/processes for further investigation with a view to establishing pilot projects.

SYSTEM FOR NEW OR EXPANDED INDUSTRIES



Stage II

a. Identify the appropriate technology to be applied in respect of each proposed industrial enterprise.

b. Make initial estimates of local production capability within the selected areas including availability of labor, level of skills, local financing capability, and; also, bearing in mind the potential for local manufacture of the required plant and equipment.

c. Consult with local communities in potential pilot project areas, where appropriate.

d. With approval of the Rural Technologies Management Panel, establish priorities and make final selection of pilot project and project locale.

Stage III

a. Prepare a preliminary project design.

b. Conduct intensive analyses of technical production systems, labor, markets, and economic and financial feasibility. Investment sources will be identified and local participation, support and attitudes will be investigated.

c. Prepare project proposal for review and advice by the Small Industry Advisory Panel, and; review and approval by the Rural Technologies Management Panel.

Stage IV

On approval of project proposal:

a. Carry out any necessary development and adaptation to establish the viability of the technology in relation to local factors.

b. Develop final project design including product, production, management, marketing systems, financial and implementation plans.

c. Field test and modify the technology as necessary.

d. Arrange financing.

e. Fabricate and install the pilot plant/process and operate under normal production conditions, in order to:

-- establish the flow of raw materials;

-- test acceptability of the product and verify the market;

-- establish quality controls;

-- provide technical and management training to local personnel.

f. Provide continuing advice and guidance.

g. Establish production and/or financial targets at which point any CDI equity should be liquidated.

Stage V

Identify opportunities in other zones to introduce the developed processes or industry with local adaptation as necessary and repeat Stages II and III as appropriate for those areas.

Finance

The approach for the development of small rural industries envisages a very flexible program given the limited experience in developing rural industries in Honduras, and the possible constraints to their development. Such an approach must carry a high degree of risk. The financial risk involved in most projects will be carried by the Small Enterprise Development Fund during the initial development phases of each project, i.e., feasibility analysis and project design. Financing for the implementation and operating phases will be sought from commercial and other financial institutions, individuals, etc.

The Small Enterprise Development Fund, which will be managed by CDI, can be utilized to finance, wholly or in part, the costs of the implementation phase of the pilot projects. 1/ However, it would only be used for this phase as a last resort.

D. Basic Needs Appropriate Technology System

This system has as its objective the delivery of new or improved technologies which would have the effect of improving the quality of life of rural families. CDI will be the central institution for managing this system; identifying needs and proposing projects for the development of new technologies, as well as selecting PVO's and other institutions for the dissemination of technologies to rural poor families.

Two focal points within CDI will be the Information Unit which will identify new technologies through its information activities and make proposals for new projects; the other focal point will be in the Socioeconomic Studies Unit in which a full time social science analyst will be identifying problems by reviewing studies related to the rural poor, case studies, etc.; investigating conditions in the field, and; interviewing rural poor families, campesino unions, government institutions such as, INA, the National Social Welfare Board (JNBS), etc. The analyst will develop a

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1/ See Detailed Project Description and Administrative Arrangements for criteria and explanation of the fund.

priority listing of problems which are susceptible of solution and to development, adaptation and/or dissemination of technologies.

The plan and priorities will be reviewed and approved by the Rural Technologies Management Panel and other technical panels. Individual project proposals will be reviewed and approved by this panel and CDI management at each of the following steps in the development process:

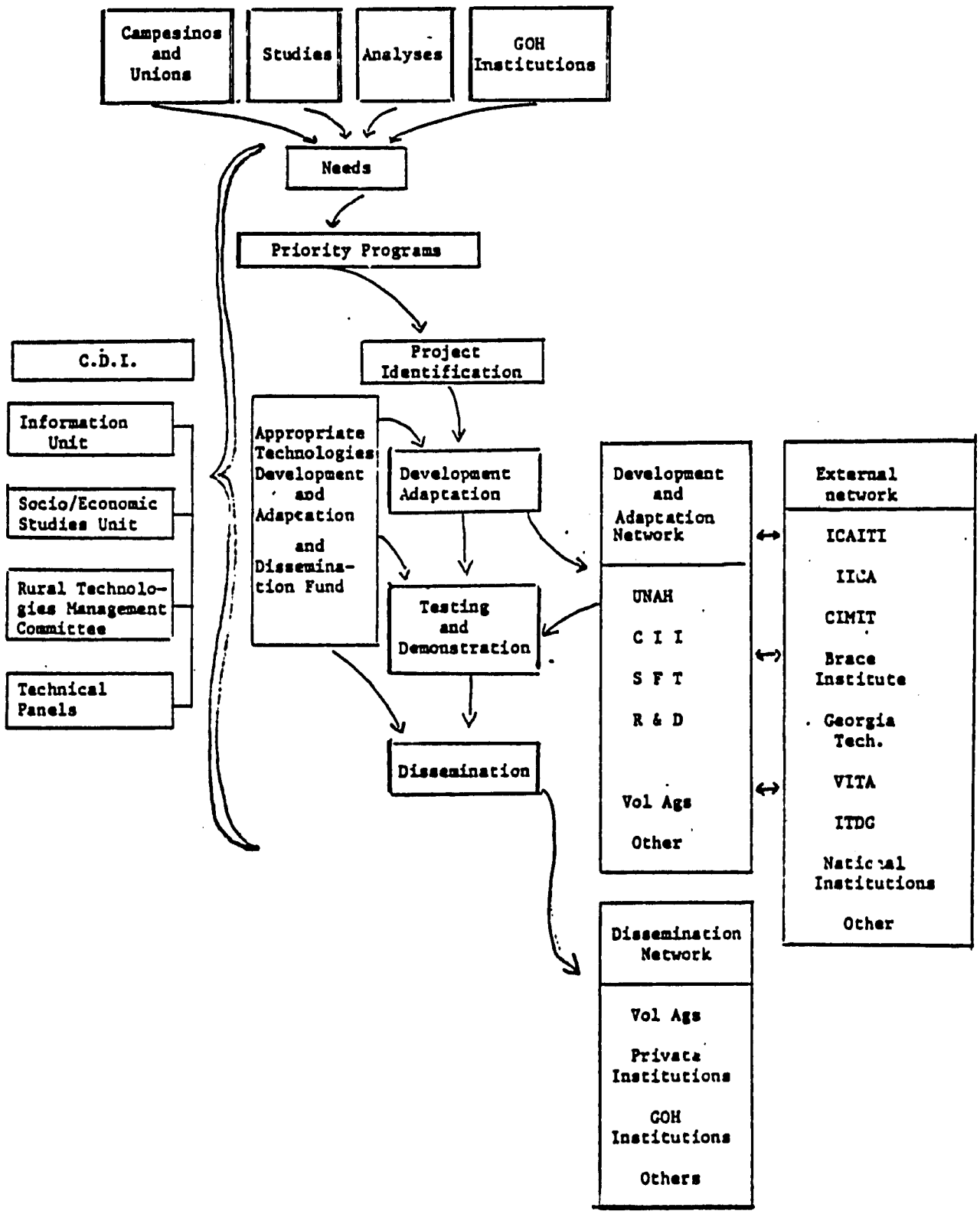
(1) Research, development and adaptation;

(2) Testing and demonstration; and

(3) Active dissemination.

CDI will rely primarily on the Development and Adaptation network and voluntary agencies to actually perform the work. These institutions will be contracted, utilizing funds from the Appropriate Technologies Fund. 1/ The following diagram illustrates the way in which this system would operate.

BASIC NEEDS APPROPRIATE TECHNOLOGY SYSTEM



III. DETAILED PROJECT DESCRIPTION

A. Goal and Purpose

The unifying element of the Project is found in the means rather than the ends of the Project. That unifying or common element is the application of appropriate technology to solving various problems that rural Hondurans encounter in trying to make a living and live better within the limits of their income.

In general terms the goal of the Project is to improve the well being of the rural poor. For two distinct principal target groups, small farmers and rural entrepreneurs, the goal is expressed in terms of an increase in income, the major factor in achieving well being. Opportunities exist to improve the well being or standard of living of the rural poor through the introduction of appropriate technologies that affect the consumption practices of rural families. The goal of the Project therefore also includes improving the well being of rural families through other than income increasing means.

The Project focuses on the technological constraints to accomplishing the above goal. While the appropriate technology solutions to breaking many of these constraints may in fact be simple, establishing in Honduras a system capable of problem identification, effective domestic and international information transfer, adaptive research, field testing and demonstration and delivery to final recipients is considerably more complicated. The purpose of the Project is to establish such systems. The purposes of the systems are:

1. To increase small farm effective utilization of labor and land through the use of improved light capital farm implements and structures;

2. To increase small-scale rural industrial productivity and employment through the introduction of improved production and management systems in existing small enterprises and through the establishment of new pilot enterprises;

3. To increase utilization by rural poor of low-cost appropriate technologies or products designed to improve the quality of life.

B. End of Project Status

1. Small farmers -- It is expected that by the end of the project 50,000 small farmers will be using one or more of the light capital farm implements and/or structures developed and promoted by the Project. The benefits accruing to the small farmer will depend on the type of technology employed and the other constraints facing the farmer.

The types of technology to be employed may roughly be broken into three categories: those directed at increasing the productivity of labor, those increasing the productivity of land, and those increasing the monetary return from a given amount of production.

The GOH/USAID Agriculture Assessment of 1978 revealed that labor is a serious constraint for most small farmers during peak periods. For the majority of small farmers who do have a labor constraint, it is expected that the introduction of the labor-saving devices will result in cultivation of more land appropriate for production and/or better yields per hectare through the more efficient application of labor to the existing cultivated area. For those small farmers who have a land constraint the introduction of labor-saving technologies will benefit the farmer by easing his burden, allowing him more leisure time and/or allowing him more time to dedicate to other income producing activities.

The application of better land utilization technologies such as light capital irrigation systems and land leveling will allow farmers to plant one or two additional crops a year and, under certain circumstances, allow for an increase in the area cultivated.

Light capital harvesting equipment will decrease harvesting losses, and low cost on-farm storage structures will reduce post-harvest losses and allow for a better return to the farmer from the sale of his product.

The above mentioned benefits will be measured through an evaluation covering a selected number of farmers involved in the demonstration program. An indirect measure of the utility or the light capital implements will be the willingness of the small farmers to purchase the implements at the termination of their participation in the demonstration program.

2. Small Entrepreneurs -- It is planned that over the life of the project 1,500 existing small enterprises, through the introduction of improved production and management systems, will increase production by between 5% and 20% and 838 permanent new jobs will have been created. See IV Economic and Financial Analysis.

It is also expected that with the reduction of the technology constraint and the consequent more efficient use of resources at hand, the small businessman's demand for credit will increase. With the increased demand for credit and the greater profitability of the business, it is expected that by the end of the Project there will be a significant increase in the small businessman's utilization of the formal credit system.

Approximately 40 new pilot rural industries will be established employing approximately 800 people. This figure does not include the secondary employment generated in related industries or agriculture. Typically, these industries will add value to rural resources

or products, such as agricultural or forestry products, or will have backward or forward linkages to existing small businesses. It is expected that the majority of these pilot industries will be demonstrably viable by the end of the Project.

3. Rural Poor Households -- It is recognized that certain simple appropriate technologies, while clearly of benefit to the rural poor family, are of such a nature that they neither contribute to agricultural production nor are they easily packaged as a product that can be sold by private entrepreneurs. The Lorena stove is one example, and a simple household water filtration system is another. PVO's and the Peace Corps are considered to be ideal vehicles for disseminating this appropriate technology to rural families. Some PVO's, e.g., El Sembrador School in Olancho, even have the capacity to develop and/or adapt such technologies as well as disseminate them.

Although there will be an assertive effort to identify, develop and promote technologies based on key problems of rural living, some of the accomplishments will be based on targets of opportunity which cannot be identified in advance. A flexible approach will be utilized and achievement indicators will be selected in accordance with the appropriate technology selected and the level of input.

C. Project Outputs and Inputs

1. Interinstitutional Adaptive Research and Information Network

At present, Honduras has a number of institutions in varying stages of development which have adaptive research capabilities and/or technical information collection and dissemination operations in areas related to the needs of the target groups. The Project will strengthen the individual capacities of these units as well as develop the interinstitutional arrangements to more effectively utilize these resources within the context of an overall system and to more effectively direct activities at the identified needs of the target groups.

Specifically, the Project will include the following activities:

a. With support provided by the Small Farmer Technology Project (USAID/H 522-0123) the Ministry of Natural Resources (MNR) established a Small Farmer Development and Adaptation (D&A) Unit within its Agricultural Research Program in Comayagua. It is responsible for developing prototype light capital farm implements and structures that can be built and repaired locally. The unit will perform studies on crop cycles and production systems to identify the labor and technology constraints of small farmers. Imported or local technology is then adapted to develop implements or structures appropriate to deal with the identified constraints.

To provide the D & A technicians with easy access to information, and particularly appropriate technology information an Intermediate

Technology Information Service (ITIS) is being established within the D & A unit. This information center will have linkages with other Honduran information centers and directly or indirectly with international information networks. It will also serve to disseminate information to farmers regarding the developments of the D & A unit. Because of its more specialized function, the ITIS is not intended to compete with or duplicate the efforts of the MNR's Agricultural Documentation and Information Center (CEDIA). CEDIA is the national focal point for agricultural information, serving as an information and publications center for MNR technicians and extension agents. It has linkages internationally with USDA, AGRINTER and AGRIS; and locally with CIIBANTRAL, CII-UNAH and other Ministries. CEDIA will therefore be a prime source of information for ITIS, and because of its printing facilities, the planned seven regional libraries and its relation with the MNR extension service, it will also serve as a major vehicle for dissemination of appropriate technologies developed by the D & A unit. The Project will not be providing any direct financial support to CEDIA, since support is included in Agriculture Sector II.

It is expected that during the life of the Project, the D & A unit will develop and test approximately 25 hand tools or manual machines, 15 powered machines and 10 small farm structures. During the early stage the D & A Unit will consult with the Centro de Desarrollo Industrial mechanical engineers to verify that the item can in fact be manufactured and repaired by the local blacksmiths and repairmen who are receiving technical and management assistance from CDI. The D & A unit will then proceed to produce in their own shop the first prototypes to be tested. Testing will be conducted on MNR test lots and small farms in the Comayagua area. The D & A unit will also be responsible for developing a specific demonstration strategy for each implement or structure.

Through November 1980 financial support for personnel, commodity procurement and operations is being provided by the Small Farmer Technology Project. Continuing support for this program element will be picked up by the Rural Technologies Project upon exhaustion of funds provided under the former project. 1/

b. A Technical Information and Resource Service (TIRS) will be developed in the Center for Industrial Development (CDI), a dependency of the Ministry of Economy (MOE). One of the purposes of the TIRS is to stimulate the dissemination of appropriate technologies to rural small enterprises. The TIRS will be the nucleus of the information/adaptive research network in terms of directing activities toward the small entrepreneur. As such, it will serve as the interface between the rest of the network and CDI's own delivery system for small entrepreneurs. Specific and general information needs will be identified through the field agents of the delivery system (Output 2) and special studies (Output 8). Other units of the network will provide adaptive research and information not directly available within the TIRS. Information

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1/ See "Relationship to Other A.I.D. Programs," paragraph I.J.

transferred to the small businessmen will be on both a reactive and assertive basis.

The TIRS will be staffed with 8 personnel including a chief, two information specialists, a technical writer, a translator, a documentalist and three secretaries. Information will be provided both to the Program Service Division of CDI for dissemination to small entrepreneurs through the zonal offices, as well as to the Studies Division of CDI.

CDI will also form contractual agreements with other Honduran and international information centers to purchase technical information on a task-order basis. By the end of the fifth year, CDI will have built up its information acquisition to the point where it will be able to acquire additional information on an as-needed basis.

c. The Center for Industrial Information of the National University of Honduras (CII-UNAH) is working in the area of transfer of technology to Honduras and providing information and technical assistance to industries, especially in areas of industrial mechanics, industrial electricity, construction, industrial layouts, the wood industry, and the leather industry. Linked with both the National Technical Information Services (NTIS) and the Information and Technical Assistance Services to Enterprises (SIATES) information networks, CII-UNAH has its own data bank and utilizes other Honduran information resources such as the University library, CIIBANTRAL and CEDIA/MNR.

The main users of CII-UNAH are Honduran industrialists, researchers and other information services in the SIATES network.

Assistance to CII-UNAH will be directed toward expanding its role in the acquisition and transfer of appropriate technology information. Given its substantial industrial information base, CII-UNAH will primarily be supporting the small entrepreneurial focus of the CDI TIRS, but will also be a link to the ITIS in Comayagua for access to NTIS and other data banks which have farm technology information. The CII-UNAH information linkages will be expanded and a mechanism will be developed to evaluate the effectiveness of its information and technical assistance services and make the necessary adjustments. A promotion campaign will be developed to educate users and potential users on how to take advantage of the CII-UNAH resources, and CII-UNAH will expand its effort to provide training to other organizations in the development or improvement of information services.

The Project will partially finance one technical information specialist, technical assistance and training in information systems and minor costs related to expansion of operations.

d. The adaptive research and development capacity of UNAH's Engineering and Physics Departments will also be utilized and

reinforced by the Project, particularly in the areas of low-cost or non-conventional energy sources, mechanical implements and materials testing. The low-cost or non-conventional energy sources element will involve some energy data collection and resource assessment, applied non-conventional energy technology development and adaptation and support field programs, such as the small industry development activities of CDI. The activities at UNAH will be coordinated with the upcoming ROCAP Fuelwood and Alternative Energy Sources Project (currently in PID stage) and with the ongoing and projected activities of DS/EY in Washington. The mechanical implements and materials testing activity will provide backstop support to the D & A unit in Comayagua, and will be one of the primary sources of adaptive research for the small enterprise and rural household appropriate technology components of the Project. Small amounts of budgetary support will be provided to increase general capacity in adaptive research, and special contracts will be executed between CDI and UNAH for Project specific adaptive research activities (see Output 5).

e. The Central Bank's Center for Industrial Information (CIIBANTRAL) provides technical information on food and industrial chemistry in order to stimulate capacity and technological change in Honduras and provide food testing services in its food laboratory. Because of lack of specialized information staff and an outreach capacity its information services have been limited to medium sized Honduran industries 1/ and other information centers in the SIATES network. Its food testing services are reputed to be of high quality. The GOH/USAID Rural Industry Survey (1979) revealed that 35 percent of the small industries surveyed work in some area of food processing. The proposed link of CIIBANTRAL with CDI is viewed as an important method for expanding CIIBANTRAL services to rural areas.

Furthermore, CDI's plans specifically call for an expanded effort in the food processing and agro-industry areas. Assistance will therefore be provided to CIIBANTRAL to expand its activities in areas related to the technical needs of small-scale producers. CIIBANTRAL will receive support to hire an information specialist, a secretary and technical assistance and training.

g. Although support to the individual elements of the Honduran information network will be designed to encourage greater cooperative working relations between the individual units, to further rationalize the use of limited resources and make the network as a whole more efficient, it is considered important that an Association of Honduran Information Centers be developed. The purpose of the Association would be to further facilitate the cooperative relationships between the units, encourage further specialization of the units where appropriate, and advocate the value of information

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1/ Medium size industry is defined by Honduran law as those with 50-99 employees.

to development in national forums. One particularly useful activity of the Association would be the production of a "Union Catalog" which would provide all members with a up-to-date listing of the publications and collections available from the other members. CIIBANTRAL will take the leading role at the outset of the Project, and the Project will provide it with the administrative support necessary to establish the Association and produce the Union Catalog.

INPUTS FOR OUTPUTS 4.1 (US$ 000)

ITEM	PERSONNEL		TECHNICAL ASSISTANCE		TRAINING		COMMODITIES		OTHER COSTS		TOTAL	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
a. Small Farmer Technology Development and Adaptation Unit; Information Services, Ministry of Natural Resources	235.4	624.7	181.0	-0-	5.0	-0-	35.4	156.6	124.9	373.5	581.7	1,154.8
b. Information Service, CDI	225.6	204.0	24.3	-0-	16.6	10.5	13.0	62.5	38.7	38.6	318.2	315.6
c. Industrial Information Center-CII, UNAH	15.4	6.0	3.6	-0-	5.0	-0-	-0-	-0-	8.1	-0-	32.1	6.0
d. Engineering and Physics Departments, UNAH	222.6	117.1	49.2	-0-	6.1	-0-	99.6	10.4	11.8	7.0	389.3	134.5
e. Industrial Information Center-CIIBANTRAL, Central Bank	24.9	40.8	2.0	-0-	5.0	-0-	-0-	-0-	-0-	-0-	31.9	40.8
f. Honduran Association of Information Centers, Central Bank	15.6	3.3	2.4	-0-	-0-	-0-	-0-	-0-	5.0	-0-	23.0	3.3
TOTAL	739.5	995.9	262.5	-0-	37.7	10.5	148.0	229.5	188.5	419.1	1,376.2	1,655.0

2. Delivery System for Management and Technical Advisory Services for Small Enterprises

The system for delivering services to small rural enterprises has been designed with the following premises in mind. First of all, it is considered imperative that an aggressive and integral approach be utilized. It cannot be expected that the small rural entrepreneur will have the initiative to seek out the assistance that he needs, nor that he can assess fully his own problems. Information gathered in the Small Enterprise Survey clearly supports this latter assertion. The program must actively seek potential clients, motivate the involvement of the small businessman, assist in diagnosing the entrepreneur's needs, and provide in a relatively integrated manner the necessary assistance.

The second premise is that the primary constraint to increased production is a lack of technical and managerial "know how" on the part of the small businessman. In comparison, credit is a minor constraint for most small enterprises, but a constraint that would logically become more significant once the primary constraint is eliminated. The delivery system will therefore concentrate almost exclusively on the "know how" constraint, while additional studies are underway to assess credit availability and accessibility. With regard to credit, the approach will emphasize preparing the small entrepreneur to be able to assess his credit needs, to be able to better manage his resources, including credit, and to be able to keep the books and prepare the forms required by lenders.

The third premise is that considerably more experience and knowledge about local conditions is necessary to develop a new enterprise than to assist existing enterprises. For this reason the program must concentrate its efforts during the early phases of implementation on existing small enterprises, and expand to complementary new pilot industries only after the necessary experience and knowledge has been gained.

The fourth premise is that most small rural businessmen prefer to operate in an individualistic manner. Depending on the particular industry or community structure, organized group or limited cooperative arrangements may provide appropriate mechanisms to resolve common problems such as product marketing or raw materials acquisition. Careful study and a flexible approach will be required to avoid imposing counterproductive group arrangements.

Related to the above, is the final premise that a delivery mechanism that will meet client specific, industry specific, and locality specific demands must be based on a decentalized structure. This means not only that a system for decentralizing operations be set up and maintained, but that technical expertise, responsibility for program success and the authority to make decisions be decentralized as well.

CDI will establish four Zonal Offices in the four selected areas of concentration. 1/ Each Zonal Office will supervise between two and four field agents residing in "central place" towns in the zone. The field agents will be mostly normal high school graduates and business students (peritos mercantiles), 2/ although experience in other LDC's shows that high school leavers who have had some short courses and some work experience in bookkeeping, accounting and elementary commercial business do as well as field agents with higher level education. 3/ Preference will be given to hiring field agents who are residing in the towns in which they will work. As the technical level required by the field agents need not be very high, a two-month training program specially designed for the kind of work they will be performing, supplemented by on-the-job field training, follow up courses and evaluation serminars, will be sufficient to prepare the field agents for their job. The field agents will be working with 15-20 clients at any given time depending on the intensity of assistance required. In general, the agents will provide simple diagnostic services dealing with cost controls, accounts, raw materials and supply and sales analysis. They will be supported by the

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1/ Jamastrán Valley, Orica-Guayape Valley, Ocotepeque Department and Marcala-Goascorán.

2/ AITEC Consultants did an informal survey of sources and availability of this level of personnel in two zones.

3/ Harper, Malcolm, Consultancy for Small Businesses, ITDG Publications, Ltd., London. 1976.

higher level personnel in the zonal offices who will concentrate on more difficult problems.

The offering of the services of the enterprise extension system will be done by local promotion and visits to entrepreneurs by the extension agent as well as by the Zonal office supervisor. Services to the target group will be offered free 1/ but will be limited to small-scale productive/industrial enterprises. Commercial, retail and transportation activities may be considered at a later date.

Each Zonal Office will have a supervisor with a business management background, a marketing technician, and a mid-level technician with an industrial engineering or related background. The mid-level technician will be able to detect and help solve technical problems in the businesses, determine the potential applications of appropriate technologies and when appropriate will participate in carrying out feasibility studies for the creation of new businesses. The marketing technician will concentrate on the sales problems of the businessmen, analyze alternatives for opening up new markets, develop appropriate new channels of distribution according to the needs and desires of the entrepreneurs and assist with the feasibility studies for the creation of new enterprises. The Zonal Office supervisor will be responsible for coordinating all aspects of the zonal program, will help solve specific problems of his staff, and will serve as the direct link to the Program Services Division of CDI in Tegucigalpa.

1/ In general the upper limi of free services will be small enterprise (5-19 employees). Above that level it is believed that a self-selection mechanism would come into play, i.e., not many medium industries would need the fairly simple level of technical assistance offered by the local extension agent. Such industries would have access to higher level technical assistance and information if requested using CDI current pricing policies. However, in some cases assistance might be granted to larger industries when it meets the project objectives, e.g., there are opportunities for substantial expansion of primary or secondary employment, or, new technologies with low capital/labor ratios could be introduced. Another consideration that will be investigated by a project consultant is -- at what point do assisted target industries begin to pay for services? i.e., when do they graduate. CDI currency pricing policy for assistance will be reviewed and adjusted as necessary.

An important role that CDI will carry out and a key link to the Small Farmer Technology System is to provide highly directed and tailored technical and management assistance to the selected 75-100 1/ blacksmiths who will be participants and producers of implements in the demonstration phase of the SFT system.

To meet the technical assistance needs of the 75 blacksmiths who will be producing the demonstration farm implements (see Output 5.a), special arrangements will have to be developed, since many of the blacksmiths will not be located in the four small enterprise development zones. Technical assistance will therefore be provided from nearby Zonal Offices, from the Program Services Division of CDI in Tegucigalpa or from the Regional CDI Office in San Pedro Sula.

The Program Services Division of CDI will both backstop and provide direction to the Zonal Offices. Besides the Chief of the Division, it will be staffed with a Field Supervisor, a Senior Marketing Specialist, a Senior Business Administration Specialist, a Senior Credit Analyst, an AgroIndustry Specialist, an Industrial Engineer, a Mechanical Engineer and a bilingual secretary. These specialists, while principally located in Tegucigalpa, will also work directly with small entrepreneurs and Zonal Office staff in the field on technical questions which are beyond the competence of the Zonal Office staff.

It is estimated that the technical assistance delivery system will reach 1,500 small enterprises over the life of the project.

INPUTS FOR OUTPUT # 2 ($000)

ITEM	PERSONNEL		TECHNICAL ASSISTANCE		TRAINING		COMMODITIES		OTHER COSTS		TOTAL	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
Delivery Systems for Management and Technical Advisory Services for Small Enterprises	761.9	946.5	389.0	-0-	100.0	-0-	98.3	197.7	20.2	75.8	1,369.4	1,220.0

1/ NOTE: The number 75-100 is the initial estimate of those needed to have broad coverage and maximum access to the small farmer with 1 to 35 hectares of land. The mission is planning to conduct a "location" analysis to specifically identify where the target group is located which will provide a basis to select those blacksmiths and small machine shops which are located centrally vis-a-vis the target group.

3. System for Delivering Training to Rural Enterprises and Small Farmers

a. Small Farmers -- For some of the light capital farm implements and structures which will be provided to farmers, training will be required. In the case of simple structures, the small farmer may do part or all of the construction. In the case of mechanical implements, the farmer may have to be trained in operation, maintenance and simple repairs. The MNR has already signed an agreement with the Instituto Nacional de Formación Profesional (INFOP) to provide some of the initial training in this area in connection with the Small Farmer Technology Project, using its mobile training units. This activity will be expanded under the Rural Technologies Project. The more limited training associated with the use of the simple implements will be provided by the MNR. It is estimated that 1,000 -- small farmers will receive training.

b. Rural Entrepreneurs and Blacksmiths -- To complement the day-to-day assistance provided by the CDI Zonal Offices, organized managerial and technical training courses will be provided to the small entrepreneurs and their employees as well. This training will be carried out by INFOP in collaboration with CDI.

INFOP already provides general training in managerial and technical subjects to industry. However, the courses are geared to relatively sophisticated entrepreneurs. The teaching methodology and content will be reviewed and adjusted for the Project's target group. Tailoring the courses to fit the needs of the target group will be the joint responsibility of INFOP and CDI, and outside technical expertise will be brought in to assist in both the training design and training of trainers. It is estimated that 1,000 individuals will participate in one or more of the courses offered. Because the 75 blacksmiths that will be producing the small farm implements will be scattered around the country, they will have to be brought to central locations for the more formalized training.

Participants for the training will be selected by the CDI field agents and Zonal Offices, and the training will be provided in the field by mobile INFOP instructors or instruction teams. Courses will be short and focussed on specific areas of instruction, such as achievement motivation, production costs, simple bookkeeping, marketing and sales, banks and loans, managerial functions and specific production technologies or techniques.

CDI field agents will also participate in some of the courses so as to be able to provide the necessary linkage between the classroom and the workplace. By witnessing the degree to which small entrepreneurs apply what they have been taught, the field agent will also be able to provide feedback for modification of the course content or methodology.

INPUTS FOR OUTPUT 4.3 (US $000)

ITEM	PERSONNEL		TECHNICAL ASSISTANCE		TRAINING		COMMODITIES		OTHER COSTS		TOTAL	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
Small Farmers	-0-	-0-	-0-	-0-	114.0	-0-	-0-	-0-	-0-	-0-	114.0	-0-
Small Enterprises	109.9	195.6	-0-	-0-	-0-	-0-	18.7	5.2	15.8	8.0	144.4	208.8
TOTAL	109.9	195.6	-0-	-0-	114.0	-0-	18.7	5.2	15.8	8.0	258.4	208.8

4. Small Enterprises Development Fund

A Small Enterprises Fund will be established for the purposes of experimenting with credit and to finance new or expanded pilot industries.

a. Experimental Credit

On the basis of the 1979 Rural Industry Study it was concluded that credit is not a primary constraint for existing small enterprises. However, access to credit may become increasingly important for small enterprises as they improve their management and technical capacities, get access to improved raw materials or develop new markets. It is also conceivable that the project will generate sufficient industrial development in the target zones so that credit availability may become a barrier during the life of the project.

One of the longer term objectives of the project is that small entrepreneurs increasingly gain access to the formal credit system in Honduras. However, due to the history of difficulties in credit programs for small and micro businesses both in Honduras and in other countries, the Project plan is to move cautiously in this area. One approach, mentioned earlier, is that the CDI Credit Advisor will provide small entrepreneurs with technical assistance regarding credit needs, uses, and bank requirements. The Credit Advisor will also provide local bankers with information on the Project's objectives and the potential credit market among Project clients.

A second approach is that in-depth analyses of the resource utilization and constraints of small entrepreneurs and of the formal and informal credit systems will be carried out by the CDI Studies Division during the first project year. One of the hypotheses to be tested by the first study is that access to formal credit may only be needed by the entrepreneur when he has to invest in a substantial capital expansion to reach the next logical production level, e.g., when he moves out of the category of owner/producer and becomes owner/manager. The argument is that given a sound technical feasibility and marketing study as a basis for a loan request, capital is available from either the formal or informal credit markets. The second study will identify the amount and terms of credit available in the rural areas for small scale industries and will recommend, as appropriate, structural changes in the credit system and the amount and terms of credit needed by the target group.

Concurrent with the conduct of the above studies, the experimental credit fund will be used to test a variety of methods for delivery of credit to the target group in order to provide some practical criteria and proved methods for future credit programs directed at rural industries.

This experimental credit portion of the fund ($300,000) will be managed by CDI, and will be made available to intermediate credit institutions for lending to small enterprises. A short

term credit expert will be provided to CDI to develop alternative experimental channels and methodologies for the distribution of this credit. Private banks, credit coops such as FACACH and other appropriate institutions with branches in the target areas will be considered. With regard to the private banks, one proposal which will be examined will be the establishment by CDI of a savings type account in a private bank which could be drawn on by the private bank to make loans to small enterprises which meet the criteria negotiated by CDI and the private banks. CDI would protect the bank against loss of the capital, but first claim on the repayments of the small entrepreneur would be the return of the capital to the CDI savings account. The bank therefore would only profit on the interest payments by the small entrepreneur if the capital is repayed to the account. Funds provided by CDI to cooperative institutions, such as FACACH, may be provided on a grant basis if needed to provide sufficient incentive for the institution to expand its credit clients to include small rural industries.

The CDI field agents will not be used and should not be viewed as credit agents or as intermediaries between the client and the lending institution. This should allow for a franker relationship between the field agent and the client both prior to and after the receipt of credit. Nevertheless, it is planned that the agents will play a vital role in advising clients as to their readiness to utilize credit efficiently. The credit assessment and final decision would remain the responsibility of the lender.

It is estimated that 1,000 small entrepreneurs will receive loans of up to a maximum of $500 under the experimental credit program.

b. New Pilot Industry and Expansion Financing

Approximately $700,000 of the Small Enterprise Development Fund will be provided to finance the establishment of new pilot industries, related feasibility studies, and the expansion of selected existing industries. These studies will include economic, technical, financial feasibility as well as assessment of environmental impact. Financing will be provided on a grant basis or for CDI to take an equity interest in the enterprise. (See Administrative Arrangements for more details).

Feasibility studies for the pilot industries will be prepared by the Studies Division of CDI or with the assistance of outside contractors financed from the fund. Priority will be given to industries: which complement existing small enterprises either through forward or backward linkages; which add value to rural resources or products and; which have a significant employment effect relative to the amount of capital investment. New agro-industries and wood products industries will be prime areas of attention.

Since the experience and capacity of the manager of an enterprise is critical to success, the Project will, wherever possible, attempt to modify and expand existing small enterprises to produce new or

better products rather than establish an entirely new operation for that purpose. This would reduce the risk of failure but not necessarily to the point where the owner and a credit institution would be willing to finance the expansion and/or technological transformation of the industry. These funds will also be used to acquire light capital equipment that will be donated to selected small enterprises, particularly the metal working shops that will be manufacturing the small farmer demonstration implements and structures.

Where larger grants to industrial input manufacturers are involved, one of the terms of the grant may be to have the supplier provide a limited amount of free samples to the small enterprises which are expected to use the new input. Besides distributing some of the initial benefit of the grant to other small entrepreneurs, this would promote the use of the new input and increase the viability of the new supplier.

Grant or equity financing from the Small Enterprise Development Fund is to be provided for new enterprises or major expansions as a last resort. 1/ When studies indicate that a major investment is required and that the enterprise would have significant benefits for the target group, CDI will examine the possibilities of acquiring other financing for the venture before providing grant funds or equity capital. Such financing could come from other donors, for example the World Bank Small Enterprise Development Loan, or the Honduran National Investment Corporation (CONADI) could assume responsibility for financing and overseeing the venture if it falls within the scope of CONADI's Charter. Also, grant or equity funds may be utilized to leverage financing from other sources, particularly private sources, by offering to provide partial financing for an investment.

The determination to use equity rather than grant financing will depend upon the amount of CDI financing required, the ratio of the CDI financing to the size of the venture, and the type of risk involved. It is intended that CDI will liquidate its equity position as soon as it is prudent to do so, by selling its share to the partner/operator or employees of the enterprise.

It is estimated that 40 new pilot industries or major expansions will be totally or partially grant financed from the Small Enterprise Development Fund, and that 100 existing small enterprises will receive light capital technology equipment grants.

1/ See Administrative Arrangements for more detailed criteria.

INPUTS FOR OUTPUT #4
(In thousands of US$)

	T.A. AID	Other Costs AID	Total AID
Experimental Credit	-	$300,000	$300,000
Pilot Industries Expansions and Feasibility Studies	$150,000	550,000	700,000
TOTAL			$1,000,000

5. Small Farmer and Appropriate Technologies D & A and Dissemination Fund

A $3,200,000 fund will be established to promote the development, adaptation and dissemination of appropriate technologies. This fund will be managed by CDI and will be used to finance studies, contracts or interinstitutional agreements in the three areas described below.

a. Production of Small Farmer Implements and Structures

Once the D & A unit in Comayagua has completed its initial tests on a new implement or structure (see Output 1.a), it will prepare, with CDI, a demonstration plan which will include the number of demonstration units to be produced, the number and location of selected blacksmiths and "talleres" who will produce the units, the type of farms to be included in the demonstration, the promotion and dissemination strategy and an evaluation plan for determining the utility of the implement and the receptivity of farmers. For hand tools and manual machines, up to 1,000 demonstration units per prototype may be produced depending on the number of potential users of each such implement. For powered machines and structures, up to 100 units per prototype may be produced.

To produce these implements or structures CDI will sign contracts with many of the 75 rural blacksmiths who have been receiving training and technical assistance. The fund will finance the cost of these contracts, as well as other costs specifically related to the demonstration and dissemination campaigns. The demonstration units may then be provided free to individual farmers or groups of farmers. The obligation of the farmer will be limited to that which is necessary for evaluation purposes. Depending upon the evaluation strategy which is developed the same farmers may be given the choice of buying the implement or surrendering it after the demonstration period. This would serve as a means of verifying the marketability of the device. This strategy will be used only for those farmers who could either finance acquisition from his own resources or with credit. One source of such credit would be the loan portion of the Small Farmers Technology Project (522-0123) which provides investment credit for implementing farm plans developed by the MNR.

It is expected that with the success of the demonstration program, the assisted blacksmiths will be able to manufacture and sell the farm implements without further intervention from CDI.

b. Development and Adaptation

Output number one involves improving the institutional capacity of selected Honduran D&A and information units. The budget for the MNR D&A unit in Comayagua contains all the financing required for its D&A activities, however, it is expected that other D&A activities conducted by other Honduran or foreign institutions will require financing in important areas such as new technology applications for small industries and small-scale energy. For this purpose a part of the fund will be used to contract with the D&A units for the development of a specific product or technology. All D&A proposals will be reviewed and approved by the Rural Technologies Management Committee prior to execution of the contract.

c. Dissemination of Appropriate Technologies to Rural Households or Communities

As discussed in the purpose section, some of the ideas that will be generated by the D & A/Information System can be of benefit to rural households or communities, but would not be related to either small farm or small industries. Typically they are of a self-help nature, requiring the rural family to build something with the assistance of a promoter.

PVO's are characteristically well suited to promote this component of the Project. In the Pespire Valley in Honduras, for example, Save The Children Federation is promoting Lorena stoves and low cost roofing materials, as well as other appropriate technologies for rural families. Other PVO's in Honduras also have appropriate technologies type activities or have an outreach program which could readily be utilized to promote appropriate technology ideas.

Many of the PVO's which are based in the rural areas, and have a rural development orientation can provide the coverage and outreach to rural families not now available through current GOH organizations and programs. In addition, because of their voluntary nature they tend to have better access to the poor target group.

The Appropriate Technologies Fund will provide grants to PVO's or other suitable organizations that wish to promote their own appropriate technologies initiative or promote an idea originating from the D&A/Information System. USAID/H has already prepared an inventory of approximately 64 local PVO's. The inventory contains a description of each PVO, its programs and a brief assessment of its effectiveness. The inventory will be used by CDI as a reference to identify PVO's which could potentially sponsor an appropriate technologies dissemination activity. The Rural Technologies Management Committee will determine which appropriate

technologies to promote and will approve the proposal jointly prepared by the PVO and CDI. These proposals will be similar in structure and content to OPG proposals. In this context, the use of PVO's to carry out this project activity is an appropriate solution, i.e., use of existing capacity to extend new technologies thoughout rural Honduras.

INPUTS FOR OUTPUT #5:
(In thousands of US$)

		Other Costs		
		AID	GOH	TOTAL
a.	Farm Implements	$ 850.0	$ 400.0	$1,250.0
b.	Development, Adaptation and Dissemination	1,650.0	300.0	1,950.0
	Total	$2,500.0	$ 700.0	$3,200.0

6. Human Resource Development

If, over the longer term, Honduras is to strengthen its small scale industrial sector and bring appropriate technology to bear on the problems of the poor majority, its capacity to produce the type of skilled human resources necessary must be improved.

While it is not within the means or scope of the Project to make fundamental changes in the Honduran educational system, it is feasible to make curricula modifications, and to provide training both in Honduras and abroad to support the long run development of the rural small industry sector in Honduras. UNAH will develop small enterprise curricula to be offered by the Engineering Department and the Business Administration Department during the second year of the project. Teachnical Assistance will be provided for modifying the curricula to allow for a greater focus on technology and management appropriate for small enterprises. Scholarships will be provided for students who apply to enroll in these programs and to graduates or professors and CDI personnel for advanced training abroad. Approximately 65 scholarships will be provided, 50 to UNAH undergraduates, 5 to CDI personnel, and 10 to UNAH professors or graduates who will return for teaching or D & A work at the University. Financing for human resource development in the area of agricultural engineering and rural sociology needed by the MNR/D&A unit and CDI will be provided by the Agriculture Sector II program.

INPUTS FOR OUTPUT # 6
(US $000)

ITEM	PERSONNEL		TECHNICAL ASSISTANCE		TRAINING		[illegible]		[illegible]		TOTAL	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
Human Resource Development	33.8	23.2	132.[illegible]	[illegible]	[illegible]	48.2	[illegible]	[illegible]	[illegible]	[illegible]	209.1	71.4

7. Enterprise Advisory Office

Foreign buyers and potential investors often come to Honduras on exploratory visits seeking potential suppliers or investment opportunities. Deciding on which GOH institutions to visit and where to get the necessary information can be difficult enough to dismay all but the most determined. If he is a buyer and the product is not already being produced in sufficient quantities or quality, the buyer will most likely move on to another country. Similarly, if he is a potential investor and it is found that raw materials or inputs which could be produced locally are not, the investor too will move on. Consequently, many opportunities to stimulate small enterprises, agricultural production and agri-business are lost.

It is proposed, therefore, that a central contact office be established in the Ministry of Economy that would serve both Honduran and foreign businessmen. To attract the greatest number of visits, the office would collect and provide general information usually sought by businessmen such as the labor, investment and tax laws of Honduras and information on the economy of Honduras and investment plans of the GOH. In addition, the office would provide information on the services provided by other GOH and private institutions.

A key function of this office will be the selective referral of visitors to CDI when it appears that the businessman's area of interest could provide a stimulus to small enterprises. CDI would then examine the question in more detail to determine whether or not there are possibilities for a mutually beneficial arrangement. This office will require one professional and one secretary.

INPUTS FOR OUTPUT # 7
(US $000)

ITEM	PERSONNEL		TECHNICAL ASSISTANCE		TRAINING		COMMODITIES		OTHER COSTS		TOTAL	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
Enterprise, Advisory Office	36.3	74.4	26.4	-0-	8.0	-0-	-0-	2.0	0.5	4.0	64.1	90.4

8. Evaluation/Planning Capacity to More Precisely Identify Problems of Small Enterprises and Rural Households

To guide the implementation of the Project, and particularly to continuously improve the type of assistance to be provided to small industries and how it is to be provided, the capacity will have to be developed within CDI to conduct industry specific baseline and diagnostic studies, zonal resource inventories and zonal industrial development plans, marketing analyses and progress and impact evaluations for the various components of the Project.

The studies will be focussed on providing additional and direct input into the ongoing design of technical and management advice and assistance to rural enterprises by identifying in detail such things as resource utilization problems (including credit), skill

problems, marketing problems, production and design problems and raw materials problems through the conduct of the time-series survey of rural enterprise. Its cross-sectional studies of industry types will identify weaknesses and gaps in marketing, technology, supply, etc. which will be used as input in developing new industries as well as training and technical assistance. Case studies of individual enterprises should result in a better understanding of the social, political and other "non-technical" constraints to enterprise development and will provide recommendations for improved delivery of technical assistance, training and perhaps GOH policies. Studies will also be conducted on a sector-wide basis of such functional areas as credit and marketing systems. Analysis of such questions as credit availability and systems constraints, market structure and constraints may result in recommendations for providing additional GOH resources, or revised policies or regulations.

The Studies Division will also be responsible for reviewing existing studies and analyses and where needed carrying out new surveys (or piggy backing on other surveys) to identify problems of rural living which will be used as input to the Appropriate Technologies System. It is specifically responsible for developing plans and priorities for development, adaptation, testing and dissemination of new or improved technologies for rural households.

The Studies Division will be headed by an economist, and will have permanent positions for two sociologists, an additional economist and four field analysts, two secretaries and two drivers. For one year only, three additional field analysts and 35 interviewers will be needed to conduct the time-series survey of rural enterprises in the selected zones. Short and long term technical assistance will be provided to this division in socio/economic survey methodology, survey design, implementation and analysis and evaluation; and more specifically in the area of marketing analysis methodology. Also a short term technical advisor will be contracted for a further examination of formal and informal credit systems and to develop proposals for alternative credit delivery mechanisms. It is also foreseen that, due to lack of staff time and/or expertise, in-country experts will be contracted to advise in or carry out some of the studies mentioned above.

A Rural Enterprise Study has already been completed which provides a starting point for some of the studies that will follow. The study was a sample survey of industries in the four zones of project concentration. Data has been collected and analyzed on the kinds of industry, number of employees, capital stock and certain business practices. 1/ Detailed studies of both the leather and wood industries have already been initiated.

1/ See Annex G.

INPUTS FOR OUTPUT # 8
(US $000)

ITEM	PERSONNEL		TECHNICAL ASSISTANCE		TRAINING		COMMODITIES		OTHER COSTS		TOTAL	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
Evaluation and Planning Capacity	355.8	269.4	318.0	-0-	23.5	-0-	49.1	50.6	225.2	55.7	971.6	375.7

9. GOH Policy Analysis

As mentioned in the CDSS, there are indications that certain GOH policies fail to encourage or act as a constraint on the development of small scale and labor intensive industries. Therefore, the project will finance a unit to be established within the Ministry of Economy which will be responsible for preparing studies that will evaluate the effects of GOH policy upon rural industrialization and employment. Particular areas of concern will be tax incentives and import, labor, fiscal, monetary and procurement policies of the GOH. The studies will also include recommended policy changes. The mechanism for presenting the recommendations to decision makers would vary depending upon the nature of the issues. Substantial technical assistance will be needed in methodology, study design and analysis. Key Honduran professionals will be hired to carry out the analyses. The Policy Analysis Office will be staffed with a general economist, an Industrial Economist, two technicians, part-time data collectors and a secretary.

INPUTS FOR OUTPUT # 9
(US $000)

ITEM	PERSONNEL		TECHNICAL ASSISTANCE		TRAINING		COMMODITIES		OTHER COSTS		TOTAL	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
Policy Analysis	50.5	110.2	210.0	-0-	15.0	-0-	-0-	-0-	16.0	40.1	291.5	150.3

10. Project Coordination, Management and Administration 1/

To achieve the Project purpose and outputs a coordination, management and administration structure suitable for the inter-institutional nature of the Project has been designed.

A Program Coordinator, selected jointly by the Minister of Economy and the Minister of Natural Resources, will be given responsibility for overall coordination of the Rural Technologies Project and the D & A portion of the on-going Small Farmer Technology Project. Since almost all administrative work will be carried

1/ See Administrative Arrangements and Institutional Analysis for a more complete description.

out within the institutions involved in the project, particularly CDI, the Program Coordinator will have one secretary, but no other staff of his own.

For the Small Enterprise Development Fund and the Appropriate Technology Fund, management decision making authority concerning approval of budgets, implementation plans, interinstitutional agreements, and major contracts will be vested in the Rural Technology Management Committee which will be composed of executive level members from the principal participating institutions. The Project Coordinator will serve as the Executive Secretary of this Committee.

At the technical level, an advisory panel will be established for each of the three major focusses of the project, a Small Farmer Advisory Panel, a Small Industry Advisory Panel and an Appropriate Technologies Advisory Panel. To provide broad interdisciplinary review of studies and proposals these panels will be composed of outside Honduran specialists as well as GOH technical personnel. Direct representation of target groups will also be sought. A Scholarship Committee will also be established to approve candidates for the planned 65 scholarships that will be provided (Output 6).

Most of the burden of administration and operational level coordination will be with CDI. The Project will therefore finance the following positions in CDI (not included as inputs to any of the previously described outputs): CDI Program Manager, Reporting and Evaluation Officer, Training and Institutional Liaison Officer, Appropriate Technologies Grant Officer, Procurement/Contract Officer, Administrative Officer, two accountants and a secretary. To provide the Program Manager with assistance in general management of the Project and developing implementation procedures a Project Management Expert will be contracted for approximately one year at the beginning of the Project.

INPUTS FOR OUTPUT # 10
(US $000)

I T E M	PERSONNEL		TECHNICAL ASSISTANCE		TRAINING		COMMODITIES		OTHER COSTS		TOTAL	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
Program Management and Coordination	685.2	336.6	40.0	-0-	45.0	20.0	32.3	70.3	87.2	218.3	889.7	645.2

IV. ECONOMIC AND FINANCIAL ANALYSIS

A. Introduction

Two of the principal development goals of the GOH are to improve the distribution of income and increase the level of employment in Honduras. In the analysis that follows, we hope to show that this project is viable from both a financial and economic viewpoint and that it will contribute significantly to the development goals of the host country.

The three target groups which will be dicussed separately are as follows:

-- Small Farmers
-- Small Enterprises
-- Rural Households

From a total project cost of about $14.2 million, 1/ we estimate that approximately $4.5 million will be focused on the Small Farmer target group, $6.9 million on the Small Enterprises and $2.6 million on the Rural Households during the disbursement period of the Project. Added to the initial investment costs are the continuing costs of the GOH to maintain the program at about the same level of effort. For the purposes of this economic and financial analysis, we have defined life of project as 20 years since a significant portion of the costs are institutional, the benefits of which are expected to be realized over a considerable period of time. A 12% rate 2/ has been used as the social rate of discount for Honduras.

B. Small Farm Sector

It is estimated that 50,000 farm families will benefit during the disbursement period and 170,000 families over the 20 year life of the project by having access to new farm technologies which are made available through project activities. Benefits are defined as the increase in net farm income due to increased productivity and/or improvement in the quality of the production as a result of training, information and appropriate technology implements and equipment provided to farm families under the Project.

Due to the problem-solving nature of the Small Farmer activity, and the inability to predict at this time the specific technologies to be introduced, the benefits which will be derived are difficult to estimate. Therefore, an analysis was performed to determine the flow of benefits that would be required in order for the present value of benefits to equal the present value of costs, thereby attaining a benefit/cost ratio of one. Once this flow of benefits is determined, the average per family will be related to the average net income of traditional farms as a percent of increase. To determine the likelihood of achieving the required average increase in net farm income for

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1/ See Table 5.

2/ This rate is generally considered acceptable and approximates the opportunity cost of capital in Honduras.

the project to be economically viable, it will then be compared to an analysis prepared for the Small Farmer Technologies project paper which estimated increases in farm income with the introduction of certain appropriate technology techniques and equipment.

The following table shows the annual distribution of families benefited, the total cost of the Small Farmer component of the project and the required benefit in dollars.

TABLE 1

SMALL FARMER ACTIVITY
(US$ 000)

Years	FAMILIES BENEFITED (000) Add'l Current Year	Cumulative	Investment Cost	Present Value of Investment at 12%	Benefits at $12.38/ family	Present Value of Benefits at 12%
1	5	5	1,386 1/	1,237	62	55
2	8	13	966	770	161	128
3	10	23	1,004	715	285	203
4	12	35	1,059	673	433	275
5	15	50	954	541	619	351
6	8	58	456	231	718	364
7	8	66	456	206	817	370
8	8	74	456	184	916	370
9	8	82	456	164	1,015	366
10	8	90	456	147	1,114	359
11	8	98	456	131	1,213	349
12	8	106	456	117	1,312	337
13	8	114	456	105	1,411	323
14	8	122	456	93	1,510	309
15	8	130	456	83	1,609	294
16	8	138	456	74	1,708	279
17	8	146	456	66	1,807	263
18	8	154	456	59	1,906	248
19	8	162	456	53	2,006	233
20	8	170	456	47	2,105	220
TOTAL	-	-	12,209	5,696	22,727	5,696

$$\frac{\text{Increases in Net Income per Family Benefited}}{\text{Average Net Income per Traditional Farm (3-35H)}} = \text{Percent increase net income required for project to be economically viable.}$$

$$\frac{\$12.38}{820.00\ 2/} = 1.5\%$$

1/ Includes $850,000 for Small Farmer Technologies Project number 522-0123.

2/ Agriculture Sector Assessment, August 1978, 3-35 H.

As demonstrated in Table 1, the present value of benefits equals the present value of costs when the average participating family increases its net income by only 1.5% ($12.38) as the result of project activities. Since it is assumed that increase in net income for families benefited will continue over the life of the project, the additional income gains necessary in any given year are limited to a 1.5% increase in the income of the additional beneficiaries reached in that year. The sensitive factor in this calculation is the number of beneficiaries reached. Even if they were reduced by 50 percent, the increase in net income necessary to cover the cost of the project would only be 3 percent. If we assume that only those 15,000 families which will receive appropriate technology implements during the disbursement period will be benefited, then the required increase would be approximately 8 percent.

When compared to the profitability analysis prepared for the Small Farmer Technologies project paper (522-0123) which demonstrated the effects on net farm income of altering traditional farming practices in different regions of Honduras, the increase required appears reasonable and obtainable. Although the analysis was prepared on the basis of two proto-type cooperative farms, the results should give an indication of the effects of appropriate technology on small farms as well.

The technique used was to add or substitute one or more of the following practices for the traditional practices: (a) incorporation of unused but cultivable land into the production unit either by hand or using machinery; (b) preparing land (plowing and disking) employing owned animals or tractors instead of hand labor or rented tractors and equipment; (c) grain drying and storage; and (d) small supplemental irrigation systems.

The results indicate that the most profitable of the individual practices was the addition of the irrigation system in the Choluteca region, increasing net farm income by 67 percent, while the least profitable was the addition of the tractor for land preparation which led to a decrease of 1.4 percent. The data also reveal considerable variation in the indicated profitability of the different combined practices both within and between the two regions. The increase in profitability resulting from the introduction of the different technological packages ranged from a low of 84 percent for the method which included land clearing by tractor, tractor plowing, storage and irrigation in the Yoro region to a high of 182 percent for the method with land clearing by hand, animal land preparation, storage and irrigation in the Choluteca region.

Due to the static nature of the model and the other limiting assumptions which were made to simplify the analysis, the results would neither be taken as estimations of the actual levels of profitability of these technological packages if introduced in the real world, nor should they be accepted as correct indications of the relative profitability of the different packages. However, the analysis clearly demonstrates two factors which have important implications for this Project. First, it demonstrates that profitable technological

practices or packages do exist for altering the traditional practices in Honduras. Furthermore, actual profitability is likely to be even greater than the analysis indicates since it did not allow for such aspects as increased yields, double cropping and the introduction of higher valued crops. Therefore, a project seeking to promote the adoption of appropriate technology can have a significant impact on the income of the rural poor thereby improving the distribution of income in Honduras.

C. Small Enterprises

1. Background

According to the current population estimates of the GOH (1974 Census Revised), the population of Honduras is approximately 3.4 million of which 65 percent live in the rural areas. The economically active members, between the ages of 15-65, have been estimated at 30 percent of the total population. The annual increase is significant; currently estimated at 3.6 percent for both the total and the economically active. Although agriculture continues to be the largest employer of labor (approximately 65 percent), the number of agricultural workers only increased about 2.0 percent annually from 1975 to 1977. As the economically active population, much of which resides in the rural areas, continues to grow at a rate above the absorptive capacity of the agricultural sector, employment must be found elsewhere. The area with the most potential to expand employment opportunities is the industrial/manufacturing sector which is second to agriculture in its contribution to GNP and as a source of employment. It is believed that with certain managerial and technical inputs, the production of artisan, small or medium enterprises and also the productivity of workers may be significantly increased resulting in a greater contribution to the GNP by the industrial/manufacturing sector.

2. The Industrial/Manufacturing Sector

Four groups make up the industrial/manufacturing sector in Honduras: artisans and small, medium and large industries. The target group as defined in this project encompasses all but the large industries with the main focus being on artisans and small industries.

In spite of the overwhelming numbers of enterprises which fall within the artisan and small industry categories, their economic impact with regard to value added is disproportionately small. As seen in Table 2 below, the large and medium industries contributed 75 percent of the total manufacturing value added and provided 37 percent of the total work places yet constituted less than 1 percent of the total number of establishments.

TABLE 2

THE INDUSTRIAL/MANUFACTURING SECTOR 1/

Component	Number of Establishments	%	Persons Occupied	%	Value Added (US$ M)	%
Artisan 2/	36,973	97.8	50,000	57.5	27.5	18.6
Industrial	849	2.2	37,000	42.5	120.0	81.4
Total	37,822	100.0	87,000	100.0	147.5	100.0
Industrial:						
Small	478	56.3	4,600	12.4	8.5	7.1
Medium	196	23.1	6,300	17.0	15.5	12.9
Large	175	20.6	26,100	70.6	96.0	80.0

SOURCE: Industrial Census, 1975.

1/ Artisan: 0-4 persons occupied.
Small: 5-19 persons occupied.
Medium: 10-49 persons occupied.
Large: 50 and more persons occupied.

2/ This figure is probably greatly underestimated due to an inaccurate census technique and undercounting of part time enterprises. The Small Industry Survey conducted by AID/CDI indicates that the true number of units probably exceeds 75,000.

Approximately 10,050 establishments are located in the target area of the Project of which 9,400 are artisans, 600 small industries, 50 medium and 10 large. They are involved in the following activities: textile 34.3 percent, food 19.1 percent, wood work 11.3 percent, metal 7.7 percent, construction 6.7 percent, leather work 4.9 percent, artisan work 4.7 percent, ceramics 4.6 percent, repair services 3.4 percent, palm products 2.5 percent, and others 0.8 percent.

As described in previous sections of this project paper, it is believed that the principal constraints to increased small scale industrial production and productivity are the lack of managerial, technical and marketing skills. In order to lessen or eliminate these constraints, the project will provide technicians who will give assistance to the artisans and the owners of small and medium industries to better manage their resources.

These technicians will also endeavor to aid in the establishment of new small and medium industries some of which may be financed through the fund being established as part of the grant. Some of the

already established exterprises may also receive assistance from the fund for expansion on a selected basis.

The following table gives an estimate of the number of exterprises that will receive information, training, and assistance from the field staff of CDI on an intensive basis during the disbursement period of the grant. Estimates of the annual number of beneficiaries and additional enterprises assisted after the disbursement period but within the life of project are given in Table 6. In addition to those listed in Table 3 and Table 6; many enterprises may be benefited directly or indirectly by policy changes resulting from the GOH Policy Analysis element of the Project.

TABLE 3

ENTERPRISES ASSISTED

Status	Number per Survey	Enterprises Assisted During Disbursement Period
Established Enterprises		
Artisan	9,400	1,300
Small	600	185
Medium	50	15
Sub-Total	10,050	1,500
New Enterprises		
Small	-	30
Medium	-	10
Sub-Total	-	40
TOTAL	10,000	1,540

3. Cost-Benefit Analysis of Small Enterprises

In order to determine if it will be in the interest of the individual entrepreneurs and also in the interest of the country of Honduras to participate in this project, a financial and economic cost-benefit analysis was conducted. Benefits were the increase in value added of the enterprises due to training, information and assistance by the CDI staff as shown in Tables 3 and 6. Although some granting of equipment may take place under the project, it has not been taken into consideration in this analysis. Costs were the sum of A.I.D. and GOH inputs to the Small Enterprise activity, the continuing costs of the GOH to maintain the program and the costs of the enterprises associated with the increases in value added. In estimating the benefits and costs, an equivalent level of effort in the initial target areas was assumed from year 6 to 20 as during the five year disbursement period.

In the following table, the financial net present value represents the return to the entrepreneur, i.e., the artisan/owner and owners of small and medium industries. As can be seen the return is significant representing $3,643,000 over a 20 year period. To arrive at the economic NPV, the institutional costs applicable to the small enterprise program were added and the production costs of the entrepreneurs were adjusted for transfers (taxes and interest payments). Since labor at the market price does not adequately reflect the true economic cost to Honduras in terms of foregone production (the opportunity cost), a shadow price of labor was calculated and used to adjust the labor costs. (See Table 7). Even after absorbing the rather significant institutional costs of over $20 million over the 20 year life, the NPV is positive. The actual economic rate of return is 13.6 percent.

An attempt was made to quantify possible secondary benefits or spread effects which may reasonably be expected from the Small Enterprise component of the Project. The assumption used to calculate the benefits was that the established artisans and small entrepreneur whose production was increased as a result of this project would act as transmittal agents of information or assistance which would result in similar increases in production in one-half as many artisan establishments and one-fourth as many small enterprises. Cooperatives and other GOH agencies may also spread appropriate technology information. No new industries were assumed to be started or information disseminated by medium industries for the estimation of secondary benefits (See Table 10).

As a result of these spread effects, the NPV of this section of the project increased to $1,778,000 and the IERR to 15.7 percent.

TABLE 4

SMALL ENTERPRISES NPV 1/ AND IERR 2/
(US$ 000)

YEAR	Financial Net Benefits at 12% Discount Rate ENTREPRENEURS	Economic Net Benefits (Primary) at 12% Discount Rate HONDURAS	Economic Net Benefits (Primary and Secondary) at 12% Discount Rate HONDURAS
1	-	(808)	(808)
2	14	(1,263)	(1,252)
3	40	(1,098)	(1,073)
4	80	(925)	(884)
5	131	(570)	(514)
6	117	16	76
7	209	152	215
8	238	266	331
9	255	344	410
10	260	386	451
11	263	425	489
12	260	443	505
13	254	451	511
14	247	453	511
15	238	449	505
16	229	441	493
17	218	430	480
18	208	415	463
19	197	400	444
20	185	382	425
TOTAL	3,643	789	1,778

Internal Economic Rate of Return (IERR) for Primary Benefits is 13.6%.
Internal Economic Rate of Return for Primary and Secondary Benefits is 15.7%.

NOTE: See Tables 6 - 11.

1/ Net Present Value

2/ Internal Economic Rate of Return

4. Employment Effects

It is estimated that 1,679 work years of employment will be generated and 838 permanent jobs 1/ created during the five year disbursement period 2/ and 50,938 work years and 5,288 permanent jobs during the 20 year life as a result of this project. 3/ Out of a total benefit stream of $72,203,000, about $33,701,000 will flow to rural workers in the form of wages. Since a shadow wage rate was used in the analysis, these estimates have been adjusted in order to arrive at the incremental work years and permanent jobs that will be available in the target areas due to the project: 672 work years and 335 permanent jobs during the disbursement period, and 20,375 work years and 2,115 permanent jobs during the life of the project; and the net flow of wages to workers would be increased by $13,480,000 4/. This represents an increase in current permanent jobs (full time equivalent) of 12.3%.

By reducing the number of project generated jobs and workyears by the shadow wage rate factor, the most conservative approach has been taken. Inherent in this, is the assumption that the vacated employment, whether it be farm or other, would be totally lost to the economy rather than redistributed to other unemployed or underemployed individuals. This is highly unlikely with or without the dampering effects of this conservative assumption; we expect redistributional income effects and an improvement in the quality of life for many rural residents.

D. Rural Households

The development and adaptation and dissemination programs of the project will make non-agricultural technologies available to approximately 5,000 families throughout the rural area. These technologies will have application either to improve production and income earning activities or for improving the quality of life.

One example of a possible income earning (saving) technology that may be further developed and applied to Honduras is the Lorena stove. Although a detailed analysis has not been done by the Mission, it is estimated that with this improved stove, the amount of wood required will be reduced by 25-50 percent. Therefore, if the wood is gathered the time saved may be productively employed elsewhere or, if the wood is purchased, as it may be in small rural communities, income will be saved. This, and other technologies will be carefully researched and evaluated during the life of the project.

1/ Permanent jobs is defined as full time equivalent jobs.

2/ As explained in Table 7 we assumed that it would take 5 years for a new enterprise to reach the average value added.

3/ Jobs created were estimated by dividing total labor dollars in the 5th and 20th years by $450 (minimum wage) for artisans and $750 (estimated) for small and medium enterprises.

4/ For the calculation of operating costs, the approximate percent of labor and other costs of value added currently in effect was used. To the extent that the project is successful in increasing productivity, however, the marginal costs as a percent of value added may decrease due to greater efficiency of operations resulting in higher rates of return but also a decrease in labor costs and therefore employment projections.

TABLE 6

RURAL TECHNOLOGIES - SMALL ENTERPRISE ACTIVITY

Number of Enterprises Assisted

Beneficiaries	YEARS 1	2	3	4	5	Sub Total	6-20	Total
Established Enterprise								
Artisans	--	200	300	400	400	1,300	260	5,200
Small	--	25	40	50	70	185	40	785 1/
Medium	--	--	3	5	7	15	3	60 1/
Sub Total		225	343	455	477	1,500	303	6,045
New Enterprises								
Small	--	--	5	10	15	30	3	75
Medium	--	--	2	3	5	10	3	55
Sub Total			7	13	20	40	6	130
TOTAL		225	350	468	497	1,540	309	6,175

1/ Assumes growth in numbers of small and medium enterprises. Also, it allows for the possibility of an enterprise being assisted more than once with further resultant increase in production.

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TABLE 7

RURAL TECHNOLOGIES - SMALL ENTERPRISE ACTIVITY
Estimates Used in Cost/Benefit Analysis

A. BENEFITS:

1. ESTABLISHED ENTERPRISES:

a. Artisan: Estimated a one-time 20% increase in value added (average annual value added $750).

b. Small Enterprises: Estimated a one-time 10% increase in value added (average annual value $17,800).

c. Medium Enterprises: Estimated a one-time 5% increase in value added (average annual value added $79,000).

2. NEW ENTERPRISES:

a. Small Enterprises: Estimated to reach average value added in 5 years.

b. Medium Enterprises: Estimated to reach average value added in 5 years.

B. COSTS:

1. ESTABLISHED AND NEW:

a. Artisans - Labor 84% of value added
- Other 2% of value added

b. Small and Medium - Labor 42% of value added
- Other 14% of value added

C. SHADOW PRICE OF LABOR:

Formula used:

$$\text{Shadow wage rate} = 1/2 \; \frac{\text{Minimum Wage} + \text{Minimum Offering Price}}{2}$$

$$.5 \; \frac{(\$1.80) + \$1.25}{2} = \$1.07$$

$$\text{Adjustment factor} = \frac{\$1.07}{1.80} = .6$$

Although the shadow wage rate calculated is imprecise, it is considered a more accurate measure of the opportunity cost of labor than either "0" or the minimum wage. The source for the above formula is Robert Nathan & Co., and the appropriateness of its application to Honduras has been verified by a former Robert Nathan economist working in Honduras.

TABLE 8

Rural Technologies - Small Enterprises
Economic Return to Honduras
(US $,000)

Year	Investment	Operating Costs	Operating Costs Adj. by Shadow Price of Labor	Total Cost	Benefits	Net Benefits	Net Benefits Discounted at 12%	Secondary Benefits	Total Net Benefits	Total Net Benefits Discounted at 12%
1	906	-	-	906	-	(906)	(808)	-	(906)	(808)
2	1633	38	38	1671	87	(1584)	(1263)	14	(1570)	(1252)
3	1698	176	118	1816	273	(1543)	(1098)	36	(1507)	(1073)
4	1791	366	246	2037	582	(1455)	(925)	64	(1391)	(884)
5	1611	643	435	2048	1043	(1005)	(570)	99	(906)	(514)
6	846	967	617	1463	1494	31	16	119	150	76
7	846	1205	824	1670	2006	336	152	140	476	215
8	846	1516	1037	1883	2541	658	266	161	819	331
9	846	1807	1237	2083	3038	955	344	181	1136	410
10	846	2049	1404	2250	3450	1200	386	202	1402	451
11	846	2321	1591	2437	3915	1478	425	222	1700	489
12	846	2563	1757	2603	4327	1724	443	242	1966	505
13	846	2806	1925	2771	4739	1968	451	263	2231	511
14	846	3049	2092	2938	5151	2213	451	284	2497	511
15	846	3291	2258	3104	5563	2459	449	305	2764	505
16	846	3534	2426	3272	5975	2703	441	324	3027	493
17	846	3775	2591	3437	6387	2950	430	345	3295	480
18	846	4018	2758	3604	6799	3195	415	365	3560	463
19	846	4259	2923	3769	7210	3441	400	387	3828	444
20	846	4503	3091	3937	7623	3686	382	408	4094	425
Total	20331	42846	29368	49699	72203	22504	789	4161	26665	2778

IRR (Primary Benefits) 13.6%
IRR (Primary and Secondary) 15.7%

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TABLE 9

Rural Technologies - Small Enterprises
Project Benefits and Costs
(US $,000)

	YEARS																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	TOTAL
Project Benefits																					
Established Enterprises																					
Artisans	-	30	75	135	195	234	273	312	351	390	429	468	507	546	585	624	663	702	740	780	8039
Small	-	45	116	205	330	401	472	543	614	685	756	827	898	969	1040	1111	1182	1253	1324	1395	14166
Medium	-	12	32	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	2696
Sub-total	-	87	223	400	597	719	841	963	1085	1207	1329	1451	1573	1695	1817	1939	2061	2183	2304	2427	24901
New Enterprises																					
Small	-	-	18	71	177	301	441	585	693	746	852	905	958	1011	1064	1117	1170	1223	1276	1329	13937
Medium	-	-	32	111	269	474	724	993	1260	1497	1734	1971	2208	2445	2682	2919	3156	3393	3630	3867	33365
Sub-total			50	182	446	775	1165	1578	1953	2243	2586	2876	3166	3456	3746	4036	4326	4616	4906	5196	47302
Total Benefits		87	273	582	1043	1494	2006	2541	3038	3450	3915	4327	4739	5151	5563	5975	6387	6799	7210	7623	72203
Project Costs (Operating)																					
Artisans	-	26	65	116	168	201	235	268	302	335	369	402	436	470	503	537	570	604	636	671	6914
Small	-	25	75	154	284	393	511	632	732	801	900	970	1039	1109	1178	1248	1317	1386	1456	1525	15735
Medium	-	7	36	96	191	313	459	616	773	913	1052	1191	1331	1470	1610	1749	1888	2028	2167	2307	20197
Total	-	58	176	366	643	907	1205	1516	1807	2049	2321	2563	2806	3049	3291	3534	3775	4018	4259	4503	42846
Total Costs Adjusted by Shadow Price of Labor Factor of .6	-	38	118	246	435	617	824	1037	1237	1404	1591	1757	1925	2092	2258	2426	2591	2758	2923	3091	29368
Investment Costs	906	1633	1698	1791	1613	846	846	846	846	846	846	846	846	846	846	846	846	846	846	846	20331
Net Benefits	(906)	(1584)	(1543)	(1455)	(1005)	31	336	658	955	1200	1478	1724	1960	2213	2459	2703	2950	3195	3441	3686	22504

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TABLE 10

Rural Technologies - Small Enterprise Activity
Secondary Benefits
(US $,000)

	YEARS																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total
Secondary Benefits 1/																					
Artisans	-	15	38	67	98	117	137	156	175	195	214	234	253	273	293	312	332	351	370	390	4020
Small		11	29	51	83	100	118	136	154	171	189	207	225	243	260	276	296	313	331	349	3542
Sub-total		26	67	118	181	217	255	292	329	366	403	441	478	516	553	588	628	664	701	739	7562
Costs Adjusted by Shadow Wage																					
Artisans		8	20	35	51	61	71	81	91	101	111	122	132	142	152	162	173	183	192	202	2090
Small		4	11	19	31	37	44	50	57	63	70	77	83	90	96	102	110	116	122	129	1311
Sub-total		12	31	54	82	98	115	131	148	164	181	199	215	232	248	264	283	299	314	331	3401
Net Benefits (Secondary)		14	36	64	99	119	140	161	181	202	222	242	263	284	305	324	345	365	387	408	4161

1/ Assumed one-half of established artisans and one-quarter of established small enterprises assisted will pass on advice or assistance actively or passively to one other artisan.

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TABLE 11

Rural Technologies - Small Enterprise Activity
Financial Net Present Value
(US $,000)

	YEAR																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total
Project Benefits	-	87	273	583	1043	1694	2006	2541	3018	3450	3915	4377	4739	5151	5563	5975	6387	6799	7210	7623	72203
Economic Operating Cost	-	58	176	366	643	987	1205	1516	1807	2049	2321	2563	2806	3049	3291	3534	3775	4018	4259	4503	42846
Add back Taxes for Artisans 1/	-	1	3	5	8	9	11	12	12	14	16	17	19	20	22	23	25	27	28	31	303
Add back Taxes and Interest for Small 2/ and Medium		11	38	85	161	239	329	424	511	581	662	733	804	875	946	1017	1088	1158	1229	1300	12191
Financial Costs to Entrepreneurs		70	217	456	812	1.155	1545	1952	2330	2644	2999	3.313	3629	3944	4259	4574	4888	5203	5516	5.834	55360
Net Benefits	-	17	56	126	231	339	461	589	708	806	916	1014	1.110	1207	1304	1401	1499	1596	1694	1789	16863
P.V. of Net Benefits at 12%	-	16	48	88	131	117	209	238	255	260	263	260	254	247	238	229	218	208	197	185	3643

1/ 4% of value added
2/ 12% of value added

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E. Financial Plan

The total cost of the project is $14,036,800 of which A.I.D. will finance $3,930 000 and the GOH $5,106,800. The foreign exchange cost financed by A.I.D. is $2,075,000 and local cost $6,855,000.

The GOH counterpart contribution to the project represents 36 percent of the total cost and A.I.D.'s contribution amount to per-cent.

Obligations in amount of $850,000 will be made in FY 1979, significant disbursements will begin in FY 1980 and be complete by FY 1984.

Appropriate tables are found on page 63.

F. Recurrent Costs of the Project

For the MNR technology development and adaptation and information activities in the 5th year of the Project the GOH will contribute US $431,700, or 80% of the total budgeted amount for that year ($525,700). In year 6, after which AID's contributions will have been phased out, GOH costs 1/ will represent a 34% increase in the amount over the previous year. By 1984, the GOH contribution necessary to absorb the activities of the Project will represent less than 2% of the total MNR budget for agricultural operations.

For the CDI activities in the 5th year, the GOH will contribute US $1.0 million, or 42% of the projected total budget for that year (US $2.5 million). In the 6th year, GOH costs to sustain CDI project activities will be US $2.5 million. This will represent an increase of the total CDI budget in the 6th year of 30%; in addition the increase needed in the total INFOP budget in the same year will be less than 1%.

The activities of the Ministry of Economy financed by the project will only require an increase in its budget for the 6th year of less than 3%.

The financing necessary for the 6th year for the CIIBANTRAL unit of the Central Bank will represent an increase of less than 1% of the bank's budget. The increase in the budget of the UNAH to absorb 6th year project activity costs will be less than 2%.

1/ Assumes a 10% inflationary increase over 5th year costs.

SMALL FARMER TECHNOLOGIES SYSTEM
ESTIMATED ANNUAL EXPENDITURES BY FUNCTION ($000)

Function	Project Years 1	2	3	4	5	Total	Year 10	15	20	Total Cumulative
Management & Coordination	90.0	105.0	110.0.	105.0	115.0	525.0	65	65	65	1,500.0
Identification & Information	8.0	118.8	97.1	93.1	99.5	416.5	100	100	100	1,916.5
Development & Adaptation	66.2	329.5	344.6	370.9	385.3	1,469.5	385	385	385	7,244.5
Training, Demonstration and Dissemination	150.0	235.0	478.5	610.5	658.1	2,132.1	600	550	500	10,382.1
Total	314.2	788.3	1,030.2	1,179.5	1,257.9	4,570.1	1,150	1,100	1,050	21,043.1
Beneficiaries (Summary)	2,400	10,600	13,800	14,000	10,200	50,000	8,000	8,000	8,000	170,000
Cost per Beneficiary ($)	$131	$74	$74	$84.25	$123.3	$91.40	$143	$137	$131	$123

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SMALL FARMER TECHNOLOGIES SYSTEM
OUTPUTS BY YEAR

Project Outputs	Project Year 1	2	3	4	5	Totals
A. Target Group Implements Delivered:	250 Water wheels 250 Threshers 50 Storage bins	1000 Planters 150 Weeding machines 900 Storage bins 250 Land levellers 50 ox plows 250 Irrigation systems	500 Corn Cribs 600 Weeding machines 500 Grain dryers 100 Ox carts 100 Ox plows 1000 Hand cultivators 500 Corn threshers 350 Sprayers	200 Small tractors 800 Tractor Implements 250 Improved water wheels 250 Water Storage 200 Wagons 1000 Hand plows 1000 Hoes	150 Medium tractors 600 Tractor implements 100 Catchment dams 2000 Ox implements 25 Wind mills 25 Solar dryers 200 Weighing machines	
Families directly benefited	550	2,600	3,650	3,700	2,500	13,000
Secondary beneficiaries	1,650	7,800	9,950	10,100	7,500	36,000
Farmers Trained	200	200	200	200	200	1,000
Totals	2,400	10,600	13,800	14,000	10,200	50,000

SMALL FARMER TECHNOLOGIES SYSTEM CONTINUED

Project Outputs	Project Year 1	2	3	4	5	Total
B. Institutional Outputs	Ministry of Natural Resources -SFT unit fully staffed & operating -Facility completed -20 implements tested -Labor utilization & other surveys begun - Agreements with CDI & INFO operational	Same Level Of Activity		Institutional agreement with MNR Extension Service for Demonstration and Dissemination activities	Same Level Of Activity	
	CII - Operational	Same Level of Activity				
		CIIBANTRAL - Operational	Same Level of Activity			
	UNAH Development & Adapt. Unit - Partially functioning - 1 testing contract	UNAH D & Unit - fully functional - 3 testing contracts	Same Level of Activity			

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RURAL SMALL INDUSTRY DEVELOPMENT SYSTEM
ESTIMATED ANNUAL EXPENDITURES BY FUNCTION ($000)

Function	Project Years 1	2	3	4	4	Total	Year 10	15	20	Total Cumulative
Management & Coordination	110.0	140.0	146.0	127.0	139.0	662.0	106	106	106	2,252.0
Identification & Information	569.3	350.9	266.9	222.3	238.5	1647.9	150	150	150	3,897.9
Development & Adaptation	71.2	78.6	95.7	83.5	82.1	411.1	82	82	82	1,641.1
Technical Ass't., Training, Dissemination, Credit Systems, New Industry Development	361.3	584.6	654.5	846.0	852.0	3298.4	630	580	530	11,988.4
Sub-Total	1,111.8	1,154.1	1,163.1	1,278.8	1,311.6	6,019.4	968	918	868	19,779.4
Human Resources, Small Ind. Advisory Office, Policy Analysis	6.3	218.1	344.0	152.4	146.0	866.8	100	100	100	2,366.8
Total	1,118.1	1,372.2	1,507.1	1,431.2	1,457.6	6,886.2	1,168	1,118	968	22,146.2
Beneficiaries (Summary)	150	750	1,030	1,770	2,500	6,200	2,500	2,500	2,500	43,700
Cost per Beneficiary ($) Does not include Human Resources	$7,454	$1,538	$1,129	$722	$524	$970	$387	$367	$347	$452

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RURAL SMALL INDUSTRY DEVELOPMENT SYSTEM

OUTPUTS BY YEAR

Project Outputs	Project Years 1	2	3	4	5	Total
A. Target Group Outputs						
Industries visited	500	750	1,000	1,000	1,000	
Industries Assisted trained, etc.	210	740	1,000	975	1,075	
Industries receive information	25	75	100	150	150	
Equipment grants	0	10	25	30	35	
*Sub-total - Ind. Assisted (Receive more than one kind of assistance)	150	650	725	1,255	1,780	4,560
New Industries	0	0	5	15	20	40
New Jobs	0	100	300	500	700	1,600
Total Beneficiaries	150	750	1,030	1,770	2,500	6,200
Cost per beneficiary						

RURAL SMALL INDUSTRY OUTPUT CONTINUED

Function	Project Years 1	2	3	4	5	Total
B. Institutional Outputs	CDI -Program Services & Mgmt. Offices Functioning 2 Zonal Offices 7 Extensionists Info Center Functio Functioning Train. Program Design Contract with INFOP	CDI -4 Zonal Offices -16 Extensionists -2 Industry Feasibility Studies	CDI -3 New Industries Started -3 Expansion Grants -6 Industry Feasibility Studies	CDI -4 New Industries Started -13 Expansion Grants -15 Industry Feasibility Studies	Same Level of Activity	
	Studies Division - Staffed - 500 Enterprises Surveyed - 2 Industry Studies - 2 Case Studies	-1 Zonal Inventory -9 Studies of Industry Types, Case Studies, Market Studies, Credit & Evaluation	Same Level of Activity			
	Central Bank -CITIBANTRAL - Staffed & Functioning	-Honduras Assoc. of Information Centers -Staffed & functioning		-Union Catalog Complete -Staffing dissolved		

RURAL HOUSEHOLDS SYSTEM
ESTIMATED ANNUAL EXPENDITURES BY FUNCTION ($000)

Function	Project Years 1	2	3	4	5	Total	Year 10	15	20	Total
Management & Coordination	37.1	60.1	70.1	90.3	90.3	347.9	57	57	57	1,202.9
Identification & Information	30.0	65.6	65.0	65.8	66.4	292.2	66	66	66	1,282.2
Development & Adaptation	20.0	50.0	50.0	55.0	50.0	225.0	50	50	50	975.0
Dissemination	30.0	200.0	395.0	550.0	540.0	1,715.0	440	340.	240	6,815.0
Total	117.1	357.1	580.1	761.1	746.7	2,580.1	613	513	413	10,275.1
Beneficiaries (Summary)	450	2,175	2,045	2,620	3,330	10,620	2,500	2,500	2,500	48,120
Cost Per Beneficiary ($)	$260	$172	$283	$290	$224	$242	$245	$205	$165	$213

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RURAL HOUSEHOLDS SYSTEM
OUTPUTS BY YEAR

Project Outputs	Project Year 1	2	3	4	5	Total
A. Target Group Outputs						
	200 Lorena Stoves →	800 Lorena Stoves	5 Village Biogas plants(50 families)	50 Village Biogas plants(500 familie)	2 Village Pyrolytic Converters (40 families)	
	100 New Roofs →	500 New Roofs		1 Village Hydro Plant (40 families) →	2 Hydro Plants (80 families)	
		100 Roof Catchment Systems →	300 Roof Catchment Systems	1 Village Wood Lot →	3 Village Wood lots	
		50 Water Filters →	900 Water Filters →	1000 Water Filters →	2000 Water Filters	
		10 Fish Ponds →	100 Fish Ponds →	100 Fish Ponds		
			10 Garden Irrigation Systems →	100 Garden Systems		
				10 Rammed Earth Houses →	100 Rammed Earth Houses	
Families Directly Benefited	300	1,450	1,365	1,750	2,220	7,085
Secondary Beneficiaries (Spread Effect)	150	725	680	870	1,110	3,535
Totals	450	2,175	2,045	2,620	3,330	10,620

RURAL HOUSEHOLDS SYSTEM OUTPUTS CONTINUED

Project Outputs	Project Year 1	2	3	4	5	Total
B. Institutional Outputs						
	CDI					
	- Program Services & Mgmt. Offices Functioning					
	- Priority Projects Selected	Same Level				
	- Grant Systems & Procedures Established	of Activity				
	- Approp. Tech. Advisory Panel Established					
	- 4 Grants Approved	- 10 Grants Approved				
	- Information Center Functioning					
	CII					
	- Operational					
		CII BANTRAL				
		-Operational				

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RURAL HOUSEHOLD SYSTEM OUTPUTS CONTINUED

Project Outputs	Project Year 1	2	3	4	5	Total
	UMAH D and A UNIT - Partially Operational - 2 Testing Contract	UMAH D and A UNIT - Fully Operational - 2 Testing Contracts - 1 Bio Gas Test Plant - 1 Water Filter Prototype	→	→	→	

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ESTIMATED ANNUAL EXPENDITURE BY FUNCTION

EXPLANATORY NOTES FOR RECURRING COSTS

A. General Note: Year six costs remain the same through year ten. Costs for years 10, 15 and 20 are expressed in year five dollars, and are assumed to be the same as the costs in year five except as noted below.

A. Small Farmer Technologies System

i) Management and Coordination -- It is assumed that the office of the GOH program coordinator and the A.I.D. PSC program coordinator are eliminated as coordination becomes institutionalized.

ii) Training, Demonstration and Dissemination -- Training costs are assumed to remain constant, but progressive reductions in demonstration costs should be experienced as it becomes more feasible to recoup costs for demonstration items from small farmers, and reductions in dissemination costs should be experienced as dissemination of appropriate technology increasingly becomes a standard function of the MNR extension service.

B. Rural Small Industry Development System --

i) Management and Coordination -- Reduction reflects elimination of the A.I.D. and GOH program coordinators.

ii) Identification and Information -- Reduction assumes that CDI will be disseminating information on a cost-reimbursement basis to industries that can afford it.

iii) Technical Assistance, Training, Dissemination, Credit Systems, New Industry Development -- Reduction assumes no new funds needed for the experimental credit activity, although reflows would continue to be rolled over. The activity would institutionalize the use of other credit funds, rather than establish CDI as a credit institution. The reduction also reflects the assumption that while CDI will continue to be active in the area of doing feasibility studies and promoting new industry investments, its role as a financier should reduce as rural areas become more attractive for investors.

iv) Human Resources, Small Industry Advisory Office, Policy Analysis -- The reduction assumes the elimination of CDI support to UNAH for its small industry program. The purpose of the activity is to reorient training at the University, rather than to add additional teaching and student capacity. While it is very possible that the function of the Policy Analysis Unit would be integrated into central planning operations, the associated costs would remain.

C. Rural Households System --

i) Management and Coordination -- Reduction assumes elimination of GOH and A.I.D. program coordinators, and assumption by CDI management of any coordination function.

ii) Dissemination -- Reduction assumes that while the GOH would continue to support PVO dissemination of appropriate technologies, more of the costs would be absorbed by the Vol. Ags. voluntary contributions as their budgets expand. In addition, GOH institutions such as the MNR (home economics extension service) and JNBS (National Welfare Organization) will increasingly be able to assist in the delivery of appropriate technology to rural households as part of their regular programs.

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SUMMARY FINANCIAL PLAN (Thousands of US$)

SOURCE	AID FX	AID LC	GOH FX	GOH LC	TOTAL
OUTPUT					
1. Interinstitutional Adaptive Research and Information Network	362.0	1,014.2	151.4	1,503.6	3,031.2
2. Delivery System for Management and Technical Advisory Services for Small Enterprises	525.4	844.0	21.0	1,199.0	2,589.4
3. System for Delivering Training to Rural Enterprises and Small Farmers	165.3	93.1	-.-	208.8	467.2
4. Small Enterprises Development Fund	-.-	1,000.0	-.-		1,000.0
5. Appropriate Technologies Development and Adaptation and Dissemination Fund	200.0	2,300.0	-.-	700.0	3,200.0
6. Small Scale Industrialization and Appropriate Technologies Human Resources Development	30.0	129.1	25.0	46.4	280.5
7. Enterprise Advisory Office	25.0	39.1	11.0	69.4	144.5
8. Evaluation/Planning Capacity to more Precisely Identify Problems of Small Enterprises	411.5	560.1	6.0	369.7	1,347.3
9. GOH Policy Analysis	215.0	76.5	-.-	150.3	441.8
10. Project Coordination, Management and Administration	90.8	793.9	13.0	632.2	1,534.9
GRAND TOTAL	2,075.0	6,855.0	227.4	4,879.4	14,036.8
TOTAL CONTRIBUTIONS	8,930.0		5,106.8		

NOTE: Inflation factor of 8% applied to detailed budgets

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DISBURSEMENT PLAN

	PROJECT YEARS 1/					
	1980	1981	1982	1983	1984	
Project Years	1	2	3	4	5	TOTAL
A.I.D.	1,485.0	1,324.0	2,067.8	1,833.9	1,719.3	8,930.0
GOH	64.4	712.0	1,049.6	1,537.9	1,742.9	5,106.8
TOTAL	1,549.4	2,536.0	3,117.4	3,371.8	3,462.2	14,036.8

1/ Project years are approximately the same as fiscal years.

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INPUT/OUTPUT TABLE ($000)

INPUTS	OUTPUTS										Total
	1	2	3	4	5	6	7	8	9	10	
Personnel	1,235.4	1,702.4	305.5	-0-	-0-	57.0	110.7	625.2	160.7	1,021.8	5,724.7
Technical Assistance	262.5	389.0	-0-	150.0	-0-	110.0	19.8	318.0	210.0	40.0	1,499.3
Training	48.2	100.0	114.0	-0-	-0-	113.5	8.0	23.5	15.0	65.0	487.2
Commodities	377.5	296.0	23.9	-0-	-0-	-0-	2.0	99.7	-0-	102.6	901.7
Other Costs	607.6	96.0	23.8	850.0	3,200.0	-0-	4.0	280.9	56.1	305.5	5,423.9
TOTAL	3,031.2	2,559.4	467.2	1,000.0	3,200.0	280.5	144.5	1,347.3	441.8	1,534.9	14,036.8

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RURAL TECHNOLOGIES
PROJECTION OF EXPENDITURES BY FISCAL YEAR AND OUTPUT

	YEARS 1		2		3		4		5		TOTAL	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
1. Adaptive Research												
a. FFTS/ and D/A MUK	(825.0)	(81.5)	256.5	80.8	213.1	231.3	56.0	411.0	56.0	431.7	581.6	1,468.5
b. FFTS/CDI	68.2	6.6	83.8	53.6	77.1	50.8	45.3	95.3	46.8	101.3	318.2	315.6
c. CII	8.2	-	4.5	-	8.0	-	8.4	-	3.0	6.0	32.1	6.0
d. Engineer. and Physics Dep	48.6	15.6	75.9	26.8	74.6	28.7	76.9	31.5	73.3	31.9	339.3	134.5
e. CIIBANTRAL	-	-	18.8	-	11.1	5.7	1.0	16.9	1.0	18.2	31.9	40.8
f. Association	-	-	13.9	-	9.1	3.3	-	-	-	-	23.0	3.3
Sub-Total	165.0	22.2	450.4	161.2	393.0	327.8	187.6	554.7	180.0	589.1	1,376.1	1,968.7
2. Program Service Division	339.4	16.5	359.6	138.0	310.1	255.4	231.4	349.1	128.9	411.0	1,396.4	1,220.0
3. Training	32.4	1.2	25.2	27.7	70.3	29.5	33.0	73.0	33.0	77.4	258.4	208.8
4. Small Enterprise Dev. Funds	10.0	-	110.0	-	160.0	-	350.0	-	370.0	-	1,000.0	-
5. App. Technologies Fund	150.0	-	275.0	125.0	525.0	175.0	775.0	175.0	775.0	225.0	2,500.0	700.0
6. Human Resources Dev.	6.3	0	22.3	7.0	139.3	7.0	36.2	14.9	5.0	42.5	209.1	71.4

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	YEARS 1		2		3		4		5		TOTAL	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
7. Enterprise Advisory Office	-	-	32.0	7.0	28.1	10.3	2.0	31.5	2.0	31.6	64.1	80.4
8. Evaluation/ Planning	308.6	10.7	204.3	82.4	114.4	86.3	69.4	93.8	74.9	102.5	971.6	375.7
9. GOH Policy Analysis	-	-	135.5	14.3	128.5	30.8	17.5	50.3	10.0	54.9	291.5	150.3
10. Program Management	223.3	13.8	202.7	99.4	198.6	127.5	126.7	195.6	135.4	208.8	889.7	645.2
TOTALS	1,485.0	64.4	1,824.0	712.0	2,067.8	1,049.6	1,833.9	1,517.9	1,719.3	1,742.9	8,930.0	5,106.8
											14,036.8	

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V. SOCIAL ANALYSIS

A. Small Farmer Technology Component

The target group for this component is approximately 50,000 small individual and agrarian reform farmers. While the target group of the Small Farmer Technologies Project was principally the Agrarian Reform farm sector, this project will increase emphasis on individual small farmers, with landholdings between 1 and 35 hectares. Target farmers are profiled in detail in the Agriculture Sector Assessment for Honduras. In addition, the Social Analysis for the Small Farmer Technologies Project (522-0123) contains a detailed consideration of the feasibility of the strategy for introducing intermediate technology to farmers.

1. Feasibility

The types of technologies to be employed vary with the factor endowments and constraints faced by small farmers. Since specific technologies are to be developed as part of the Project, social feasibility questions can be addressed only in terms of the methodology to be employed. The Project will introduce appropriate technology developed by a research team and tested in a development context. Since the project includes a socio-economic studies component, the Development and Adaptation (D&A) activity will take into account cultural as well as ecological, organizational and economic factors in developing the "appropriateness" of implements. The socio-economic studies component will play a critical role in judging the cultural appropriateness of improved technology.

2. Diffusion

Diffusion of technology is enhanced by its appropriateness to particular cultural and ecological milieus. The tendency of technology to create its own diffusion effects is well known. Therefore, the more appropriate the technology to be developed, the greater likelihood that it will diffuse beyond the demonstration stage.

In general, farmers judge an item of farm technology to be feasible on the basis of economic and ecological considerations within the context of their current cultivation practices. Decisions on the feasibility of technology are not made by peasants on the basis of tradition, but on demonstrable utility within their circumscribed environment. The Project design correctly includes a demonstration phase, where target group farmers can test the utility of technological items being developed in the D & A effort. This is in consonance with anthropological studies of technological development which give ample evidence that technology is judged feasible because of its appropriateness, or "fit", to a given situation. 1/

1/ See Holmberg, Alan. Nomads of the Long Bow for an instructive case study.

Small farmer technology development in Honduras will be faced with such cultural considerations. Thus, for example, the feasibility of improved plows is determined not only by its technological adequacy but by existing farm practices. Plow agriculture is ecologically feasible in some areas of Honduras where it is not actually practiced. Introduction of an improved plow in such areas is less feasible than in areas where plowing is already practiced, because of the greater magnitude of change in cultural practices. 1/

3. Distribution of Benefits

The target group for this component is individual small farmers and reform groups, 85 percent of whom are defined as poor. The distribution of benefits, then, is in accord with AID's mandate to benefit the rural poor majority. It is highly unlikely that medium and larger farms will benefit substantially from the types of technology to be developed in this Project as their factor endowments are appropriate to technology that is already developed and on the market. The demonstration target group will be explicitly chosen from the target group defined in the Assessment.

Some items of technology may diffuse to secondary beneficiaries outside the target group. Furthermore, the benefits of increased production and productivity should accrue not only to the small farmer but to consumers of agricultural produce. It is difficult, because of the complexities of marketing and pricing schemes, to be precise about the benefits to flow to these secondary beneficiaries.

4. Summary

Small farmer technology will be designed with ecological, socio-cultural, and economic factors in mind, thereby enhancing feasibility. Appropriate technology has a demonstrated tendency to diffuse rapidly beyond innovation areas throughout areas that are appropriate to it. The light capital technology developed in this Project will be appropriate to the factor endowments of rural poor small farmers. Therefore, it will be feasible and should diffuse relatively rapidly after the demonstration stage to the farm target group.

B. Socio-Cultural Analysis of the Small Industry and Artisanry Component of the Project

The Small Industry and Artisanry element of the Project will affect the following groups:

1/ Lewis, Oscar. Life in a Mexican Village: Tepoztlan Restudied. Urbana: University of Illinois Press, 1963; for an instructive comparison of plow and milpa agriculture.

1. direct primary target population, composed of entrepreneurs and workers in industries and artesanal shops;

2. direct secondary target population, composed of families of entrepreneurs and workers;

3. entrepreneurs, employees and their families who receive benefits through the demonstration effect on non-client industries;

4. the general population of the Project areas, which will be affected primarily through the income multiplier effect and access to the output of the affected industries.

1. Characteristics of the Three Target Groups of the Small Enterprise Component

There are approximately 10,000 industries in the Project areas, employing some 23,000 workers, an average of 2.3 workers per industry (including owner).

a. Entrepreneurs 1/

Entrepreneurs have the following characteristics. The average age is 40.1 years, of which 15.6 have been spent in industry, though only half of these as an entrepreneur. The majority of entrepreneurs (58.4 percent) are women, and only 20 percent are single. The entrepreneur supports, on the average, 3.7 children, though the extended family size is 6 persons.

The literacy rate for entrepreneurs is 77.9 percent, significantly higher than the rural literacy rate of 44 percent. However, only 60.9 percent can carry out the four basic arithmetic operations.

Most entrepreneurs (84.9 percent) do not belong to any organization. Only 7.5 percent belong to industrial associations or industry-related organizations while 5.4 percent belong to non-industry organizations.

There are approximately 109,000 persons affected in a direct but secondary manner by the Project, including families of entrepreneurs and workers.

b. General Population Affected by the Project

Some 250,000 persons in the Project areas will be affected by the project either directly or indirectly as users and/or recipients of the services provided by entrepreneurs affected directly.

1/ A detailed profile of entrepreneurs and the constraints which they face is to be found in Annex G. This profile is based on a survey of industries in the rural areas carried out to provide baseline information for the Project.

This population group is 49.5 percent male, living in families with an average size of 5.49 persons. The 2,614 hamlets and towns in the Project area have an average size of 27 households. None of these towns and villages can be characterized as urban by international standards. 1/

c. Poverty Rates

Accurate information on income of entrepreneurs is not available. However, given the fact that 95 percent of all enterprises have capital assets of $2,500.00 or less, an annual return to capital greater than 50 percent or a return to labor much higher than there is any reason to assume would be required for the entrepreneur to achieve a minimum annual family net income of $1,500.00 (for a family of six). In fact it would be difficult to achieve a gross income above the poverty line at this level of capitalization if the family depended wholly on the enterprise.

In terms of the general population, analyses conducted for the Agricultural Sector Assessment for Honduras show that 90 percent of the rural population is poor by absolute income and nutritionally at-risk measures. Both primary and secondary benefits of the Project will be felt primarily by poor rural inhabitants of Honduras through expanded employment, technical and, in some cases, material assistance to small enterprises and access to affordable and financially beneficial goods and services.

2. Project Benefits

a. Benefits to Entrepreneurs and Laborers

The Project will directly benefit those industries located in Project areas. Industries will experience increased profits, which will translate into higher incomes for entrepreneurs. The use of appropriate technologies for increased output will insure generation of more employment, which will translate into higher income and more occupational security for workers. This rise in incomes and employment is detailed in the Economic Analysis.

These benefits will impact on impoverished rural dwellers who are not currently the target of major governmental or private programs. They will constitute an important addition to the GOH's programs to improve rural conditions which right now are predominantly agricultural and do not focus on alternative sources of employment and income.

1/ U.N. standards consider 20,000 to be the minimum number of inhabitants for an urban area. This contrasts with Honduran census criteria, under which all municipal capitals are defined as urban, as well as all towns with more than 2,000 persons.

Women will benefit to a greater extent than men, since three out of five entrepreneurs are female. This fact also is important in terms of Project feasibility, as the Project design takes into account the requirements for delivery of services that are imposed on the technical assistance system by the predominance of female users of Project services.

b. Socio-Cultural Aspects of Project Benefits

The economic impacts of the Project will affect, and at the same time be affected by, socio-cultural aspects of the target group. The technical assistance system to be implemented by the Project will include extension, information, communication, and educational aspects which will impact on the target groups. By means of this system a flow of contacts, knowledge, and new experiences will be created (where it does not exist) or strengthened (where it does exist) between the different members of enterprise and artisanry target groups.

It is expected that the technical assistance system will widen such aspects as:

-- World view: which will lead the individual and the groups of individuals to see that their world transcends the boundaries of their small village and region and that it is related with other regions and the rest of the country. This implies that a series of structures that make up Honduran society can be better seen and understood: economic structure (especially regional and national marketing systems, credit systems, etc.), social structure, politico-administrative structure, culture, etc.

-- Mental scheme: The entrepreneur will have a better understanding of his enterprise as a series of interrelated factors: planning, production, quality control, marketing, administration, etc.

c. Direct Secondary Benefits and Indirect Effects

The families of entrepreneurs and laborers will be secondary beneficiaries of the increased employment and income generated in small enterprises. While entrepreneurial activity is not generally the sole source of family income, it is substantial and increases in income will translate into improved quality of life for these families.

The general population of the Project areas will be indirectly affected by improvements in local enterprise. As a minimum, they will be provided with wider choices of some manufactured items, as local products begin to compete with imported items, and with increased quality in items being produced by local enterprises.

C. Rural Poor Household Component

The third target group is the households of the rural areas, though urban households are not excluded. Basic technologies will be developed which will help the members of family units to achieve improvement in their living conditions -- sanitation, nutrition, health, etc. -- to diminish the cost of certain activities and to provide some elements (such as water) which in some regions are difficult to obtain. It is believed that the solution to some aspirations of the household can be satisfied by means of a basic technology.

As an example, the Lorena stove presents certain advantages: (1) uses less wood than an open fire; (2) there is no smoke within the house; (3) conserves heat for several hours; (4) can burn sawdust, shavings, or sugar cane fiber; and (5) is safer and more hygienic.

Another example is the use of rainwater which falls on roofs and is channeled to a tank, above or below ground, to provide a water reserve, especially for dry periods in some regions of the country. For example, the zone of Choluteca has a precipitation of 72 cms. in April, June, July, and October; this technology would permit an ordinary home owner to collect and store 7.2 cubic meters of water which will assure the family 19.72 liters of water available daily for the entire year. 1/

The construction of these two technological items would be carried out primarily by the members of the family unit with some technical assistance provided by the Project.

The impact of this project component on the population in the affected areas, will be principally long-term, qualitative changes.

D. Readiness of Target Groups to Accept New Technologies

Although the Project has a built-in perspective and mechanisms to assure appropriateness of the technologies to be developed and delivered, the question remains as to what degree are the Honduran target groups willing to accept new methods, implements and new habits.

The dissemination of a new farm technology, a low cost (under $200) water wheel for irrigation has been underway in Honduras for about a year. The designer originally working on his own in Olancho installed 22 of these devices. He has since been hired by the SFT unit of the MNR and has installed five in the Jamastrán Valley. Campesinos in these two areas eagerly purchased the water wheels and the cost of all but one was paid off during the first full crop season.

1/ The assumption of the calculations are horizontal projections of roof area of 15 m^2; only 66 percent of rainwater will be captured. These are conservative assumptions.

The Lorena stove (a somewhat overworked example) has been installed in over 300 homes in two areas of Honduras.

The Rural Industry Survey has shown that entrepreneurs have identified training as an important need and are ready and eager to be trained. These examples do not provide an extensive empirical base for a conclusion but do provide support for the view that the target groups are not dogmatic about new ideas.

E. General Aspects of the Three Project Components

Taking into account all three components, it is maintained that this Project is feasible from a socio-cultural point of view. It is prepared to realize its objectives, since those aspects which could appear as problems with any pre-selected technology are minimized by the Project strategy which is one of problem-solving within the context of target group resources and conditions. The Project includes a socio-economic studies component, which will maintain a constant communication between intended beneficiaries and Project implementers, and facilitate the continual judgment of socio-cultural, as well as technical, appropriateness of technologies developed by the Project.

The feasibility of the Project is also affected by zonal differences. Even though the zones share the same basic socio-economic structure, there are differences of ecology, infrastructure, and history, that will affect Project implementation. The Project provides a regional structure and an analytical capacity for continuously assessing and acting on the socio-economic reality of each region.

All three components of the project are targeted on geographical areas and population components that are priority zones in the National Development Plan and are within AID's mandate. The income levels of small entrepreneurs, small farmers, and rural households place them in the category of rural poor to which AID and GOH programs are directed.

VI. IMPACT ON WOMEN

Of the three major components of the Program with a direct impact on the target groups, two will benefit women primarily. The Small Enterprise Development component will have an affirmative effect on the status of women because three of every five entrepreneurs are women. The Appropriate Technology element is to produce technology for household application, which should reduce the drudgery of household tasks and improve working conditions in the household. The third major component, Small Farmer Technology, will have a considerable impact on women, primarily as a derivative of increased farm income.

A. Small Farm Technology

The Social Analysis for the Small Farmer Technology Project Paper points out that women have principal responsibility for animal husbandry, garden plots and food processing on small farms. One promising area for technology development is low cost irrigation, which is particularly applicable to cultivation of garden plots. Women can potentially both use and benefit from the use of this type of technology. Thus, while the benefits of increased farm income impact equally on men and women, the benefits from certain technologies will be directly beneficial to women in their part of the farm/household economy.

There is no likelihood that the small farm technology to be developed will have a deleterious impact on the status of women. Labor-saving and labor intensifying technologies should not have an effect on the social division of labor in farms.

B. Small Enterprise Development Component

Management assistance and technical assistance provided under the Small Enterprise Development component will be of great benefit to rural women, who constitute 58 percent of the small entrepreneur target group, with heavy concentration in two activities to be assisted by the project -- food processing and clothing manufacturing.

Women combine entrepreneurial and domestic activities, as 85 percent of all shops are located in the entrepreneur's house. The extent to which domestic chores are a limiting factor for development of the small enterprise is a matter to be analyzed during the first year of the Program. Management assistance provided in the Project will be tailored to the requirements of the dual housewife-entrepreneur role, and the efficiencies to be achieved in management should have a beneficial effect on both roles. Technical assistance provided by the Project, both to the baking and the clothesmaking industries, will benefit both the enterprise and the household, as domestic sewing and cooking are carried on with the same equipment utilized for the enterprise.

In sum, this component provides a logical mechanism for promoting both the economic and social wellbeing of women, improving their domestic situation while increasing efficiency and income in their industrial activities.

C. Rural Household -- Appropriate Technology

This component, while it will benefit all members of the households in the target group, also has particular relevance to women. Women invest most of their labor efforts in domestic activities. The Project will focus attention on improving aspects which have a direct impact on women such as improved methods and utensils related to food processing and preparation, improved fuel sources and utilization, improved water collection and storage for both consumption and irrigation, and improved food production for family consumption. It will have an indirect but also beneficial impact on women and children by attempting to develop improved building materials for self-help construction of homes, low-cost furniture, etc.

The reduction of drudgery in household tasks is one of the areas with the most potential for benefitting rural women.

VII. TECHNICAL FEASIBILITY

In a typical A.I.D. project the technical feasiblity analysis relates to the appropriateness of the inherent technological characteristics of the project to the host country environment. Thus if establishment of a power generating capacity, for example is the purpose of a project then the embodied technical coefficients of the chosen means of generating power and the resulting impact on such measures as employment, compatibility of the technology with available resources, and the potential ease of spreading the technology to nonproject areas must be examined. If the technical feasibility analysis determines that the technical choice results in little lasting employment, is generally incompatible with the existing resource mix or level of human resource sophistication, or cost and other factors tend to limit the spread of the intervention to nonproject areas, then ideally alternative means of achieving the project purpose would be promoted.

In most capital projects this analysis can be carried out with relative ease. The technical coefficients of the "machine" to be financed by a project can be determined and analyzed: what are the labor requirements? what are the skill levels required? are they available in country? is cost a consideration for replication? will other factors impede replication? However with projects where institution building is taking place, the technical feasibility question hinges not on well delineated alternatives (hydro vs. deisel: large vs. small) but rather on the strategy adopted to achieve the project purpose. This strategic choice we can call the "implementation technology."

In this particular case the Project Purpose is to establish processes which will produce new techniques or improvements in existing technologies appropriate for use by small farmers, small industrialists, artisans, and poorer households in rural Honduras and deliver information on these improvements to rural inhabitants. It is important to note that the technical feasibility of any or all of the particular "appropriate technologies" eventual outputs of the project is not under examination here. The research and development component includes such a test.

The primary question then becomes: what is the appropriate implementation technology to achieve the Project Purpose? What strategy among the alternatives should be adopted? A description of the choice made follows. An alternative is contraposed and analyzed. Finally, the implementation technology chosen for this project is judged to be technically feasible.

The choice made for this project is to build on the institutional and human resource base already existing incountry. Honduran institutions and Honduran technicians are the primary resources, although with a more focussed mandate and additional resources. Foreign technical assistance and project monies are to complement but not replace local input. This development technology clearly places higher priority on the longer term development of Honduran problem solving capability.

The question at hand: is this technically feasible? The answer lies in the relationship between the chosen strategy and: (a) the employment impact; (b) the ability of the host country to utilize and maintain the technology, and; (c) the expected spread effect.

Employment generation within the project is unimportant. The qualitative aspects of human skill development are important. Thus the number of personnel directly employed by the project is of little concern but the embodiment of experience in project personnel is of paramount concern. On balance, the number of Hondurans employed by the project would probably vary little if another strategy were chosen.

The chosen technology does impact on the ability of the host country to utilize and maintain the technology. It can have negative implications for project implementation by postponing immediate output. By involving existing institutions many organizations have to be treated, complicating the implementation effort. And where organizational functions necessary for implementation are housed in different institutional bodies, then new and special arrangements have to be worked out to focus the resources on the task at hand. Skilled personnel are in short supply for some of the needed work: experienced engineers, managerial experts, cultural anthropologists or sociologists, industrial experts, and market economists. It is clear that in differing degrees, project activities will require some foreign assistance, and special arrangements will have to be made to orchestrate institutional resources on the implementation task. But while implementation may be impeded by the number of institutions and existing lower than desired skill levels, the continued maintenance of the project is enhanced by the strategy adopted.

The third criterion, expected spread effect, is especially germane. Subsequent replication to non-project areas of Honduras will depend directly on the degree to which human skills are enhanced to increase the problem solving capability of Honduran institutions. It is accepted that the responsibility for development rests on Hondurans and Honduran institutions. Thus the use of local human and institutional resources creates a higher probability that the work will continue once project resources are exhausted.

A test of this strategy can be performed by contrasting it to alternatives that have been used in places without the institutional experience or human skill levels available in Honduras. 1/ It could be argued that the development of appropriate technology instruments, both mechanical and organizational, could only be achieved by creating a new, single purpose institution, staffing

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1/ Both the alternatives which are discussed here in a summary fashion were analyzed in-depth by Mission staff and discussed with the GOH early in the project development phase.

it with the best available talent and contracting experienced foreigners to carry on the research and development phase and design of an outreach system. During the life of the project local skills could be developed. At the end of the project period the foreign technicians would leave and the government or some other institution would be expected to pick up the continuing expenses. The problem with this approach is that while the new institution can be developed, up to five years may be required before the institution is operating effectively and "localization" can begin to take place. Often it never happens. A place can never be found in the government bureaucracy for the foreign supported hybrid.

A second alternative is to consolidate existing roles and capacities of government institutions into one central organization which can be built into a full performance institution. Although to some extent this alternative makes better use of human resources than the first alternative which may duplicate existing roles and skills, it would have three significant disadvantages. The time required to negotiate such transfers of responsibility, change of laws and mandates would delay beginning the organization for at least two years. The ready acceptance of transfer of all skilled manpower into new positions in a new organization would not be assured. The institutional resources which are directly related to and supportive of the units to be transferred would be lost and would in some cases be unacceptable, e.g., the Industrial Information Center at the University of Honduras has an intimate relationship with and is indeed an adjunct to the Engineering Department, staffed by faculty and students of that department. The Small Farmer Technologies Development and Adaptation Unit is part of and collaborates with the Ministry of Natural Resources which is carrying out on-farm agronomic research on crops, cropping systems, conservation methodologies, etc.

In conclusion, the implementation technology is found to be technically feasible. It relies on the maximum participation of Honduran resources and minimizes the reliance on outside, transient skills. Replication to non-project areas of the country, where the same problem of inappropriate technologies for rural inhabitants exists, will be easier. This finding is based in part on the institutional analysis. Not only is the development technology appropriate for the type of project envisioned but the level of institutional and human development is sufficient to successfully carry out the project.

VIII. ADMINISTRATIVE ARRANGEMENTS AND INSTITUTIONAL ANALYSIS

A. Centro de Desarrollo Industrial (CDI)

Few organizations have a long-term successful program of work in the development and dissemination of light capital technologies (farm and non-farm) and in giving assistance (technical-managerial-credit) to small rural businesses or other rural target groups. Usually, there are successful organizations providing one or two services, but impact upon target groups is sometimes limited because important complementary resources are non-existent or cannot be coordinated and delivered in a timely fashion. Working toward a variety of program objectives requires an organization to have either an array of responsive services or access to them and the capabilities to mobilize and deliver them.

CDI (formerly CCTI) has a long history of providing many types of services to promote industrial development. While these experiences are valuable the Rural Technologies Project will greatly increase its responsibility and scope of action. Accordingly, the success of the Project will depend upon efforts to strengthen the capacities of CDI for carrying out the Project. The Project will give priority consideration at the sub-purpose level to strengthening institutional capabilities in a concerted fashion. This priority is shared by CDI top management.

1. Evolution of the Centro Cooperativo Técnico Industrial (CCTI)

CCTI was established in May 1960, by agreement between the Secretaría de Economía y Hacienda and the International Cooperation Administration of the U.S. Government. Its basic mission was to increase productivity of industrial and commercial sectors in Honduras. In its formative years, CCTI engaged in a wide variety of program activities, reflecting a continual experimentation in program methodologies and an effort to establish a sound institutional identity. Some of CCTI's early program activities included: training courses to various levels of industry and commerce (a function largely taken over by the creation of the Instituto Nacional de Formación Profesional (INFOP) in 1973); provision of technical and managerial assistance; preparation of feasibility studies; education programs; and establishment of a small credit fund for artisan development, among others.

Two areas of activity which were to have a lasting influence on the organization were CCTI's administration of an artisan and cottage industry project (with USAID support). Through this project, CCTI assumed responsibility for an artisan training facility, the Centro de Adiestramiento Artesanal en Valle de Angeles (CAAVA), in 1966.

The second activity area centered around the formal establishment of a Department for the Promotion of Small Industry Development in 1971. Although CCTI had already been providing many forms of

assistance in industrial development, the creation of this department highlighted a particular institutional and programmatic focus toward lower income groups requiring technical and managerial assistance.

Both activities (artisan development and promotion of small business development) formed the basis of its current program:

a. Industrial Promotion Activities

The promotion of industrial development has as its principal objective to motivate small-scale entrepreneurs to organize themselves. Since 1970, CCTI has sponsored four national seminars and the first National Symposium of Small Industries in 1978. Through these promotional efforts CCTI helped to promote the establishment of the National Association of Small Industries (ANPI), and the National Assocation of Artisans (ANAH).

b. Credit Fund for Small-Scale Entrepreneurs

In 1966, CCTI made available a small credit fund to provide financing to the artisan sector and for small industries which could not fulfill normal banking requirements. CCTI has provided 315 loans for a total of approximately US$86,000.00 and recovered all outstanding loans except for some US$3,500 considered unrecoverable.

c. Marketing

CCTI's activities in marketing have been designed to improve income levels of artisans and to develop mechanisms for the sale of goods. CCTI has investigated international market outlets and has established seven artisan stores to sell products in Honduras. In 1965, artisan sales amounted to US$3,600. By 1978 sales had increased to US$322,000.

d. Technical-Managerial Assistance

Since 1971, various forms of CCTI's program of technical and managerial assistance for small-scale enterprise have included: studies for setting up or expansion of industries, marketing of products, accounting and management assistance, assistance in product quality, cost and budget analyses, and market studies, among others. Between 1971-1977, CCTI had provided managerial-technical assistance on 481 occasions. Most of this assistance was in the preparation of studies for setting up or expansion of small industries, with a slight preference toward the artisan sector.

e. Training Programs

CCTI's efforts to provide training have emphasized the development of skills and subsequent employment of rural peoples primarily in artisanry activities. Training is carried out in two centers:

The Centro de Adiestramiento in Valle de Angeles (CAAVA) and the Centro de Adiestramiento Artesanal in Baracoa, Cortés (CAABAC).

CCTI has established two-year training programs for rural youth (both sexes) in a number of fields: ceramics, metal work, carpentry, leather work, masonry and stone, wood carving, clothing, and natural fibers, among others. CCTI's two rural training centers have trained around 630 people over the last six years, most of whom have specialized in carpentry and wood-working.

f. Technical Information Program

CCTI's program in technical information has consisted of two types of information users: medium-scale entrepreneurs and the CCTI technical staff. CDI maintains a list of 500 firms which through a selective dissemination of information receive a listing of potentially useful articles and a general interest bulletin. CDI staff has used national and international information services for various technical studies and appropriate technology projects.

g. Appropriate Technology Projects

In 1975, CCTI undertook a significant expansion in its program in the selection and use of technologies appropriate to local conditions and resources. For the first time, CCTI sought to introduce on a pilot and experimental basis, technologies which would have to be built, tested, and adapted in Honduras. With little financial support, CCTI focussed its attention on technologies for lime, bricks, salt, henequen, charcoal, and brown sugar. While previous CCTI efforts, with the exception of artisan activities, had been primarily urban-directed, the appropriate technology focus took the organization into remote rural areas of Honduras and increased contacts with international organizations.

Other CDI appropriate technology projects under consideration are waste paper utilization for paper-making, fiber-cement roofing materials, and coconut defibering technology. With the exception of some technologies (such as brick kilns), most costs are below $200.00, appear to be within current skill levels of rural peoples, and offfer great promise for dissemination.

2. Expansion of CDI's Program: 1978-Present

In 1979, the World Bank approved a US$15 million loan to Honduras, with the Government of Honduras contributing US$5 million in counterpart funds, to finance industrial investment projects for small and medium manufacturing firms and for projects in the wood industry. Financial intermediaries will make these funds available for investment. Part of the requirements for loan approval to Honduras is the building of institutional capabilities to select, prepare, and finance investment projects and to provide technical assistance to ensure effective use of credit to small industries. To carry through with these requirements, the Government of Honduras issued Law Decree No. 687 which officially changed

the name of CCTI to CDI. Through this change, CDI would receive additional support from the Government of Honduras to engage in project promotion, preparation and technical assistance. Plans also called for CDI to participate in training programs for project appraisal and to have the UNDP finance the recruitment of new staff and consultants to assist CDI. The enactment of the above steps is expected to enable CDI to provide assistance to around 25 firms in the first year and between 35-45 in subsequent four years. However, current expectations are that the rural and micro enterprises will not have access to the World Bank funds.

Law Decree No. 687 also broadens CDI's role to enable it to "grant or channel through its means, credits for the establishment and operation of small and medium and artisanry enterprises." The Inter-American Development Bank and CDI have prepared a proposal for US$500,000.00, which would establish a revolving fund within CDI for loans to the artisan sector. CDI would provide technical assistance (managerial, technological and marketing) as part of the IDB-CDI program. The 1979 CDI program/budget reflects the broadened mandate and a more deliberate effort to relate inputs to program outputs.

3. Leadership and Organizational Structure

The Board of Directors and Senior Management Staff form the top leadership of CDI. The Board of Directors consists of the Secretaries of State in the Office of Economy, Natural Resources, Finance and Public Credit, Culture and Tourism, the Executive Secretary of the Superior Economic Planning Council, a representative from the National Association of Small Industrialists (ANPI), a representative from the National Association of Industrialists (ANDI), and a representative from the National Association of Artisans (ANAH). The Minister of Economy is the Chairman of the Board of Directors, and the Ministry of Economy is the liaison office between the Executive Branch and CDI.

The principal functions of the Board include: formulation of CDI policies, approval of programs, general performance, regulations, manuals, annual work plans, budgets, loans, contracts, agreements, and annual reports.

Senior staff of CDI consist of the Executive Director, Sub-Director, a proposed head of Systems Development, Office of the Internal Auditor, Legal Council. Six departments report to the Executive Director: Department of Finances, Technical Assistance Department, Regional Offices, Department of Production and Commercialization, and the Department of Administration.

4. Resources -- Personnel

CDI's 1979 budget proposed the hiring of new staff for a total of 185 employees, 78 of whom are located in the central office in Tegucigalpa. The remainder works in the regional San

Pedro Sula office, two artisan training facilities and artisan outlets. Staff by budget category is as follows: 16 employees in Superior Managements, 9 in Financial Administration, 34 in Technical Assistance, 100 in Production and Commercialization (mostly store clerks, workers, and artisan instructors), and 26 in Personnel Administration.

New hires proposed for 1979 reflect anticipated work: (a) in credit assistance programs and enterprise development (6 contractors associated with World Bank programs; (b) in program management and administration (Assistant Auditor; Chief, Legal Advisory Department; Chief, Department of Finance; Chief, Technical Assistance Department; Chief, Department of Production and Commercialization; 2 accountants; and 2 statisticians); and (c) in artisan development (3 contractors in henequen, pottery, and gold/silver work; and 12 lower-level staff to work on production and commercialization of artisan goods).

5. Resources -- Financial

CDI's budget projections for calendar 1979 is $4,712,250.00:

--	Income/Sources for 1979	
--	Current Sources 1/	$ 745,200.00
--	Support from Central Government	1,225,000.00
--	CDI Funds (carry over)	305,750.00
--	Loans 2/	2,442,750.00
--	Expenses	
--	Executive Management	$ 286,500.00
--	Administration of finances (Includes $2,450,000 in pass-through credit funds)	2,630,000.00
--	Production and commercialization	1,087,950.00
--	Administration/Services	286,850.00
--	Technical Assistance	420,650.00

6. Other

CDI plans to move into a new office building in 1979 which will have increased space to handle additional staff. CDI has policies for hiring, general personnel administration, procurement of goods, etc.

1/ Interest on loans, profits on sales, technical assistance services, etc.

2/ Represents a proposed $500,000.00 Loan from the IDB. The source of the balance is not yet determined.

7. Appropriateness of CDI's Function and Mission to Proposed Project Activity

a. Past Performance Record

CDI's most successful and consistent program activity has been with artisan groups. CDI's program in this area has included the acquisition of raw materials, administration of rural training facilities, provision of credit, purchase of finished artisan goods, and their marketing through CDI supported stores. Institutional experience that CDI has acquired over the years in the artisan sector offers the potential for transferability for other rural industries. Through its artisan program CDI has had a modest but successful program of granting very small amounts of credit, and is perhaps the only state-supported institution to have had such experience even on a very limited basis. To date, however, there is little information regarding the effectiveness of its feasibility study capability or of its technical assistance to small industries.

Because of a shortage of funding and a consequent lack of staff and training programs, CDI's Information Service activities have been confined to limited dissemination efforts and information acquisition on an as-needed basis.

In the area of appropriate technology projects, CDI's efforts have not gone beyond the prototype stage or pilot/experimental field tests. As in many similar-type programs, CDI has encountered difficulties with widespread dissemination due to a lack of: (a) scientific and technical skills; (b) sufficient testing and experimentation; (c) permanent staffing and long-range funding; and (d) an effective technology delivery system.

8. Compatibility of Current Services with those Proposed in Project

The challenge to CDI will be to capitalize upon its past experiences and to translate them into a long-range and purposeful program. It is to CDI's advantage to have had a wide variety of institutional experiences because the project will represent a major expansion of current services (technical information, small business development, appropriate technology projects, production and marketing assistance). The legal basis for CDI, as stated in Law 687, is entirely compatible with the purpose and activities of the project.

9. Commentary on Organizational Structure

The structure and staffing for the Rural Technologies Project will be integrated into the existing organizational structure on a limited basis during the first two years of the program after which there will be a review to determine whether greater integration can take place. The basic reasons for this partial integration follow:

a. Current functional divisions within CDI, particularly the Technical Assistance Department, are fairly well occupied with ongoing programs and with the anticipated activities of the World Bank program and others such as the Inter-American Development Bank. To place the program activities of the Project into the existing Technical Assistance Division would constitute an overload of program activities having distinct methodologies and target groups.

b. Likewise, nearly all of the present activities of the Department of Production and Commercialization are directed specifically toward long-term artisan training and production at its training facilities. While the project will assist artisans, the focus will be to provide technical assistance in the rural areas.

c. A limited integration of the program will help to ensure proper testing of program methodologies, more direct supervision of staff and tighter administrative planning.

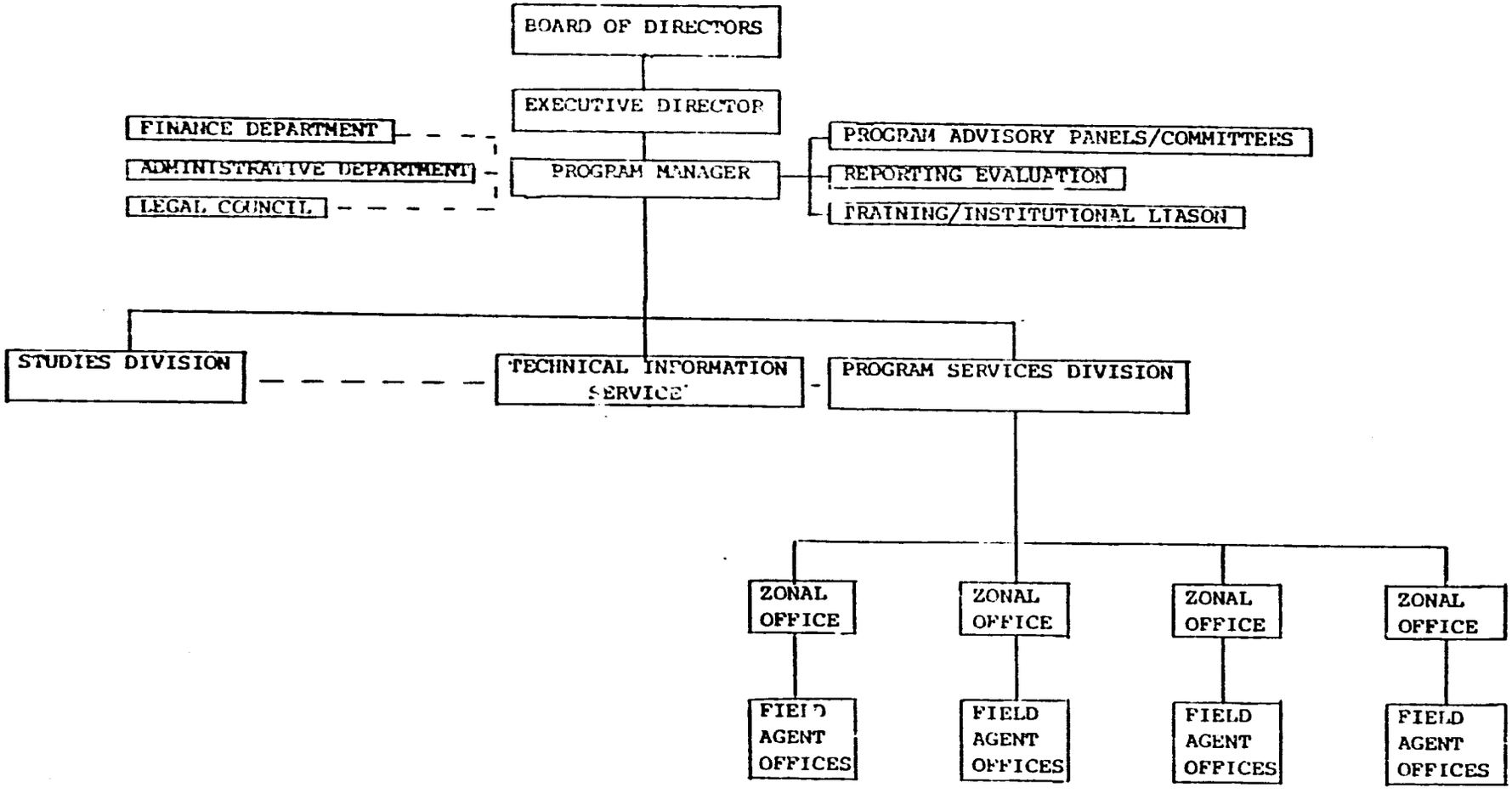
10. Structure and Staffing of Rural Technologies Project

The placement of some project personnel into existing CDI departments will help to achieve a limited integration at the outset: (a) in the Department of Finance, there will be additional positions for two accountants, a Procurement/Contracts Officer and Appropriate Technology Grants Officer who will work on financial matters relating to sub-grants and contracts; (b) in the San Pedro Sula regional office, two staff (Industrial Engineer and Small Business Administration Specialist) will assist blacksmiths on the North Coast; (c) in the Department of Administration (Personnel), a position for a Personnel Officer will be necessary to handle the additional workload resulting from new hires for the project; (d) supervision of the Technical Information Service (TIPS), now under the Technical Assistance Department, will be transferred to the Project but will continue to be used by all of CDI; and (e) Project management staff will work closely with the Systems Development section, which focusses on long-range planning and management questions, for the purpose of an organization-wide integration of functions and programs.

The Project (see CDI organizational chart, following page) will have a Program Manager, reporting to the Executive Director of CDI. The manager will be assisted by:

a. Reporting and Evaluation Officer -- This person compiles and analyzes information and data to prepare program reports, assists Program Manager in monitoring program schedules; undertakes or arranges for special evaluation studies to measure program impact; prepares reports for general public relations and information.

CDI ORGANIZATIONAL STRUCTURE FOR RURAL TECHNOLOGIES PROJECT



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b. Program Advisory Panels and Rural Technology Management Committee -- These panels and committee will be formed to aid in review and selection of specific project activities; to render practical advice on the feasibility of a program activity, technology, etc.; to recommend roles and relationships when activities require multi-agency coordination.

The Rural Technology Management Committee is designed to aid the CDI Program Manager and the Executive Director of CDI in the approval of major program decisions, inter-institutional relationships, and contracts and grants. The committee will be chaired by the Director of CDI and will include the General Program Coordinator as Secretary, the Director of Operations or designee of the Ministry of Natural Resources, a designee of the Ministry of Economy, and a representative of CONSUPLANE. The committee will act on inputs provided by three panels:

(1) Farm Technology Advisory Panel -- This panel will advise on matters relating to the selection of farm technologies, dissemination methodologies, and multi-agency agreements and roles. Membership will include representatives of an MNR regional extension office; INA; campesinos and members of campesino organizations such as ANACH, the MNR operations staff (Agricultural Mechanization Program); the Farm Planning Advisory Group; and possibly representation of agricultural equipment distributors.

(2) Small Industry Advisory Panel -- This panel will advise on major program issues affecting the improvement of existing or start-up of new small industries. Membership will include entrepreneurs; a representative of the Honduran private banking association; representatives of ANPI, CONADI, and FONDEI.

(3) Appropriate Technology Advisory Panel -- This panel will focus on technologies relating to rural households of a non-farm nature. Membership will include representation of rural women and women's groups such as JUFEDECO and FEMUCH, the JNBS, INA, the MNR extension service, and campesinos and campesino organizations such as ANACH. Additional technical expertise may be provided by a private mechanical or civil engineer member of the panel.

In addition to the above advisory panels to program management, the creation of an informal advisory committee of international donors is being discussed. This committee would provide better coordination of related donor activities and improve access to professional expertise available through these organizations. Probable membership would include representatives of the British Overseas Development Ministry, IDB, UNDP, FAO, OAS, CIDA, and the German development organization.

c. Training and Institutional Liaison Officer - will assist the Program Manager in monitoring formal and informal institutional relationships and coordinate and manage training programs.

The Program Manager will also supervise and coordinate the work of three divisions: (a) Studies Division (b) Technical Information Service and (c) Program Services Division.

The Studies Division headed by a Chief, will either with Division Staff or consultants, prepare various studies and investigations (longitudinal studies, case studies, industry sector studies, functional studies such as role of credit, etc.)

The Technical Information Service, headed by a Chief, will provide technical information and other services to Program staff, other CDI staff, field personnel, small enterprises, etc.

The Program Services Division, headed by a Chief, will be part of the delivery system of the Program, backstopping field offices.

The Field Office Supervisor will supervise and be in close contact with field staff in each of four field zones - consisting of a Zonal Supervisor (having skills in business management), a mid-level technician, and field agents -- all of whom will be the liaison with clients and central office backstop staff. They will make initial contacts with program beneficiaries, provide technical and managerial assistance and draw upon backstop technical services as required from central office staff.

11. Commentary on Resources

Top management has been stable, but there has been a turnover in the past with engineers and other technicians. A recent revision of the CDI wage scale has brought salaries in closer alignment with private industry rates. Periodic salary adjustments should be made to retain qualified staff.

With the exception of staff already in place at the artisan training facilities and in San Pedro Sula, the placement of new staff in new field offices in rural locations will present recruitment problems. However, this will be overcome by providing salary incentives, adequate field facilities, smooth communications with the central office, and recruitment to the extent possible of people from the region, who have a commitment to rural development.

Skill levels will need to be upgraded given the innovative nature of the Project and the need to apply skills in an appropriate fashion. Accordingly, extensive staff training programs are included and external technical and contract assistance will be used both for performing a task and providing on-the-job training to Honduran counterparts.

Existing staff and others to be hired in 1979 already have assigned duties for ongoing CDI programs; and, therefore, the Rural Technologies Program will require for the most part an entirely new project staff as outlined in the preceding section.

CDI will have access to resources for general management assistance in anticipation of normal start-up problems, preparation of job descriptions, and recruitment and selection of new personnel. A full-time Program Manager will be hired, and short-term contracts will be used to supply specialized management expertise.

The 1979 CDI budget presentation is indicative of a more concerted effort to relate financial, material, and human resources for program activities and specific outputs. In addition, general planning capabilities appear to be stronger now than in the past; areas for improvement, however, exist with regard to administration of program plans and general monitoring and program evaluation.

12. Outside Perception of CDI

The traditional view of CDI (CCTI) has been that of an organization primarily engaged in artisan development, the elaboration of studies related to entrepreneurial development, and pilot programs in appropriate technologies. The enactment of Law 687 and creation of CDI has given CDI the opportunity to create a more dynamic and purposeful image. It will therefore be incumbent on the organization to develop a philosophical framework for the organization and a public relations program to communicate both the image of the organization and its accomplishments in the promotion and development of small-scale industries.

13. Delivery of Services and Grass Roots Managerial Considerations

The establishment of zonal offices is absolutely essential so that the source of services are as close as possible to project beneficiaries. CDI's successful activities in rural artisan training facilities indicates a good potential for similar type central-field office relationships. However, the remoteness of some regions selected for the Rural Technologies Project will require extra care to ensure communication and coordination at these facilities. A communications system will be considered as a cheaper alternative to frequent travel and related expenses for vehicles, etc.

During the start-up phase of the project, CDI will have to aggressively communicate the availability of its services to potential program beneficiaries. Once this has taken place it can be expected that future clients will seek out CDI services. Particular attention must focus on the image of the field offices to ensure that initial contacts accurately portray the panorama of CDI program services. Essentially contacts will represent a communications process between different groups with differing skill levels, perceptions and psycho-social outlooks. The nature of those differences will require training programs in group dynamics, and communication.

14. Summary Assessment

To date no state-supported institution has taken on the tasks proposed for CDI in the Rural Technologies Project. In looking at the past record of CDI and in view of the priority emphasis placed by the Government of Honduras for the program, there is every opportunity for successful implementation, provided that CDI effectively utilizes the institutional development resources and assistance to be provided under the Project.

B. Key Supportive Institutions

1. Overview

Two factors enter into the successful involvement of supportive institutions which are a key part of the whole project: (a) the strengthening of their institutional capabilities to support the Project, and (b) the development of mechanisms for arrangements, contracts, etc., which will permit the timely and effective delivery of their services. The planned appointment of a Program Coordinator will help to ensure smooth institutional relationships. The chart on the following page shows the primary participating institutions/ offices. Brief descriptions of these institutions follow:

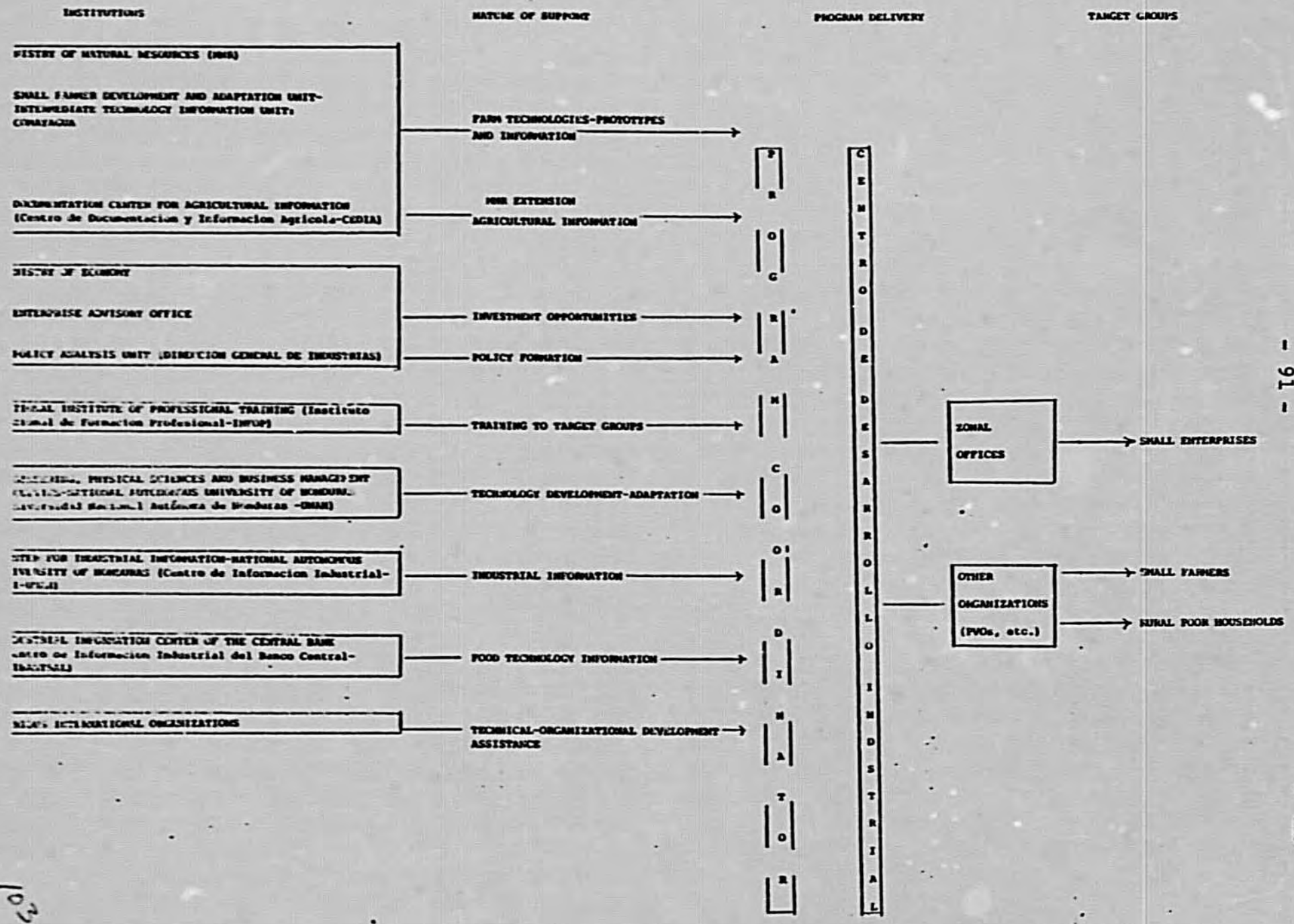
a. Small Farm Development and Adaptation Unit - Comayagua

The Development and Adaptation (D & A) Unit in Comayagua was established under A.I.D. Project 522-0123 to help develop an indigenous capacity in appropriate small farm technologies. The Comayagua Unit is a special research organization reporting to the Head of the National Agricultural Research Program under the Director General of Agricultural Operations of the Ministry of Natural Resources. (The Director General of Agricultural Operations also supervises the Government's Extension Service). Efforts to help stimulate this decentralized agricultural research capability and linkages with the Extension Service are part of AID Project No. 522-0139.

The technology research and development component of the Small Farm Technologies Project encountered problems during the early years of the contract due to delays in developing the contract with the Escuela Agrícola Panamericana (EAP) and the school's subsequent inability to fulfill the terms of the contract. The MNR as a result assumed responsibility for the technology research and development component of the project.

The MNR has had relatively good success in the recent past in organizing and establishing new programs and organizations. In particular it has done an effective job in getting its new agronomic research program and field team set up, deployed and carrying out farm level research in very few months. The MNR capacity and experience in coordinating and dealing with A.I.D.

SUPPORTIVE INSTITUTIONAL RELATIONSHIPS TO CDI I4 RURAL TECHNOLOGIES PROJECT



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programs was established under the Agriculture Sector I program and is currently working very effectively. The institutional capacity of the MNR and its National Research Program to establish and expand into the technology development and adaptation work needed for the project is considered very good.

The involvement of the D & A Unit in Comayagua with the Rural Technologies Program aims to address one basic problem of relating technology development to programs for widespread dissemination. While extension service agents and the information dissemination program will help to disseminate the results of technology research, one of the missing elements is the development of manufacturing capabilities and skills improvement.

To help address this problem the Comayagua Unit and CDI will work together in the following areas: (a) early involvement of CDI engineering staff in the screening and selection of technologies; (b) technical managerial assistance by CDI to help develop a production capability in blacksmithing and/or metal shops; (c) involvement of the Rural Technologies Management Committee in the formulation of detailed proposals and agency roles for widespread dissemination; and (d) evaluation of technology dissemination efforts.

To help improve the Comayagua Unit's access to worldwide intermediate technology, information acquisition will be improved by establishing an Intermediate Technology Information Unit with a Technical Information Specialist and support staff.

b. Agricultural Documentation and Information Center Ministry of Natural Resources (CEDIA-MNR)

CEDIA's main purpose is to serve as an information and publication center for technicians and extension workers of the Ministry of Natural Resources. The Center also serves as a reference and documentation center for other Honduran institutions and the general public. At the international level, CEDIA is involved in the AGRINTER/AGRIS information networks (associated with the International Institute of Agriculture Science and the United Nations respectively). However, these linkages with international networks do not include intermediate technology centers throughout the world.

CEDIA will play a role in the Project as follows: (a) to supply useful information as a complement to intermediate technology information gathered elsewhere; (b) to disseminate technology information to Government agencies and extension workers; and (c) to publish booklets emanating from the Project.

c. Instituto Nacional de Formación Profesional (INFOP)

The National Institute of Professional Training provides training to skilled and unskilled workers and to managers in commerce,

agro-industry, and services. INFOP's central facility is located in Tegucigalpa with another branch in San Pedro Sula; and in 1977, five mobile centers were established to train rural peoples in such subjects as tractor maintenance and horticulture.

The participation of INFOP in the Project will assist CDI in delivering short-term courses to rural industry employers and workers, as well as training of CDI technical and field staff.

While there are many positive elements in INFOP's basic mission, some inadequacies exist. Some of the course content appears to be theoretical and instructors, although generally well qualified, may have some difficulty in adjusting the content of their courses to students with very low skill levels. Even though INFOP has recently established rural mobile training centers, its experience in rural areas is limited. Finally, INFOP appears to measure the effectiveness of its training courses in terms of the number of course hours provided and the number of students trained. In order to carry out its part of the Project, INFOP will have to concentrate its focus on indices of changes in skill levels and job placement.

Project assistance to INFOP will focus on careful selection of instructors and the provision of substantial technical assistance, design of relevant courses, and development of effective coordination and working relationships with CDI.

d. Industrial Information Center of the Central Bank (CIIBANTRAL)

Supported by the Central Bank and to a lesser degree by the Organization of American States, CIIBANTRAL provides food and chemical laboratory services and technical information on food technology and industrial chemistry, primarily to mid-size industries and government agencies. CIIBANTRAL employs a professional staff of five (a mechanical engineer and four chemists).

CIIBANTRAL's contacts with smaller industries have been restricted because the staff has not promoted the services offered, access to the bank itself is difficult, and because it has not had intermediate institutions through which it could work and thereby develop an outreach capability.

The Project and minor support requirements will afford the opportunity to expand services to smaller size industries, especially those involved in agro-industries or small-scale food production. Their laboratory facilities will serve as an additional valuable resource for food testing. Engagement of those services in the Project will: (a) increase the clientele CIIBANTRAL can serve thereby strengthening its general program capabilities; (b) enable CDI to draw upon and utilize information sources and services in food technology; and (c) establish the basis for increased standardization of information systems and information exchange through the establishment of a Honduran Association of Information Systems.

e. Industrial Information Center - National Autonomous University of Honduras (CII/UNAH)

The Industrial Information Center (CII) serves as an information and reference center for Honduran industrialists, researchers and other information centers in a large Latin American Information Network (SIATES). The Center's staff consists of two engineers, four engineering students, a documentation expert, a translator and two secretaries. The University covers 75 percent of personnel costs and provides office space. The Organization of American States provides the remaining support.

Most of the Center's information users are other information centers in Latin America, followed by professors, students and private businesses. CII's holdings of information on industry development is the largest in Honduras and its linkages with other Latin American Centers and with the National Technical Information Service (U.S. Department of Commerce) provide a potentially valuable foundation upon which information could be applied to the Rural Technologies Project. Unfortunately, to date CII's dissemination of information has not been utilized much by smaller industries due to limited outreach capacity.

CDI will draw extensively on the CII information base which will enable CII to reach many more information users. Support to CII for an information specialist (part-time), and information gathering will help strengthen outreach through its working relationship with CDI.

f. National Autonomous University of Honduras UNAH)

The UNAH has had little history of involvement with development or with the Government. It has avoided and in fact repelled efforts of the Government in this regard over the recent past. It has been isolated from the real problems of society and has tended to follow a classic Latin American curriculum. However, some elements of the faculty recognizing the need to produce students who are trained to perform existing jobs and to meet the development needs of society are beginning to influence and bring about changes to past attitudes.

For a number of years faculty in Engineering and the Sciences of UNAH have wanted to extend their academic activities into areas directly related to development problems. The establishment of the Industrial Information Center (CII-UNAH) at the University was the first step in developing an information outreach capability, however, actual prototype research and technology adaptation has been hampered because of a lack of funding.

As a result an interdisciplinary faculty commission has been formed to utilize existing technically oriented faculty and facilities in a program of technology development and adaptation. The core group of this Commission consists of the College of Engineering, which includes the Industrial Information Center, the

Technological Careers Department, and the Physics Department which also contains a faculty coordinator for the Scientific and Technological Development Program of CSUCA (Superior University Council for Central America).

The above Commission will be responsible to the Rector of the University although its program activities will relate to the needs of CDI and others on a contractual basis. The University will utilize existing faculty members to undertake research and development work; these same people, however, will devote more of their time to their project activities and to students who will acquire practical appropriate technology research experience in: hydraulics (rams, filters, etc.); solar energy; wind energy; bio-gas; materials testing (e.g., innovative construction materials).

The Physics and Engineering Departments will make their facilities available to the project, although additional testing equipment will be needed over the years (e.g., anomometers, bio-gas equipment, solar measurement devices, etc.).

The Business Administration Department of the UNAH has had a curriculum which is designed to meet the needs of medium and large scale business and industry. Students neither have the preparation nor commitment to work with small industries and businesses. Accordingly, the development of courses taught by professors with a small industry orientation and experience in providing technical assistance will increase the base of human resources for the project.

A cautious and incremental approach has been developed for UNAH involvement in project activities. The enthusiasm expressed by University officials and endorsement of the project by the Rector are encouraging indicators of UNAH's commitment. There will be no U.S. presence at the University, except in the form of financing, and therefore this issue is not likely to be a source of controversy.

2. Other Supportive Institutions

Within the Ministry of Economy, the establishment of an Enterprise Advisory Office will help direct local and foreign businessmen to CDI to explore small industry development in rural areas. A Policy Analysis Unit will also be established to study issues affecting small-scale industries. While in many instances, these two offices will not have a sustained programmatic relationship with CDI, coordination will take place, for example, on the preparation of studies within CDI that might have a bearing on policy formulation.

3. Conclusions

The major questions with respect to key supportive institutions are: (a) whether inputs will result in strengthened capacities; and (b) whether those capacities will support the objectives of the Project.

At present nearly all participating institutions do not possess the full and immediate capacity to execute the project; however, the project design includes the necessary actions to ensure that staffing, technical assistance, training, and other inputs are in proportion to the needs and roles of the institutions. These actions should lead to strengthened capabilities.

Another important consideration for the effective achievement of the project objectives is that highly trained human resources are scarce in Honduras, and there are now no sources of specialized training in small-scale enterprise development. To help minimize this problem, project staffing will take place gradually over a two-year period; and while the majority of staff will be drawn from undergraduate and post high school levels, significant training and guidance will be provided during the initial phases. Substantial technical assistance and long-term training outside Honduras will be provided to staff in higher-skill categories. On a long term basis, the revision of UNAH engineering and business management curricula and the awarding of undergraduate and foreign graduate training scholarships will expand the human resource base in Honduras.

The extent to which these individual institutions will be able to support the objectives of the Rural Technologies Project is largely a function of efficient administration and overall program coordination, which will have to balance respective institutional objectives with those of the entire program. This question and the mechanisms required are treated in the following section.

C. Project Coordination

The Project will employ a series of elements and mechanisms to ensure adequate project administration, coordination and monitoring, conformance to A.I.D. regulations, and sound financial controls:

1. The USAID Office of Environment and Technology will appoint a full time A.I.D. Project Coordinator who will be assisted by the offices of Program and Capital Resources, Engineering and the Controller.

The Coordinator will have the following responsibilities:

(a) Ensures that the project is thoroughly planned and set forth in a project agreement.

(b) Provides guidance in all project matters affecting A.I.D. and host country institutions.

(c) Monitors project programs and progress.

(d) Provides assistance and advice to ensure that disbursements, activities, or any other actions of significance are in conformance with A.I.D. regulations.

(e) Participates in meetings on a bi-weekly basis with the host country General Program Coordinator to keep abreast of project issues, problems, major decisions.

(f) Assists as necessary the General Program Coordinator and other host country personnel to ensure that proper documentation procedures are followed as they relate to procurement, training, technical assistance, contracts, or any other standard practices.

2. The Ministers of Natural Resources and Economy will jointly appoint a host country General Program Coordinator, who will have the following responsibilities:

(a) Coordinates and monitors contractual and other formal agreements among participating institutions.

(b) Assists participating institutions in the preparation of contracts or formal agreements.

(c) Meets with CDI Project Manager, and other participating institutions on a bi-weekly basis to keep abreast of project developments, issues, disputes; assists in effecting resolution thereof; and assists in preparation of documentation, contracts and agreements to ensure the proper procedures are followed and that coordination is achieved.

(d) Meets with A.I.D. Coordinator at least bi-weekly thereby serving as a liaison between A.I.D., Ministries, and participating institutions, to inform A.I.D. of project issues, activities and to assist in the timely processing of documentation necessary to enable participating institutions to carry out the Project in a most expeditious manner.

(e) Meets regularly with high level GOH personnel and other participating entitites, serving as a liaison official to ensure ministerial level participation in the resolution of outstanding issues, to promote coordination, and to provide reports of progress and performance of the Project.

(f) Serves as Secretary of the Rural Technologies Management Committee and participates in the Technical Advisory Panels, thereby ensuring continued involvement and familiarity with project issues and progress.

3. CDI will appoint a CDI Project Manager, with the following responsibilities:

(a) Directs CDI program activities to ensure timely and effective delivery of program services to target groups.

(b) Supervises CDI Rural Technologies Project staff.

(c) Serves as primary contact with the CDI Executive Director, who in turn is supervisor of the Project Manager.

(d) Initiates contracts or agreements with other host country institutions as specified in the project agreement, program plans and budgets to ensure effective program delivery capabilities.

(e) Supervises -- and is responsible for -- contracts, procurements, and other implementing actions in conformance with CDI and A.I.D. regulations and procedures.

(f) Develops -- or supervises and approves the development of -- all work plans for CDI as they relate to the implementation of the Rural Technologies Project.

4. Other institutions participating in the Project will designate responsible heads to direct respective institutional activities and to serve as contact persons with other participating institutions in the Project.

(a) The MNR will appoint a chief of the Development and Adaptation Unit in Comayagua.

(b) The Director of INFOP will appoint a responsible official to supervise INFOP activities.

(c) The Rector of the University or other appropriate person will designate a director of UNAH research activities and information program.

(d) The President of the Central Bank through the Department of Research will designate the responsible person in charge of CIIBANTRAL activities.

(e) The Ministry of Economy will designate directors of the Policy Analysis Unit and the Small Enterprise Advisory Office.

5. Technical advisory panels, previously described, will serve as a review and recommending body which at the same time will also bring together many of the agencies participating in program activities, thus ensuring closer coordination.

6. The Rural Technologies Management Committee, previously described, will be a decision-making authority concerning approval of budgets, implementation plans, agreements, contracts, and disbursements from the Small Enterprise Development Fund and the Appropriate Technology Development Fund.

The disbursement of these funds will of necessity require coordination in the preparation of contracts and grants. Authorization for disbursements will stipulate the degree and kinds of controls to be exercised in the use of such funds.

7. The Scholarship Committee which will approve candidates for scholarships will also provide a forum for coordination of activities and programs since it will involve representatives of the project participants.

8. The awarding of contracts by CDI utilizing budgeted funds (as opposed to monies from the special funds) will also ensure coordination in that prior to disbursement, a work plan and agreement will have to be drawn up with the contractee.

D. Administration of Special Funds

The Small Enterprise Development Fund and the Appropriate Technology Development and Adaptation and Dissemination Fund consist of funds for grants, contracts and special procurements. These funds will be used:

(a) to facilitate overall program administration and program coordination, since access to funds and the convening of panels will require close working relationships and joint planning;

(b) to stimulate development of small-scale enterprises and industries, utilizing appropriate technologies;

(c) to promote the development and adaptation of appropriate technologies;

(d) to encourage the widespread dissemination and utilization of low-cost technologies.

Funds used as grant funds will have the following specific purposes:

(a) to establish experimental credit mechanisms, through intermediate credit institutions;

(b) to enable PVO's and other organizations (primarily non-government ones) to implement field programs embodying the dissemination of appropriate technologies;

(c) to improve or start-up industrial enterprises unable to have access to regular funding channels.

Funds used for contracts/procurement will have the following specific purposes:

(a) to acquire equipment for blacksmiths and metal shops engaged in the production of appropriate farm technologies;

(b) to enable organizations to develop and test prototype technologies;

(c) to award contracts to industries or firms to produce appropriate technologies;

(d) to conduct feasiblity studies relating to appropriate technologies and small industry development;

(e) to acquire appropriate technology devices or equipment from various sources, for study, experimentation, and adaptation in Honduras.

E. Responsibility for Management of Funds

CDI will be responsible for monies disbursed under the two funds.

F. Administrative Process for Use of Funds

Grant funds will follow procedures much like those for OPGs except that additional streamlining will be necessary to avoid excessive time delays in the approval and disbursement process. For example, an organization will present a preliminary proposal, usually solicited, and upon receipt, the General Program Coordinator, the Executive Director of CDI, the CDI Program Manager, and the appropriate advisory panel will make a preliminary determination to encourage or to discourage the preparation of a final proposal.

After a final proposal has been prepared, the Appropriate Technology Management Committee will make a final decision to approve or disapprove funding.

Funds to be used for contracts and/or procurement will follow a pattern similar to that for grant funds. Contracts may be between participating institutions (e.g., CDI awards a contract to the University to develop a particular technology), or with others outside the country. Panels will review such proposed contracts and their final approval will take place in the Rural Technology Management Committee.

For both the Small Enterprise Development Fund and the Appropriate Technology Development and Dissemination Fund, the General Program Coordinator will provide guidance in the steps for authorizing signatures, disbursements and overall coordination. Personnel within CDI (Institutional Liaison Office, Contracts/Procurement Officer and Grants Officer) will work with the General Program Coordinator in monitoring of the funds for contracts and sub-programs.

Amounts of monies less than $1,000 will not require panel review although the Management Panel will give final authorization and approval for expenditures.

G. Administration of Scholarship Funds

Disbursement of monies for human resource development (scholarships) will take place via a Scholarship Committee. Chaired by a third party person and consisting of representatives from CDI, the University, the General Program Coordinator, and other appropriate institutions, this Committee will approve nominations of candidates for scholarships.

H. Criteria for Use of Special Funds

1. Small Enterprise Development Fund

a) Criteria for New Enterprise Development

The decision to promote the development of a new enterprise will be determined primarily on the basis of economic and technical feasibility, but beyond that the feasibility studies must show that the new enterprise would be financially viable over the long term

In terms of economic feasibility, the project must have a positive cost benefit ratio, when all costs, including initial subsidies and all benefits, are considered e.g., primary and secondary employment generation and production increases. To the degree that it can clearly be demonstrated that the opportunity cost of certain classes of labor is significantly different from the nominal cost of labor, shadow pricing of labor would be permissible for the economic feasibility analysis.

The financial feasibility analysis would exclude all benefits and costs which do not accrue to the owner or owners of the new enterprise. No new industry would be established if the analysis indicates long term financial losses or the need for continued subsidies from CDI, no matter how promising the industry appears in terms of the economic analysis.

Were it not for the typical risk aversion characteristic of most small entrepreneurs and their preference for investments with short term returns over those which pay off only over the longer term, most of the new industries could be established with minimal or no start up subsidies. Since this is not the case, it is expected that contributions from the Fund will normally be greater than the minimum amount required to make the industry financially viable over the long term.

While financial feasibility as defined above will be a requirement for all new enterprises, it will be the economic feasibility that determines the priority of the proposed new enterprise. All other factors being equal, the lower the capital labor ratio, the more likely it would be that a new industry proposal would be implemented. 1/ Industries with higher capital/labor ratios will be considered if they are economically feasible and if their absence represents a significant constraint in the rural economic structure that would allow considerable employment generation or production increases in other rural industries or in agriculture. An example of the latter can be found in the rural small scale leather enterprises which produce shoes and other leather goods such as harnesses and saddles. In all areas studied it was found that access to adequate quantity and quality tanned leather was limiting both the amount and kinds of items produced. Establishment of

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1/ One objective of the use of the Fund would be to attempt to establish industries with capital/labor ratios of about $200. However as indicated here it would not be an "absolute" criterion for selection of pilot projects.

leather tanneries in selected zones which service the small leather workers could stimulate increased productions and employment among many such enterprises.

Technical assistance will be provided to CDI to help develop and prepare specific criteria for weighing factors and feasibility analysis design.

b) Financing Modes for New Enterprises

It is estimated that forty new industries or major expansions will be developed by CDI as part of the Rural Technologies Program with approximately thirty of these receiving financing from the Small Enterprise Development Fund and with the remainder receiving all necessary financing from other sources. There are two basic modes of financing from the Fund with variations within each mode. Because loan financing for bankable new enterprise investments would be sought from other sources, the Fund will not be used to provide loan financing for the establishment of new enterprises.

The Small Enterprise Development Fund will provide either grant or equity financing for new enterprise development. The method to be used will depend on the particulars of each case. In general, the equity rather than grant mode of financing would be preferred, the larger the absolute size of the CDI investment, the larger the size of the CDI investment relative to total investment and operation costs, the greater the need for CDI oversight of the operation, and the smaller the number of individuals holding ownership of the enterprise.

It is not possible to state categorically which of these factors would weigh heaviest in the decision whether to grant or equity finance a new enterprise. For example, CDI might wish to establish a new industry that would provide inputs into a larger number of small enterprises. The small entrepreneurs who would use the input could conceivably be organized into a cooperative to own and operate the new enterprise. With such wide ownership, a grant would probably be the appropriate means of financing even if significant CDI oversight would be required during the learning period. Conditions in the grant agreement, along with continued technical assistance from CDI would help protect the new enterprise from the risks of failure.

An example of when equity financing would be considered is in the leather industry which was discussed above. The bulk of the tanneries in Honduras export all their hides. The large number of leatherworking artisans in Honduras thus have ready access to only poorly tanned skins, and therefore, their product lines are limited and what they do produce has limited value and marketability. Because a sufficiently sizeable domestic demand for the better leathers has not yet developed, a new tannery would probably continue to export the finer products rather than take the trouble to develop a potentially large domestic market. For this reason, CDI is considering purchasing a tannery, and improving and redirecting its operation to serve the needs of domestic leather workers. Once the internal

market has been firmly established and the operation is running smoothly, CDI would either sell off its equity interest to a private entrepreneur, group of entrepreneurs, the workers in the tannery or even a cooperative of leather workers. At this stage of operation financing should be available from other sources to purchase the CDI interest in the facility. If this is not the case CDI would consider converting some or all of its equity interest into debt which would have to be paid back to CDI by the new owners. All reflows generated through the sale of equity or the conversion of equity to debt would be deposited in the Small Enterprise Development Fund to be reused by CDI in accordance with the rules governing the use of the Fund.

The criteria for choosing the most appropriate mode of financing for each new enterprise will be further developed with the assistance of consultants prior to actually financing any new enterprise development.

2. Small Farmer and Appropriate Technology Development, Adaptation and Dissemination Fund

a. Small Farmer Technology Demonstration Program.

After prototypes have been field tested by the D & A unit of the MNR, it will prepare an analysis and demonstration plan with the assistance of CDI. The plan will include the following:

1. Analyses.

A review of the testing phase of the implement; the technological constraint that the implement will overcome; actual and potential uses of the implement; potential impact or number of farmers who could utilize the implement; evaluation of functional performance under varying conditions of soil, terrain, and crops, depending on the implement; evaluation of durability and estimates of useful life; time and energy consumption; care and maintenance requirements and complementary technology or input requirements; level of training required for production, use and maintenance; cost analysis under various production levels and estimated selling prices; production technology estimates; benefit/cost and financial analysis which estimates returns to labor and capital; and marketing or commercialization feasibility.

2. Plan

The demonstration part of the plan will cover the number and location of the farmers to participate in the demonstration; the length of time for the demonstration; the number and kind of special activities to take place such as field days; the selection criteria for participants; the training program required for farmer participants; the method for selection including coordination with extension and other farmer oriented organizations; the implement production plan including location of blacksmith participants and the number to be produced by each; the training and assistance requirements for blacksmiths and model procurement contracts and; an evaluation

plan including the specific data to be collected. Also included will be specific recommendations for disposition of the demonstration implements. (See following section)

The plan must also include the content and distribution of responsibilities and work for preparation of technical information, training materials and marketing/sales information for the dissemination phase of the program. The final element of the Demonstration plan will be a detailed budget for all costs proposed to be funded from the "fund" as well as a disbursement plan.

The Demonstration Plan will be presented to the Small Farmer Technology Advisory Panel for review to assure that the technology has been adequately tested; that it will contribute to overcoming significant constraints of small farmers; that there is sufficient production and repair capability in the demonstration areas; that there is effective coordination with and use of extension and other organizations in the rural areas; that the size of the demonstration is appropriate in terms of the application; and to review the internal consistency and feasibility of the proposal.

The recommendations of the SFT Panel will be reviewed by the Rural Technology Management Committee which will decide on the proposal based on technical and economic feasibility, financing and level of effort requirements and the priority of the implement in terms of development criteria.

b. Criteria for determining disposition of demonstration technology items

After a particular technology is tested by the Development and Adaptation Unit, CDI and MNR will develop a demonstration plan. In these plans participating rural blacksmiths and metal shops may produce up to 1000 units of any one technology depending on such factors as the number of potential users and the potential for increases in production. To produce these units CDI will enter into contracts with these shops and provide appropriate technical assistance for production of the implements.

One of the questions which will be addressed in the demonstration plan is whether the small farmer should pay for the technology he demonstrates. The answer will depend on the particular implement and the following considerations: the production costs of the technology; the degree of benefit accruing to the farmer as a result of his using the technology and the length of the pay-back period; affordability of the item to the farmers; the availability of credit to the small farmer and whether the amount of credit needed would fit the minimum criteria of local banks and/or would be cost beneficial to the banks; the difficulties and costs involved in collecting, storing and selling the used demonstration units as opposed to the cost of the implements; the degree of importance attached to the need to generate demand by the use of the "free sample approach". (This may be particularly important for implements which represent a substantial change in farm practices); the need

to collect evaluative data from the farmers as well as the length of the demonstration period; and the number of units to be produced for a particular technology demonstration.

In view of the above, several considerations may influence the decision whether to require the small farmer to pay for a particular technology. Some hypothetical examples follow:

-- Technologies produced at a very low price (under US $25.00) may be charged to the small farmer if the number of participating farmers is very low. From this example it would appear fairly easy and inexpensive to collect money for this technology. However, if the number of units produced were large, the price were low, and simple credit mechanisms were not readily available, the time necessary to set up a credit fund, to administer it, and to collect a very small sum from many individual farmers might exceed the total cost of all the technologies themselves. In this case, it would be uneconomical to charge and wiser to "grant" technologies to the small farmer.

-- Other technologies, (a wind generator, for example) may be expensive initially and perhaps beyond the immediate resources of an individual farmer. However, a generator may be within the capabilities of a farmer cooperative which has access to credit. In these instances, the cooperative would be expected to use its own sources of financing, but the individual would be referred to the BANAFOM as a possible candidate for access to the Small Farmer Investment Credit Fund.

-- A low cost technology, such as a grain storage facility (a 55 gallon drum) may reduce grain losses by 40%; but even so individual farmers might not have access to credit to purchase the technology. In this instance, following the formal demonstration period, it may be more appropriate to grant the drum to the farmer as a continuing demonstration of how a technology can save precious grain. Efforts would be made to encourage the agricultural bank to make funds available for other farmers to purchase the item or the GOH may choose to subsidize the technology as part of its extension programs.

-- In some instances, the need for more evaluative information will require an investment of time by the small farmer in testing and reporting his reactions to a particular technology. These activities could be considered an in-kind payment in lieu of cash for the implement.

Prior to actual use of the "fund" for purposes of farm technologies demonstrations, a short-term consultant will advise on and develop more precise procedures for development of the demonstration plan and criteria for use of funds as well as disposition of demonstration units.

3. Criteria Governing the Use of Appropriate Technology Grants for Rural Households

The decision of the Rural Technologies Management Committee to approve grant funding to organizations working with rural households will take into account the following factors as will the Appropriate Technology Advisory Panel:

(1) Technology - The proposed technology will be reviewed to determine that it: is low-cost relative to the technology choices; is affordable by the technology user or there exists a reasonable possibility that mechanisms can be developed to enable the user to purchase the technology; provides needed and wanted services to user; is maintainable by user and/or repair services are available; has widespread applicability; promotes decentralized industrial activities; presents little or no danger to environment and inhabitants; and, represents a significant innovation in the application of science and technology to solve basic human needs.

(2) The proposal will be reviewed to determine if the target user/beneficiary - has a demonstrated interest in the technology; participates willingly in a commitment-building process with the implementing organization; is a rural, low income person or group; possesses the skill levels to use the technology successfully, or sufficient measures and training are planned which will enable him/her to use the technology.

(3) The Grantee(s) - who made the proposal or is proposed to carry out the project: will preferably be a PVO or a non-government organization; has a demonstrated administrative competence or is capable of acquiring the ability to implement the project and; has a prior commitment to working with rural poor.

(4) Other considerations - the project proposal will conform to the basic requirements for OPG'S, i.e., it has analyses regarding the technical, economic and social soundness, an evaluation plan and; accountability for use of funds and appropriate reporting requirements are clearly defined.

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IX. IMPLEMENTATION AND EVALUATION PLAN

A. Implementation Arrangements

The $10.0 million grant agreement will be signed by the Minister of Natural Resources and the Minister of Economy. The program Coordinator, jointly appointed by the MOE and the MNR, will have responsibility for coordination of inter-institutional arrangements, inputs such as technical assistance and training, monitoring, and will serve as moderator for the panels. Major responsibility for project implementation is vested in the Ministry of Natural Resources, the Minister of Economy and CDI. Appropriate administrative arrangements for project management are described in the Institutional Analysis Section.

1. Major Implementation Actions

The following is a schedule of major events throughout the life of the project.

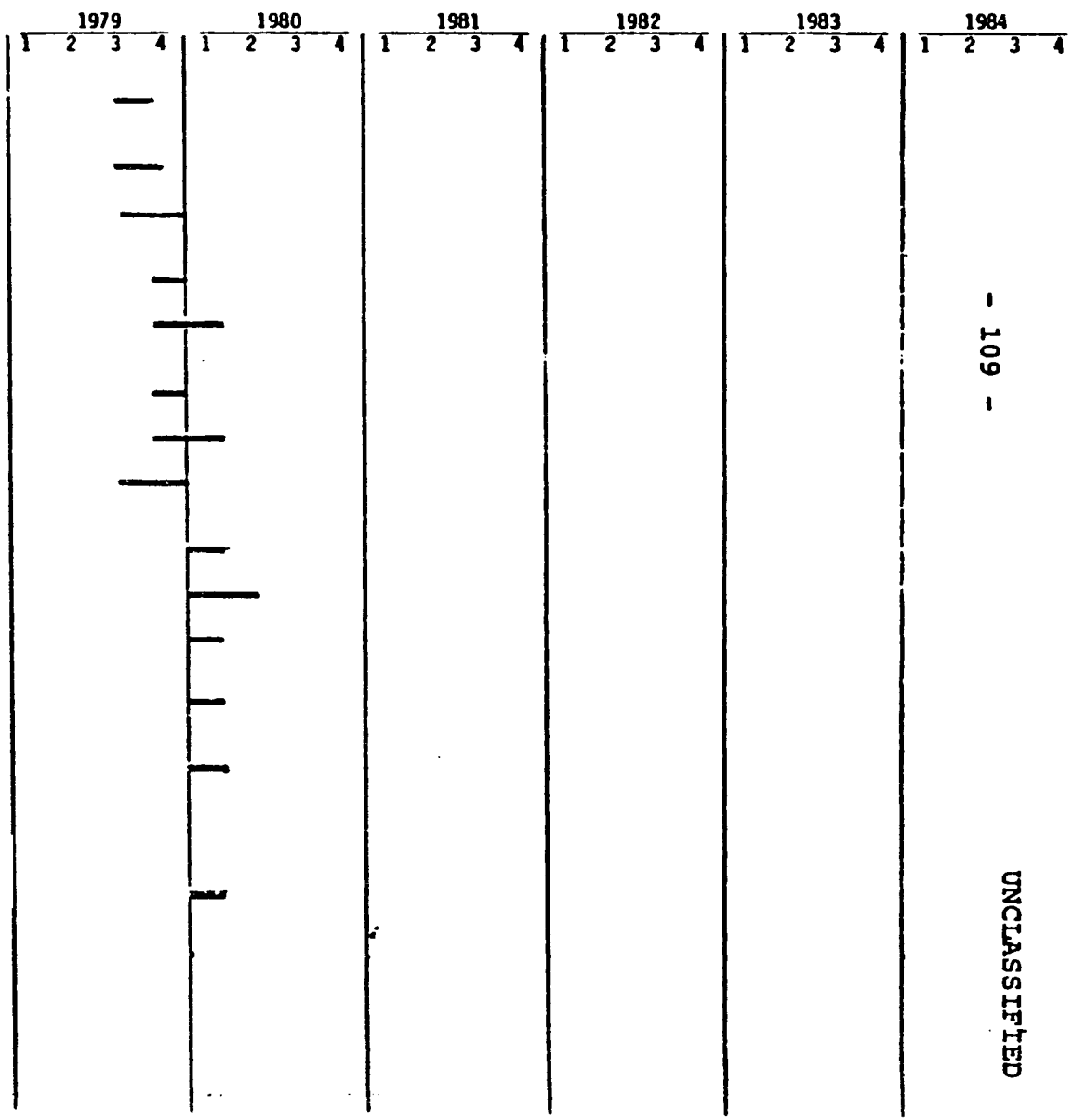
ACTION	RESPONSIBLE PARTY	DATE
1. PP Submitted	A.I.D.	June 25, 1979
2. Project Authorized	A.I.D.	July 15, 1979
3. Project Agreement signed	A.I.D., GOH	July 31, 1979
4. Condition Precedent Met for Initial Disbursement	CDI	August 31, 1979
5. Conditions Precedent Met for Disbursement of Small Enterprise Development and Development and Adaptation Funds.	CDI	Dec. 31, 1979
6. Major Project Evaluation	CDI, MNR	Nov. 30, 1983
7. Evaluation for Second Grant Traunch	AID, CDI, MNR	Sept. 15, 1981
8. Major Project Evaluation	CDI, MNR	Nov. 30, 1983
9. Terminal Disbursement Date		July 31, 1984

2. Implementation Plan for Participating Agencies

The implementation plan is designed to represent a phasing of activities for each organization in such a way as to avoid any adverse impact upon the organizations yet at the same time to establish the basis for respective organizational plans to mesh with those of others. In general the phases correspond to (a) a start-up period (hiring of staff and initial planning assistance) (b) establishment of physical plant and a specific work plan (c) initiation of panels, and interinstitutional grants/agreements/contracts and (d) delivery of program services to target groups.

IMPLEMENTATION PLAN

ACTIVITY	ACTION AGENT
1. Hire CDI Program Manager	CDI
2. Prepare job descriptions for CDI management staff	"
3. Hire CDI management staff	"
4. Prepare job descriptions for CDI central office staff	"
5. Hire remaining central office staff (CDI).	"
6. Job descriptions for CDI field agents and extensionists prepared	"
7. Hire field staff (CDI)	"
8. Set up CDI central office physical plant	"
9. Determine CDI staff training and technical assistance needs and develop schedule	"
10. Contract - short term technical assistance	"
11. Develop work-plan for CDI Studies Division	"
12. Develop work-plan for CDI Technical Information Service	"
13. Develop work-plan for CDI Program Services Division	"
14. Develop long-term Training Program with INFOP for CDI Field Staff	.
- Contract Technical assistance for design of training program.	"



Legend

_____ = action
-----= preparation

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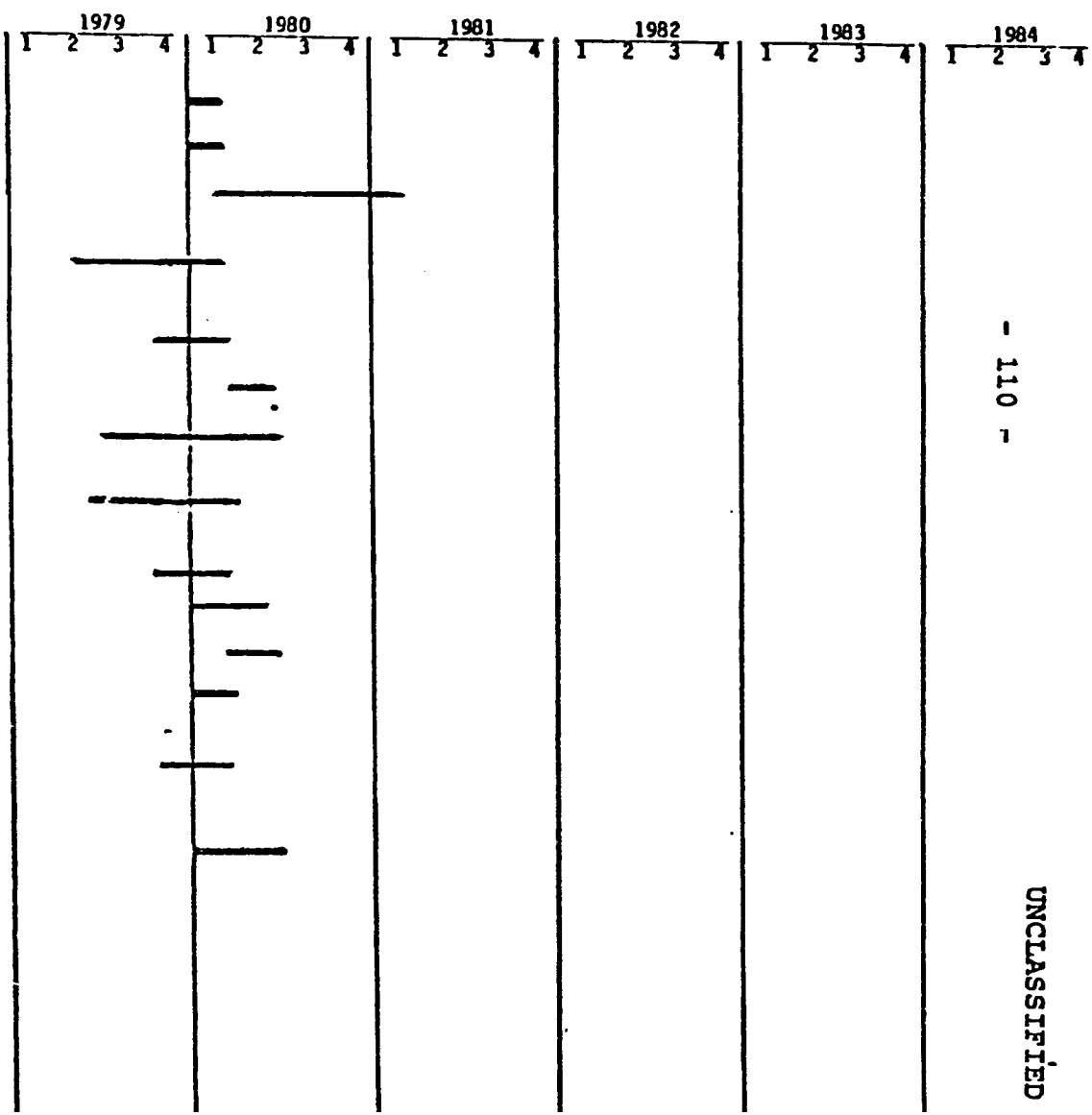
IMPLEMENTATION PLAN

ACTIVITY	ACTION AGENT
- Design training program	INFOP
- Hire INFOP trainers/instructors	"
- Provide training to CDI field staff	"
15. Hire staff and interns for MNR Development/ Adaptation Unit and Information Service 1/	MNR
Complete construction of physical plant (for technology development and information service).	
-Contract short-term technical assistance	"
-Develop development and adaptation work plan	"
-Begin prototype construction of technologies and preliminary testing.	"
16. Hire staff for University (UNAH) Engineering, and Physics & Human Resources Development	UNAH
- Develop work plan for research	"
- Acquire testing/lab equipment	"
- Hire student research assistants	"
- Instructors (in small business development and Technical careers) hired	"
- Technical Assistance (in course design and courses) acquired; scholarship program operational.	"



1/ MNR actions begun under current grant (522-0123)

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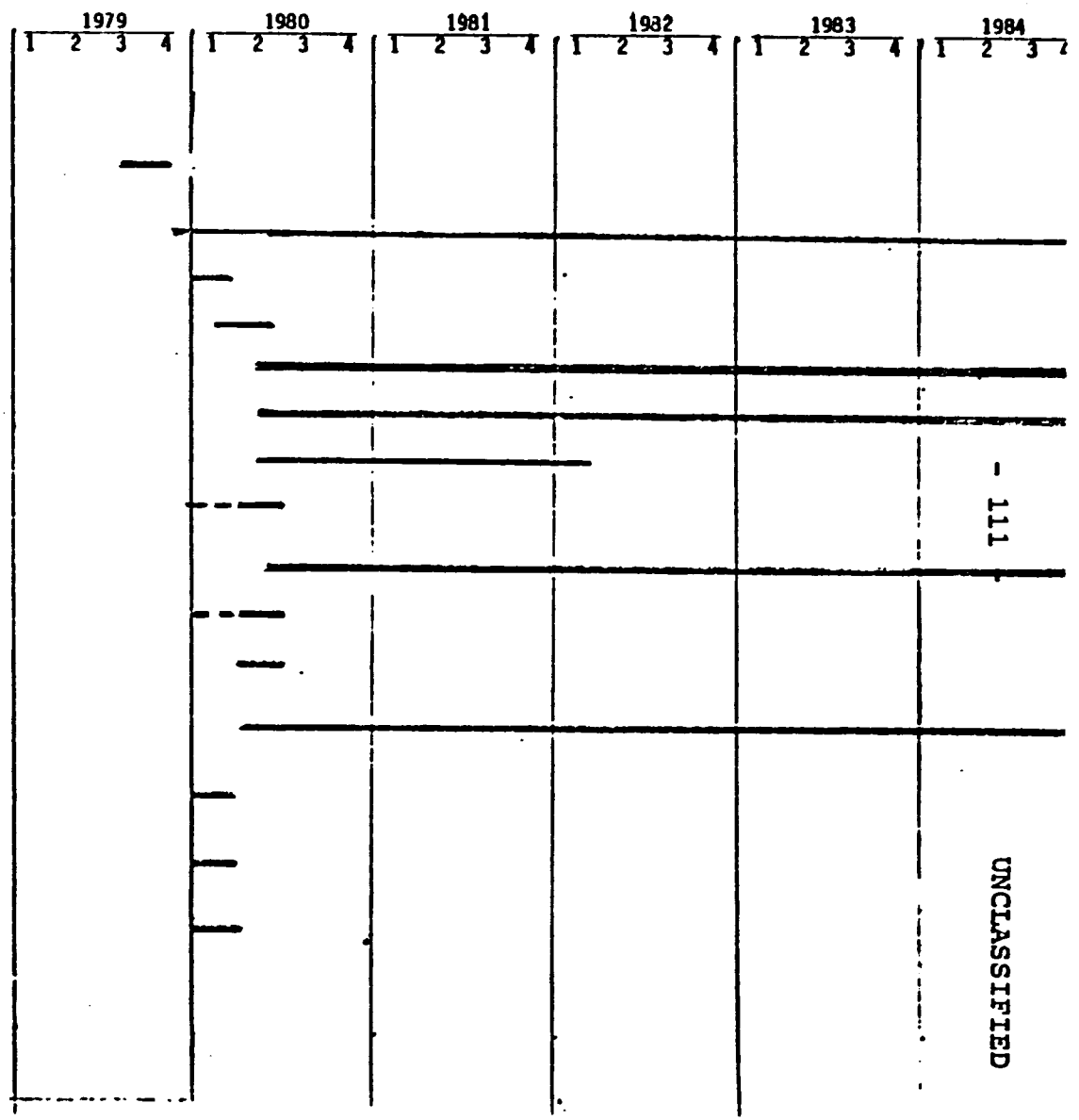
IMPLEMENTATION PLAN

ACTIVITY	ACTION AGENT
17. Develop Interinstitutional Arrangements/Contracts	
a. CDI - MNR work plan developed	CDI/MNR
b. Working arrangements operational between CDI/MNR	CDI
c. CDI - CIIBANTRAL work plan developed	CDI
d. Staffing completed - CIIBANTRAL	CIIBANTRAL
e. Working relationships in operation	
- Information - CIIBANTRAL	CDI
- Association - CIIBANTRAL	CIIBANTRAL
f. CDI - UNAH work plan devised	CDI
g. Working arrangements operational with UNAH-Research	CDI
h. CDI - CII/UNAH work plan devised	CII
i. Staffing completed - CII/UNAH	CDI
j. Working arrangements operational between CDI and CII/UNAH	CDI
18. Set-up framework for Technical Advisory Panels	CDI
19. Set-up framework for Rural Technologies Executive Committee.	CDI
20. Develop procedures & criteria for access to enterprise fund	CDI



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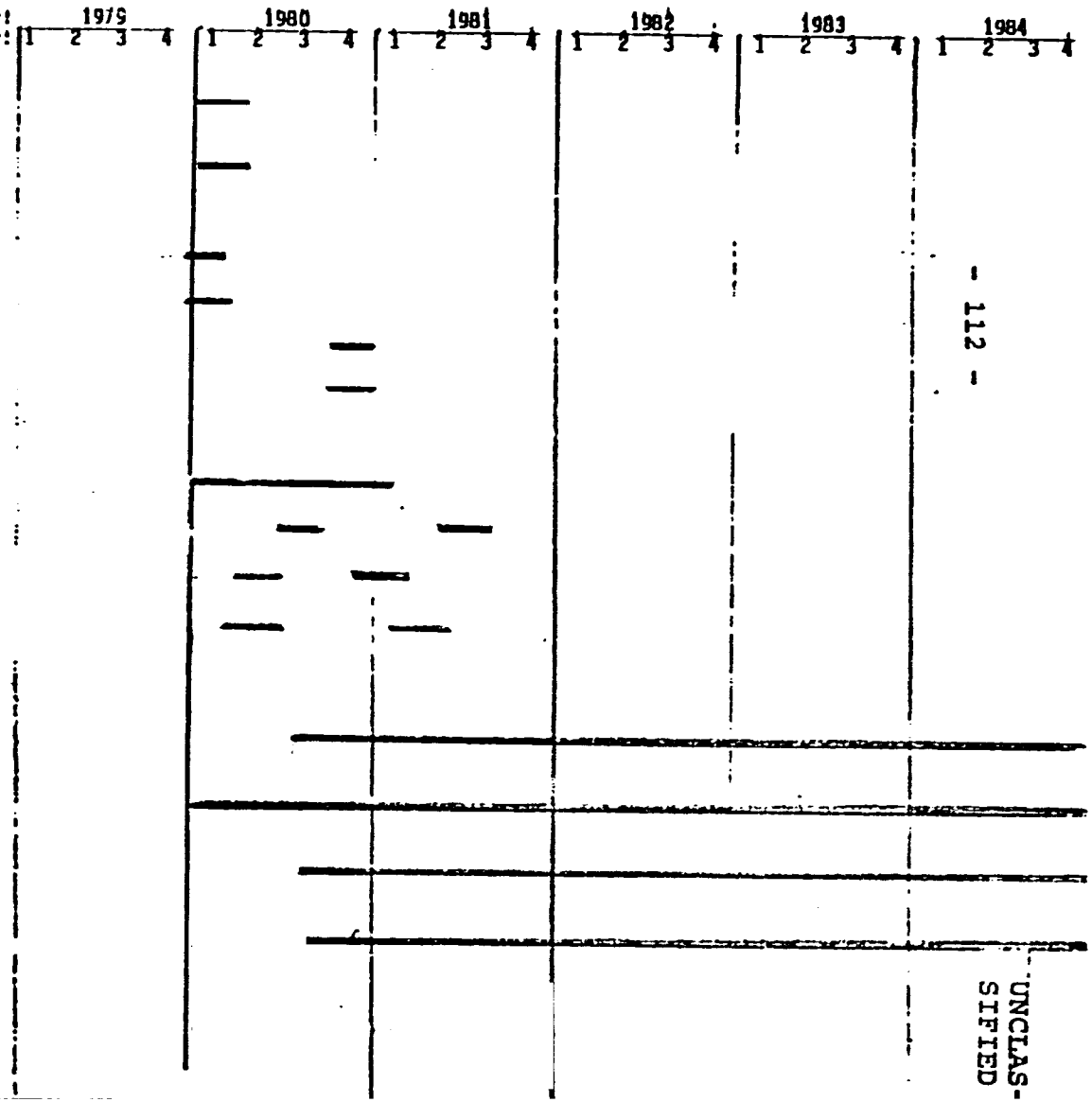
IMPLEMENTATION PLAN

ACTIVITY	ACTION AGENT
21. Develop procedures & criteria for access to development & adaptation fund	CDI
22. Develop procedures for scholarships and human resource development	CDI/UNAM
23. Set-up zone offices	
#1	CDI
#2	CDI
#3	CDI
#4	CDI
24. Begin studies division program activities	CDI
- Small Industry In-depth Studies	
- Case studies	
- Industry Sector studies	
- Functional Studies	
25. Begin farm technology delivery system	CDI/MNR
- Contracts for limited production with industries	CDI
- Training (INFOP) programs to rural industries/blacksmiths	CDI/INFOP
26. Begin extension visits (delivery system) to rural industries	CDI
27. Provide technical information services to rural industries and field staff	CDI



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IMPLEMENTATION PLAN

ACTIVITY	ACTION AGENT
28. Begin program for basic needs AT system	CDI
29. Operationalize Panels	CDI
30. Operationalize special funds	CDI
31. Develop liaison arrangements with Policy Analysis Unit and Small Enterprise Development Office	CDI
32. Policy Analysis Unit staffed and operational	MOE
33. Small Enterprise Advisory Office staffed and operational	MOE
34. Program Coordinator hired	MNR/MOE

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3. A.I.D. Role and Responsibilities

a. Monitoring: The USAID Office of Environment and Technology will have primary responsibility for project monitoring. The offices of Program and Capital Resources, Engineering, Management and the Controller will assist in monitoring of implementation. Officers from each of these divisions will review procurement proposals, plans and specifications for commodity procurement, training and technical assistance. Periodic project status meetings will be held to discuss progress, ensure that project disbursements conform to A.I.D. regulations, that sound financial control methods are followed and that provisions of the Grant Agreement are satisfactorily met. 1/

b. Disbursement Procedures: The selection of advisors and contractors, procurement of equipment and vehicles, shipping and insurance will be performed in accordance with A.I.D. regulations and set forth in the Project Agreement. No deviation from A.I.D. established disbursement procedures is anticipated.

c. Source and Origin: The procurement code for commodities and contract services will be Central American Common Market Countries and the United States. However, since some of the specific tools and implements and technical assistance for the development and adaptation activities are only available from countries included in Code 941 or 935, source and origin waivers will be required. Because it is not expected that any such procurement would cost more than $50,000 per transaction, the Mission is not requesting an amplification of its delegated waiver authority.

d. Procurement Procedures: In accordance with A.I.D. policy, the Mission plans to use the host country contracting mode to the maximum extent feasible. Increasingly USAID Honduras has moved in this direction, with some success. The Honduran General Procurement Office handles much of the government's commodity procurement in Honduras. The Mission will be providing technical assistance to this office to improve its operations, but in the meantime project requirements may necessitate some USAID/H or AID/W procurement of commodities. It is also expected that contracting of U.S. technical assistance would be handled primarily by the Mission with some contracting being handled by AID/W.

4. Project Contracting Plan

The substantial institutional development involved in the project will require contracted technical assistance in the areas of systems design, management and evaluation techniques. In addition, numerous short-term technical assistance contracts will be needed for development of specific industries or products. Not all of these contracts can be specified at this time as the need for some contracted services will be generated by identification of specific project activities and problem areas during the course of implementation.

The following is the contracting plan for anticipated services for the duration of the project:

1/ A more complete description is found in "Administrative Arrangements and Institutional Analysis".

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	DURATION	ESTIMATED COST ($000)	ESTIMATED CONTRACT STARTING DATE
a. Output 1. Interinstitutional Adaptive Research and Information System			
Info. system expert-planning design of system; train counterparts	4MM	24.3	11/79
CII-UNAH			
Evaluation Consultant	2.5MW	3.6	11/79
CII-BANTRAL			
Technical info-specialist - assist in setting up program	1.5MW	2.0	9/80
Association of Information Centers			
Union Catalog specialist	2MW	2.4	9/80
MNR Information Unit			
Info. system design specialist	1MM	5.0	9/80
MNR-Development and Adaptation Unit			
1. Technical specialists	15MM	96.0	9/80
2. Institutional contracts for technical services	12MM	80.0	9/80
UNAH-Energy and Testing Unit			
1. Expert solar energy	1MM	6.6	11/79
2. Expert in wind energy	1MM	6.6	11/79
b. Output 2. Program Services Division CDI			
1. Feasibility studies expert	6MM	35.0	3/80
2. Credit systems expert	3MM	9.0	1/80
3. Marketing expert	12MM	24.0	10/79
4. Short-term technical Consultants (specialists in agro-industry development, wood, leather, ceramics, etc.)	50MM	270.0	Various
c. Output 3. Training INFOP			
Expert(s) in design of training programs for field agents; design of training packages for small industries; TA for implementation of field programs.	20MM	100.0	10/79

	DURATION	ESTIMATED COST ($000)	ESTIMATED CONTRACT STARTING DATE
d. Output 6. Human Resources Development			
UNAH			
1. Business Administration instructor for new courses	12MM	80.0	8/80
2. Curriculum design expert - Business Administration	2MM	15.0	5/80
3. Curriculum design expert - Technical and Scientific	2MM	15.0	5/80
4. Visiting professors - Business Administration	2MM	10.0	Various
5. Visiting professors - Technical Fields	2MM	10.0	10/80
e. Output 7. Small Enterprise Advisory Office.			
MOE			
Expert in development and financing of industries	4MM	26.4	1/80
f. Output 8. Studies Division			
CDI			
1. Rural Sociologist/anthropologist (design of longitudinal and case studies, data processing and analysis)	24MM	100.0	8/79
2. Social scientist, communications expert (training for field staff; intracultural communications)	12MM	80.0	9/79
3. Socio-economic research and survey design assistance	12MM	80.0	10/79
4. Short term specialists (zonal resource surveys, etc.)	30MM	215.0	Various
g. Output 9. Policy Analysis Unit - MOE			
MOE			
1. Economic policy and fiscal analysis	24MM	160.0	1/80
2. Specialists - labor laws, industrial development, taxation	9MM	50.0	3/80
h. Output 10. Program Coordination and Management			
CDI			
Project Management expert	10MM	40.0	9/79

B. Evaluation Arrangements

The evaluation processes for the project will focus on first, achievement of the project purpose - i.e., impact on target groups and second, an assessment of timely implementation of project activities. The first will be performed at mid-term and near end of project dates. The first formative or implementation evaluation will be performed around November 1980 and will be performed yearly thereafter.

For the small farmer technologies component of the Rural Technologies Project baseline data for goal level evaluation has been developed by ATAC (American Technical Assistance Corporation), and additional surveys financed by the Agriculture Sector II Program will supplement this data and will provide for later year comparisons. Small farm labor utilization surveys will provide both a baseline for purpose level evaluation, and will serve as a basis for developing the evaluation portion of the demonstration plans. These plans will provide for the selective collection of pre and post demonstration data for purpose level evaluation.

The CDI/AID Rural Industries Survey and pre-assistance longitudinal studies will provide the baseline data for evaluating the small enterprise development component of the Project. Post-assistance surveys and information provided through the zonal offices will allow for measurement of purpose and goal level achievement.

Output level achievement for the Project, and purpose and goal level achievement for the rural households component of the Project, will be evaluated as appropriate by CDI and the other participating institutions.

X. CONDITIONS, COVENANTS AND NEGOTIATING STATUS

This Project proposal was prepared jointly by the Mission and a GOH working group composed of representatives from Ministry of Economy, the Ministry of Natural Resources, CONSUPLANE and the Technical Secretariat of the CPA (Agricultural Policy Commission). On June 20, 1979 the CPA approved the proposal, and the letter of application for A.I.D. assistance (Annex D) was subsequently forwarded to the Mission under the signature of the Acting Minister of Finance and Public Credit.

The Mission plans to include in the Project Agreement the following special Conditions and Covenants:

1. Conditions Precedent to Disbursement for Other Than Technical Assistance and the Project Coordination, Management and Administration Activity.

Prior to any disbursement or the issuance of any commitment document under the Grant, to finance other than technical assistance or costs associated with the Project Coordination, Management and Administration Activity, the Grantee shall furnish, in form and substance satisfactory to A.I.D.:

a) a detailed description of the procedures and mechanisms to be utilized by the Grantee for the disbursement and control of Project funds; and

b) evidence that the personnel required to implement these procedures has been or will be employed at such time as their services are required.

2. Conditions Precedent to Disbursement for the Activities of Institutions Other Than the MOE, MNR and CDI.

Prior to any disbursement or the issuance of any commitment document under the Grant, to finance the activitiees of institutions other than the Ministry of Economy (MOE), the Ministry of Natural Resources (MNR), and the Center for Industrial Development (CDI), the Grantee will furnish, n form and substance satisfactory to A.I.D.:

a) an agreement executed between such other institution and an authorized representative of the Grantee. Such interinstitutional agreement will include a full description of the responsibilities of the parties, including but not limited to, a budget of the contributions of each of the parties, reporting requirements, and a description of the means for evaluating the effectiveness of the activity.

3. Conditions Precedent to Disbursement of Grant Assistance to Existing Small Enterprises and Blacksmiths.

Prior to any disbursement or the issuance of any commitment document under the Grant, for the purpose of donating equipment or

otherwise providing grant assistance to any existing small enterprises or blacksmiths, the Grantee will furnish in form and substance satisfactory to A.I.D.:

a) a description of the process to be used in selecting the small enterprises or blacksmiths to be benefited, including the criteria to be employed in the selection;

b) the criteria to be employed in determining the appropriate amount and form of assistance required; and

c) a description of the method(s) to be used to help ensure that the grant or equipment donation is used for the intended purpose.

4. Conditions Precedent to Disbursement for New Enterprise Development.

Prior to any disbursement or the issuance of any commitment document under the Grant for equity or grant financing of new industry development, the Grantee shall furnish in form and substance satisfactory to A.I.D.:

a) criteria for initial and final project selection;

b) the methodology to be used for determining the technical, economic and financial feasibility of the project;

c) guidelines for determining the preferred mode of financing and disbursement, and control procedures; and

d) model agreements to be used when providing such financing.

5. Conditions Precedent to Disbursement for Experimental Credit.

Prior to any disbursement or the issuance of any commitment document under the Grant to finance experimental credit activities, the Grantee will furnish in form and substance satisfactory to A.I.D.:

a) a plan for the use of the experimental credit monies which shall designate the institutions or organizations involved, the mechanisms for providing the credit to the small entrepreneurs and the terms under which such credit shall be provided.

6. Special Covenant

The Grantee covenants that, unless A.I.D. otherwise agrees in writing, any and all reflows to the Small Enterprise Fund will be used solely in accordance with the purposes originally established for the Fund.

XI The Project Committee

Donald E. Anderson,	Senior Advisor,	USAID	Honduras
Peter Deinken,	OSA	USAID,	Honduras
Peter Orr	OPCR	"	"
Ralph Conley ,	ORD	"	"
John Kelley ,	HRD	"	"
Thomas Fallon,	Cont	"	"
Roger Russell,	Eng	"	"
Fred Zumwalt ,	OET	"	"

Principal Contributors to the Committee work:

Maria C. López, Special Advisor to the Committee
Ana Ruth Zúniga, Consultant
Luis Coronado, Consultant
Richard Fera, Consultant

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PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Project Title & Number: Rural Technologies Program

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
GOAL: Improve incomes of small farmers and rural small businessmen, improve quality of rural living.	1. Small farmers/businessmen increased 2. Selected indicators related to specific appropriate technologies introduced.	1.a. Baseline and post-assistance longitudinal studies that will show income changes for beneficiary and non-beneficiary small enterprises b. 1975, 1977 (ATAC) and future small farmer surveys planned under Agriculture Sector II. 2. Evaluation reports by entity (PVO or other) responsible for dissemination of specific appropriate technology.	1. Small farmer and small rural industry development will continue to be a high priority area for the GOH.
PROJECT PURPOSE: 1. Increase small farm effective utilization of labor and land through the use of improved light capital farm implements and structures.	EOPS: 1.a. Increased yield per hectare. b. Cultivation of more land appropriate for production. c. Conservation of long-term land productivity. d. Decreased number of man hours per unit of productivity at peak labor demand periods. e. Increased labor use during slack demand periods. f. Increased value and quantity of marketable products per unit of pre-harvest production. g. 50,000 users of light capital technology structures and implements.	1. Agriculture Sector II small farmer surveys; longitudinal studies; project evaluation.	1. Continued GOH commitment to small farm agricultural development; small farmers will be receptive to light capital farm implements and structures.

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Project Title & Number: Rural Technologies Program

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	h. Participants in demonstration activities are willing to purchase implements or structures at end of demonstration period and demand exists among non-participants.		
2. Increase small-scale rural industrial productivity and employment through the introduction of improved production and management systems in existing small enterprises and through the establishment of new pilot enterprises.	2.a. 1500 assisted existing small enterprises increase employment by additional 1,679 work-years, for a total of 838 permanent jobs. b. Increased returns to capital and labor for existing small enterprises. c. Establish new viable industries that add value to rural resources and products, increase rural employment. d. Increased utilization by small enterprises of formal credit system, with acceptable default rates.	2. Project evaluation; longitudinal studies.	2. Small scale industrial entrepreneurs will be receptive to improved production and management systems; formal credit system possesses flexibility to deal with credit needs of micro-businessmen.
3. Increased utilization by rural poor of low-cost appropriate technologies or products designed to improve the quality of life.	3. Acceptance of low-cost capital technologies among demonstration groups and replication to additional users.	3. Project evaluation; USAID field inspection.	3. Rural poor will be receptive to low-cost appropriate technologies.
OUTPUTS:	MAGNITUDE OF OUTPUTS:		
1. Improve and expand systems for identification of problems; development, adaptation and dissemination of technologies appropriate for small farmers, rural enterprises and rural households.	1.a. Establishment in CDI of a capacity to identify problems and practical D&A activity through its field agents, advisory panels, special surveys and access to other information centers, and to develop solutions itself or in coordination with other D&A units and to disseminate technology on a reactive or assertive basis to the users through the delivery system.	1. Observation; reports prepared by information association; periodic reports prepared by CDI, MNR, UNAH, and PVO's.	

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Project Title & Number: Rural Technologies Program

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	b. Expansion of effort of MNR Small Farmers D&A Unit established under Small Farmers Technology Project. c. Establishment of UNAH D&A capacity in the area of renewable and small scale energy systems, machinery, and other appropriate technology fields. d. Appropriate technology pilot projects referred to PVOs or other organizations for further development, field testing and/or dissemination, if activity not suitable for execution by above mentioned units. e. Development of cooperative working relationship between elements of the information network through the establishment of an association of Honduran information centers, the publication of a union catalogue, the increased specialization of separate elements of the network, rationalized utilization of external information sources, and contractual relations between elements of the system.		MNR, and UNAH will provide continued support for D&A activities
2. Delivery system for management and technical advisory services for small enterprises.	2.a. Four zonal offices located in saturation zones. b. Two offices located in San Pedro Sula and Tegucigalpa to support activities outside the four zones.	2. Observation; periodic reports prepared by the Industrial Development Center (CDI); project evaluation; USAID field inspection.	2. GOH continues to support and give high priority to the activities of CDI

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PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Project Title & Number: Rural Technologies Program

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	c. 16 field agents trained to provide elementary technical and management assistance visiting 20 clients per month.		c. and d. Suitable candidates are available for field and support personnel.
	d. 15 professional level experts in management, technical areas and marketing based in zonal offices.		
	e. 1,500 small businessmen receive TA in areas of production, management and/or marketing.		e. Entrepreneurs are receptive to the technical assistance provided.
	f. Training needs identified of 500 small businessmen and success of training evaluated for feedback to training system.		
	g. 500 small businessmen advised on credit use, sources and application procedures.		
	h. Lenders provided with general advice on lending to small businesses and specific information regarding potential borrowers.		
	i. Experimentation and development of various means of community and group participation or organization appropriate for the particular community or venture (e.g. community advisory committees, associations of small businessmen, coops, etc.)		
3. System for delivering training to small farmers and rural enterprises.	3.a. Inter-institutional arrangements established between CDI and appropriate training institutions such as INFOP to have these institutions provide to small farmers and small enterprises the training identified as necessary by CDI field agents and special studies.	3.a. Observation; periodic reports by CDI, INFOP.	

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Project Title & Number: Rural Technologies Program

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	b. Training provided in at least the following areas: operation, maintenance and repair of farm machinery (500 small farmers and 100 mechanical repairmen); management and technical aspects of small businesses (1500 individuals).	b. USAID field inspection, INFOP and CDI reports.	b. Levels of participation and interest sufficient for continued training programs.
	c. Training techniques and curriculum revised and improved through regular evaluation feedback mechanism.	c. Observation.	
4. Small Enterprise Development Fund established and operating.	4.a. 40 Pilot small enterprises established and operating.	4. Observation; USAID field inspection.	4. Opportunities exist for expansion or creation of small or medium enterprises that are economically viable and financially sound over the long term.
	b. Loans or experimental type of financial transactions made to intermediary credit organizations which lend to small enterprises.		
	c. 40 Feasibility Studies		
5. Small Farmer and Appropriate Technologies Development and Adaptation and Dissemination Fund.	5.a. 75-100 blacksmiths and metalmechanic shops producing implements for demonstration.	5. USAID field inspection; MNR and CDI periodic reports.	
	b. At least 25 different prototype implements or structures produced and disseminated.		
	c. Inter-institutional arrangements established between CDI, MNR and other appropriate institutions for the planning, execution and evaluation of prototypes and field demonstrations.		

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Project Title & Number: Rural Technologies Program

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
6. Improve long-term capacity of Honduran post-secondary educational institutions to better prepare graduates who can work in small scale industrialization and appropriate technology development.	6. Revision of elements of Engineering, Business Administration and possible other curricula at selected institutions to include appropriate small scale management and technical training.	6. Observation.	6. UNAH and other institutions receptive to changes in curricula.
7. Establishment of a Small Enterprise Investment Advisory Service in MOE to provide potential investors or buyers with guidance as to sources of information concerning business opportunities in Honduras, legal incentives and restrictions, and possible assistance available from Honduran agencies such as CDI.	7.a. Office provides information to domestic and foreign entrepreneurs regarding the services of other Honduran institutions (particularly CDI), the labor and investment laws of Honduras, taxes and incentives, business opportunities, financing institutions, etc. b. Office channels to CDI small business production ideas that may originate from exploratory visits of buyers, entrepreneurs or investors.	7. Observation and periodic reports prepared by the Small Enterprise Investment Advisory Service Office.	
8. Establishment of an evaluation/planning capacity in CDI to more precisely identify problems of small enterprises and continuously improve programs to assist small entrepreneurs.	8.a. Unit established which performs socio-economic baseline and project impact studies and utilizes results to revise implementation plans for this and other small business projects and for the design of new small business promotion initiatives. b. Also prepares zonal resource inventories and industrial development plans, in consultation with other GOH planning activities.	8. Observation.	

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Project Title & Number: Rural Technologies Program

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
9. Expanded GOH capacity to evaluate the effects on rural industrialization and employment of GOH policies.	9.a. Unit established in MOE which will prepare studies of the effects on rural industrialization and employment of fiscal monetary, labor, government procurement and other GOH policies. b. Completed studies presented to appropriate Ministers for consideration of policy changes and/or new programs.	9. Observation.	GOH laws and regulations can be changed to provide a positive policy environment for rural industrialization.
10. Establishment of Project Coordination and Management and Administration Office to perform GOH/AID and inter-institutional coordination and to administer project activities.	10.a. Project Coordination and Management and Administration Office established and fully staffed. b. Timely execution of budget preparation, disbursements, etc.	10. Observation. Evaluation	
INPUTS: See Financial Plan for project cost details.			Inputs will be made available on a timely basis.

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT LAC/DR-IEE-79-28
WASHINGTON, D.C. 20523

ASSISTANT ADMINISTRATOR

ENVIRONMENTAL THRESHOLD DECISION

Location : Honduras

Project Title : Rural Technologies Project, 522-0157

Funding : $10,000,000 Grant

Life of Project: Five Years, 1979 - 1984

Mission Recommendation:

Based on the Initial Environmental Examination, the Mission has concluded that the project will not have a significant effect on the human environment and therefore recommends a Negative Determination.

The Development Assistance Executive Committee of the Bureau for Latin America and the Caribbean has reviewed the Initial Environmental Examination for this project and concurs in the Mission's recommendation for a Negative Determination.

AA/LAC Decision:

Pursuant to the authority vested in the Assistant Administrator for Latin America and the Caribbean under Title 22, Part 216.4a, Environmental Procedures, and based upon the above recommendation, I hereby determine that the proposed project is not an action which will have a significant effect on the human environment, and therefore, is not an action for which an Environmental Impact Statement or an Environmental Assessment will be required.

Assistant Administrator for
Latin America and the Caribbean

Date

Clearances:
LAC/DR:Environmental Advisor:ROtto
DAEC Chairman:MBrown

INITIAL ENVIRONMENTAL EXAMINATION

PART I

Project Location	:	Honduras
Project Title	:	Rural Technologies Project
Funding	:	$10,000,000 Grant
Life of Project	:	5 years, 1979 - 1984
IEE Prepared by	:	Peter R. Orr Date: March 28, 1979
Threshold Decision	:	

a. Recommendation:

Negative Determination

b. Concurrence:

_____ Date:
J. B. Robinson, USAID/Honduras
Mission Director

c. Assistant Administrator's/
Director's Decision

_____ Date:

DESCRIPTION OF THE PROJECT

PART II

The goal of this project is to increase rural employment and incomes both on and off the farm. The project has four elements which are described below.

1) Small Farmer Technology Element -- The purpose of this element is to promote the use by small farmers of light capital tools, implements and machinery. A previously approved A.I.D. project is financing the research necessary to identify the small farmers needs for this type of equipment and to adapt appropriate technologies to the Honduran environment. This project will continue the R & D effort and will provide for the large scale demonstration of the implements developed by the R & D unit. Approximately 100 blacksmiths will be provided with technical assistance so that they can produce, under contract, the implements that will be demonstrated and tested on selected small farms across the country.

2) Small Enterprise Development Element -- The purpose of this element is to stimulate the development or expansion of small production enterprises in four selected zones of Honduras. A field organization will be developed to provide continuing management advice and technical assistance in production, marketing and credit matters. New pilot small scale enterprises will be developed to add value to agricultural and other production, to increase utilization of natural resources for productive use, and to locally produce consumer and hand goods to replace items produced outside the zone. Pilot projects will be developed and selected on the

basis of employment generation and other relevant development criteria.

3) Appropriate Technology Projects -- The purpose of this element is to develop appropriate technology projects which will meet the identified needs and opportunities for improving work productivity and/or the quality of life in the rural zones. While some of these activities would be incorporated into one of the first two elements of the project it is expected that some of the AT applications will be in the nature of self-help programs. Some possible activities to be considered include a more labor intensive method for producing fiber-reinforced cement roofing material, low-cost water filtration systems, a low-cost paper making machine which recycles used paper, small mobile charcoal making furnaces that would utilize presently wasted timber by-products.

4) Institution Building Element -- This element of the project provides the financial and technical support to strengthen the capacity of the various government and private institutions that will be involved in carrying out the other three components of the project.

IDENTIFICATION AND EVALUATION OF ENVIRONMENT IMPACT

PART III

The approach of the Small Farmer Technology Element is to adapt light capital technology to the social and natural environment of the Honduran small farmer, so that both labor and land on the existing farms may be used more efficiently. No significant adverse environmental impacts are foreseen. The more efficient use of land on existing farms could produce a moderate indirect positive environmental impact over the

long term by reducing the rate at which forest or other marginal lands are converted to agricultural use to meet the increasing demands for food.

The existing enterprises that will be assisted under the Small Enterprise Development Element have as an average total capital assets worth $200. The majority are involved in tailoring and dress making, simple food processing, carpentry, blacksmithing, mechanics, repairs, pottery, crafts, and brick and block making. These small scale traditional enterprises characteristically have a minimal impact on the environment, particularly as compared to larger more sophisticated industrial operations.

The types of pilot projects presently under consideration for promotion under the Appropriate Technology Element are not foreseen to have any adverse effects on the environment. Several of the pilot projects are intended to ameliorate existing environmental problems. The water filtration system is one example. Another is the mobile charcoal making furnaces which would use lumber waste products to produce a fuel that could reduce the need to cut additional trees for fire wood.

The Institutional Building Element would have no environmental impact except indirectly through the above three elements.

RECOMMENDATION FOR ENVIRONMENTAL ACTION

PART IV

Since the Rural Technologies Project does not involve any actions that will have a significant effect on the human environment, a Negative Determination is proposed.

IMPACT IDENTIFICATION AND EVALUATION FORM

Impact Areas and Sub-areas	Impact Identification and Evaluation 1/
A. LAND USE	
1. Changing the character of the land through:	
a. Increasing the population	N
b. Extracting natural resources	L
c. Land clearing	L
d. Changing soil character	L
2. Altering natural defenses	N
3. Foreclosing important uses	N
4. Jeopardizing man or his works	N
5. Other factors	
_____	_____
_____	_____
B. WATER QUALITY	
1. Physical state of water	N
2. Chemical and biological states	L
3. Ecological balance	N
4. Other factors	
_____	_____
_____	_____

1/ Symbol meanings:
N - No environmental impact
L - Little environmental impact
M - Moderate environmental impact
H - High environmental impact
U - Unknown environmental impact

IMPACT IDENTIFICATION AND EVALUATION FORM

C. ATMOSPHERIC

1.	Air additives	N
2.	Air pollution	L
3.	Noise pollution	L
4.	Other factors	
	Short Term Construction Air Pollution	L

D. NATURAL RESOURCES

1.	Diversion, altered use of water	L
2.	Irreversible, inefficient commitments	N
3.	Other factors	

E. CULTURAL

1.	Altering physical symbols	N
2.	Dilution of cultural traditions	L
3.	Other factors	

F. SOCIO-ECONOMIC

1.	Changes in economic/employment patterns	M
2.	Changes in population	N
3.	Changes in cultural patterns	L
4.	Other factors	

IMPACT IDENTIFICATION AND EVALUATION FORM

G. HEALTH

1. Changing a natural environment ---------- N
2. Eliminating an ecosystem element ---------- N
3. Other factors

_____ _____
_____ _____

H. GENERAL

1. International impacts ---------- N
2. Controversial impacts ---------- N
3. Larger program impacts ---------- N
4. Other factors

_____ _____
_____ _____

I. OTHER POSSIBLE IMPACTS (not listed above)

_____ _____
_____ _____
_____ _____

COUNTRY CHECKLIST

A. GENERAL CRITERIA FOR COUNTRY ELIGIBILITY	A. GENERAL CRITERIA FOR COUNTRY ELIGIBILITY
1. FAA Sec. 116. Can it be demonstrated that contemplated assistance will directly benefit the needy? If not, has the Department of State determined that this government has engaged in a consistent pattern of gross violations of internationally recognized human rights?	1. The Project Paper demonstrates that the assistance will directly benefit the needy.
2. FAA Sec. 481. Has it been determined that the government of recipient country has failed to take adequate steps to prevent narcotics drugs and other controlled substances (as defined by the Comprehensive Drug Abuse Prevention and Control Act of 1970) produced or processed, in whole or in part, in such country, or transported through such country, from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents, or from entering the U.S. unlawfully?	2. No such determination has been made.
3. FAA Sec. 620(b). If assistance is to a government, has the Secretary of State determined that it is not controlled by the international Communist movement?	3. The Secretary of State has determined that Honduras is not controlled by the international Communist movement.
4. FAA Sec. 620(c). If assistance is to a government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) debt is not denied or contested by such government?	4. A.I.D. knows of no such cases.
5. FAA Sec. 620(e)(1). If assistance is to a government, has it (including government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities?	5. There is no evidence of such action.
6. FAA Sec. 620(a), 620(f); FY 79 Appr. Act Sec. 108, 114 and 604. Is recipient country a Communist country? Will assistance be provided to the Socialist Republic of Vietnam, Cambodia, Laos, Cuba, Uganda, Mozambique, or Angola?	6. Honduras is not a Communist country. Assistance will not be provided to any of the countries indicated.
7. FAA Sec. 620(i). Is recipient country in any way involved in (a) subversion of, or military aggression against, the United States or any country receiving U.S. assistance, or (b) the planning of such subversion or aggression?	7. A.I.D. has no evidence of any subversion or aggression or of plans for such action.

Best Available Document

8. FAA Sec. 620(j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction, by mob action, of U.S. property?

8. In the past there have been incidents where the GOH has been unsuccessful in containing demonstrations aimed at the U.S. Embassy. This has not been the case for many years.

9. FAA Sec. 620(l). If the country has failed to institute the investment guaranty program for the specific risks of expropriation, inconvertibility or confiscation, has the AID Administrator within the past year considered denying assistance to such government for this reason?

9. The OPIC Investment Guaranty Program is in operation in Honduras.

10. FAA Sec. 620(o); Fisherman's Protective Act of 1967, as amended, Sec. 5. If country has seized, or imposed any penalty or sanction against, any U.S. fishing activities in international waters,

a. has any deduction required by the Fisherman's Protective Act been made?

b. has complete denial of assistance been considered by AID Administrator?

10. Honduras has not seized or imposed any penalties or sanctions against U.S. vessels because of their activities in international waters during recent years.

11. FAA Sec. 620; FY 79 App. Act Sec. 603. (a) Is the government of the recipient country in default for more than six months on interest or principal of any AID loan to the country? (b) Is country in default exceeding one year on interest or principal on U.S. loan under program for which App. Act appropriates funds?

11. (a) No.
11. (b) No.

12. FAA Sec. 620(s). If contemplated assistance is development loan or from Economic Support Fund, has the Administrator taken into account the percentage of the country's budget which is for military expenditures, the amount of foreign exchange spent on military equipment and the amount spent for the purchase of sophisticated weapon systems? (An affirmative answer may refer to the record of the annual "Taking Into Consideration" memo: "yes, as reported in annual report on implementation of Sec. 620(s)." This report is prepared at time of approval by the Administrator of the Operational Year Budget and can be the basis for an affirmative answer during the fiscal year unless significant changes in circumstances occur.)

12. Yes.

13. FAA Sec. 620(t). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption?

13. No.

14. FAA Sec. 620(u). What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the AID Administrator in determining the current AID Operational Year Budget?

14. Honduras is not in arrears to the extent described in Article 19 of the U.N. Charter.

15. FAA Sec. 620A, FY 79 App. Act, Sec. 607. Has the country granted sanctuary from prosecution to any individual or group which has committed an act of international terrorism?

15. No.

16. FAA Sec. 666. Does the country object, on basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. there to carry out economic development program under FAA?

16. No.

17 FAA Sec. 669, 670. Has the country, after August 3, 1977, delivered or received nuclear enrichment or reprocessing equipment, materials, or technology, without specified arrangements or safeguards? Has it detonated a nuclear device after August 3, 1977, although not a "nuclear-weapon State" under the nonproliferation treaty?

17. No.

B. FUNDING CRITERIA FOR COUNTRY ELIGIBILITY

1. Development Assistance Country Criteria.

a. FAA Sec. 102(b) (4). Have criteria been established and taken into account to assess commitment progress of country in effectively involving the poor in development, on such indexes as: (1) increase in agricultural productivity through small-farm labor intensive agriculture, (2) reduced infant mortality, (3) control of population growth, (4) equality of income distribution, (5) reduction of unemployment, and (6) increased literacy.

B. FUNDING CRITERIA FOR COUNTRY ELIGIBILITY

1.a. Criteria for assessing progress in involving the poor in development have been set through sector and sub-sector assessments in agriculture, education, and nutrition, and will be set through urban-regional and health sector assessments planned in the near future.

b. FAA Sec. 104(d)(1). If appropriate, is this development (including Sahel) activity designed to build motivation for smaller families through modification of economic and social conditions supportive of the desire for large families in programs such as education in and out of school, nutrition, disease control, maternal and child health services, agricultural production, rural development, and assistance to urban poor?

1.b. Over the long-term, improved economic conditions for rural poor, promoted by development assistance programs such as this one, are expected to impact positively on reductions in family size.

2. Economic Support Fund Country Criteria.

a. FAA Sec. 502B. Has the country engaged in a consistent pattern of gross violations of internationally recognized human rights?

2.a. No.

b. FAA Sec. 533(b). Will assistance under the Southern Africa program be provided to Mozambique, Angola, Tanzania or Zambia? If so, has President determined (and reported to the Congress) that such assistance will further U.S. foreign policy interests?

2.b. Not applicable.

c. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipeint country, have

2.c. Not applicable.

Special Account (counterpart) arrangements been made?

d. FY 79 App. Act Sec. 113. Will assistance be provided for the purpose of aiding directly the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights?

2.d. No.

e. FAA Sec. 620B. Will security supporting assistance be furnished to Argentina after September 30, 1978?

2.e. Not applicable.

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PROJECT CHECKLIST

A. GENERAL CRITERIA FOR PROJECT.

1. FY 1979 App. Act Unnumbered; FAA Sec. 653(b); Sec. 634A

(a) Describe how Committees on Appropriations of Senate and House have been or will be notified concerning the project; (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than $1 million over that figure).

1. A Congressional Notification will be transmitted by A.I.D. to the Congress indicating funding requirements for this assistance program.

2. FAA Sec. 611(a)(1). Prior to obligation in excess of $100,000, will there be (a) engineering, financial, and other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

2. Yes.

3. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

3. No legislative action is required within Honduras to permit orderly accomplishment of the purposes of this assistance.

4. FAA Sec. 611(b); FY 79 App. Act Sec. 101. If for water or water-related land resource construction, has project met the standards and criteria as per the Principles and Standards for Planning Water and Related Land Resources dated October 25, 1973?

4. Not applicable.

5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed $1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project?

5. Not applicable.

6. FAA Sec. 209. Is project susceptible of execution as part of regional or multilateral project? If so why is project not so executed? Information and conclusion whether assistance will encourage regional development programs.

6. The Project is not suitable for execution as part of a regional or multilateral project.

7. FAA Sec. 601(a). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture

7. The Project will: (a) foster private initiative and competition; (b) discourage monopolistic practices (c) improve the technical efficiency of small industries and agriculture (d) stimulate the use of appropriate technology, expand employment and thereby strengthen the free labor movement; and (e) increase productively, thereby encouraging the flow of international trade.

and commerce; and (f) strengthen free labor unions.

8. FAA Sec. 601(b). Information and conclusion on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

8. A significant portion of this assistance will be used to import goods and services from the U.S. and institutional arrangements are included to encourage and facilitate private U.S. investment.

9. FAA Sec. 612(b); Sec. 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized to meet the cost of contractual and other services.

9. The GOH has agreed to contribute substantial counterpart funding for services and other Project costs.

10. FAA Sec. 612(d). Does the U.S. own excess foreign currency and, if so, what arrangements have been made for its release?

10. The U.S. does not own such excess currency.

11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?

11. Yes.

12. FY 79 App. Act Sec. 608. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity?

12. Assistance under this Project is not directed at promoting commodities for export.

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

a. FAA Sec. 102(b); 111; 113; 281a. Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries?

1. a. This Project's strategy is to promote the rural poor in productive activities at the local level by increasing effective employment and productivity on small farms, providing additional employment opportunities in small industries and developing and disseminating economic technologies for improving life in the rural setting. The project will: (i) directly encourage investment in rural areas; (ii) provide technical assistance to rural the poor, both as cooperative members and individuals; and (iii) directly benefit and enhance the status of women and their participation in the national economy. The project is entirely devoted to assist elements of rural poor farmers and landless rural poor to help themselves achieve improved living standards.

b. FAA Sec. 102, 103A, 104, 105, 106, 107. Is assistance being made available? (Include only applicable paragraph which corresponds to source of funds used. If

1. b. The project objective is to increase productivity and income among the rural poor and the program's components support this objective both directly and indirectly.

more than one fund source is used for project, include relevant paragraph for each fund source).

(1) [103] for agriculture, rural development or nutrition; if so, extent to which activity is specifically designed to increase productivity and income of rural poor; [103A] if for agricultural research, is full account taken of needs of small farmers;

(2) [104] for population planning under Sec. 104(b) or health under Sec. 104(c); if so, extent to which activity emphasizes low-cost, integrated delivery systems for health, nutrition and family planning for the poorest people, with particular attention to the needs of mothers and young children, using paramedical and auxiliary medical personnel, clinics and health posts, commercial distribution systems and other modes of community research.

(3) [105] for education, public administration, or human resources development; if so, extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, or strengthens management capability of institutions enabling the poor to participate in development;

(4) [106] for technical assistance, energy, research, reconstruction, and selected development problems; if so, extent activity is:

(i) technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations;

(ii) to help alleviate energy problems;

(iii) research into, and evaluation of, economic development processes and techniques;

(iv) reconstruction after natural or manmade disaster;

(v) for special development problem, and to enable proper utilization of earlier U.S. infrastructure, etc., assistance;

(vi) for programs of urban development, especially small labor-intensive enterprises, marketing systems, and financial or other institutions to help urban poor participate in economic and social development.

c. [107] is appropriate effort placed on use of appropriate technology?

1. c. The Project is designed to deliver appropriate technologies to small farmers and small rural enterprises though GOH technicians working in related agricultural and industrial development activities.

d. FAA Sec. 110(a) Will the recipient country provide at least 25% of the costs

of the program, project, or activity with respect to which the assistance is to be furnished (or has the latter cost-sharing requirement been waived for a "relatively least-developed" country)?

c. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least developed"?

f. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental and political processes essential to self-government.

g. FAA Sec. 127(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?

2. Development Assistance Project Criteria (Loans Only)

a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan, including reasonableness of repayment prospects.

b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete in the U.S. with U.S. enterprise, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan?

3. Project Criteria Solely for Economic Support Fund

a. FAA Sec. 531(a). Will this assistance support promote economic or political stability? To the extent possible, does it reflect the policy directions of section 102?

b. FAA Sec. 533. Will assistance under this chapter be used for military, or paramilitary activities?

1. d. The recipient country will provide at least 25% of the Project's costs and such contribution will be reflected in the Project Agreement.

1. e. Grant capital assistance will be disbursed during the last three years of this five year Project.

1. f. The Project design is based on comprehensive analysis of needs and constraints derived from and Agricultural Sector assessment conducted by GOH and AID personnel and a supplementary detailed surveys of rural industries. All of the program's activities will make full use of Honduran intellectual and institutional resources to develop effective skills and increase the capacity of poor rural people to participate in their own development, both social and economic.

1. g. The project is designed to optimize the use of the factors of production available to rural people and to establish the means to achieve self sustaining growth in labor-intensive rural enterprises and on small farms.

2. a. N/A

2. b. This Project is oriented toward developing small-scale industry capability to meet local rather than export demand. Minimal export production could be expected, but such production would not be expected to compete with U.S. enterprises.

3. a. N/A

STANDARD ITEM CHECKLIST

A. Procurement

1. FAA Sec. 602. Are there arrangements to permit U.S. small business to participate equitably in the furnishing of goods and services financed?	1. Yes
2. FAA Sec. 604 (a). Will all commodity procurement financed be from the U. S. except as otherwise determined by the President or under delegation from him?	2. Yes
3. FAA Sec. 604 (d). If the cooperating country discriminates against U. S. marine insurance companies, will agreement require that marine insurance be placed in the U. S. on commodities financed?	3. Yes
4. FAA Sec. 604 (e). If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity?	4. No such procurement is contemplated.
5. FAA Sec. 608 (a). Will U.S. Government excess personal property be utilized wherever practicable in lieu of the procurement of new items?	5. Yes
6. FAA Sec. 603. (a) Compliance with requirement in section 901 (b) of the Merchant Marine Act of 1936, as amended, that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S.-flag commercial vessels to the extent that such vessels are available at fair and reasonable rates.	6. The Project Agreement will provide for compliance with this requirement.
7. FAA Sec. 621. If technical assistance is financed, will such assistance be furnished to the fullest extent practicable as goods and professional and other services from private enterprise on a contract basis? If the facilities of other Federal agencies will be utilized, are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?	7. Technical assistance to be financed under the program will be contracted, to the fullest extent practicable, from private organizations or individuals.

8. International Air Transport. Fair Competitive Practices Act, 1974. If air transportation of persons or property is financed on grant basis, will provision be made that U. S.-flag carriers will be utilized to the extent such service is available?

8. Yes

9. FY 79 App. Act. Sec. 105. Does the contract for procurement contain a provision authorizing the termination of such contract for the convenience of the United States?

9. All contracts for procurement of goods and services under this Project will provide for termination for the convenience of the party issuing the contract.

B. Construction

B. Construction

1. FAA Sec. 601 (d). If a capital (e.g., construction) project, are engineering and professional services of U. S. firms and their affiliates to be used to the maximum extent consistent with the national interest?

1. The only capital elements of this Project are so small that U.S. engineering firms would not be interested.

2. FAA Sec. 611 (c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable?

2. Yes.

3. FAA Sec. 620 (k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U. S. not exceed $100 million?

3. Less than $1.0 million in assistance would be provided for construction of production enterprises.

C. Other Restrictions

C. Other Restrictions

1. FAA Sec. 122 (a). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter?

1. N/A

2. FAA Sec. 301 (d). If fund is established solely by U. S. contributions and administered by an international organization, does Comptroller General have audit rights?

2. N/A

3. FAA Sec. 620 (h). Do arrangements preclude promoting or assisting the foreign aid projects or activities of Communist-bloc countries, contrary to the best interests of the U. S.?

3. Yes.

4. FAA Sec. 636 (i). Is financing not permitted to be used, without waiver, for purchase, long-term lease, or exchange of motor vehicle manufactured outside the U. S., or guaranty of such

4. Yes.

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transaction?

5. Will arrangements preclude use of financing:

a. FAA Sec. 104 (f). To pay for performance of abortions or to motivate or coerce persons to practice abortions, to pay for performance of involuntary sterilization, or to coerce or provide financial incentive to any person to undergo sterilization?

b. FAA Sec. 620(g). To compensate owners for expropriated nationalized property?

c. FAA Sec. 660. To finance police training or other law enforcement assistance, except for narcotics programs?

d. FAA Sec. 662. For CIA activities?

e. FY 79 App. Act Sec. 104. To pay pensions, etc., for military personnel?

f. FY 79 App. Act. Sec 106. To pay U.N. assessments?

g. FY 79 App. Act. Sec. 107. To carry out provisions of FAA sections 209 (d) and 251 (h)? (Transfer of FAA funds to multilateral organizations for lending.)

h. FY 79 App. Act. Sec. 112. To financed the export of nuclear equipment, fuel, or technology or to train foreign nations in nuclear fields?

i. FY 79 App. Act Sec 601. To be used for publicity or propaganda purposes within U. S. not authorized by Congress?

5. The Project Agreement will identify the specific uses for which funds may be used, thus precluding the allocation of such funds for the purposes covered by the legislation cited in items 5.a. to 5.i.

SECRETARIA DE HACIENDA Y CREDITO PUBLICO

REPUBLICA DE HONDURAS

Tegucigalpa, D. C., junio 27, 1979. Nº..SH-094.....

Señor
JOHN LOVAAS
Director Interino de USAID
Presente

Estimado señor Lovaas:

El Plan Nacional de Desarrollo 1979-1983 en su actual revisión hace énfasis en el aumento del empleo y los ingresos. Aún cuando ésto ha sido meta del anterior PND, ahora ha tomado una forma más concreta en cuanto al énfasis sobre el aumento del empleo en el sector agrícola mediante el desarrollo y entrega de tecnologías apropiadas; y en el sector industrial, mediante el aumento en la disponibilidad de asistencia técnica y el establecimiento de una estructura de incentivos para las industrias de pequeña y mediana escala que estimule la descentralización de las áreas rurales.

En este sentido estamos proponiendo que la A.I.D. suministre asistencia al Gobierno para que lleve a cabo un proyecto cuyos objetivos son el mejoramiento del empleo, ingreso y condiciones de vida de los habitantes del área rural, el cual involucra las prioridades más importantes establecidas en el PND 1979-1983.

El proyecto que proponemos incluirá las siguientes actividades:

1.- Un sistema para el desarrollo, prueba y demostración de tecnologías nuevas y mejoradas para pequeños agricultores, industriales y del sector reformado, a nivel nacional.

2.- Un sistema de entrega de asistencia técnica y administrativa para las pequeñas empresas rurales localizadas en cuatro zonas seleccionadas; y

3.- Creación de un sistema para el desarrollo, prueba y diseminación de tecnologías apropiadas para el mejoramiento de las condiciones de vida de los hogares rurales pobres de todo el país.

El proyecto está diseñado para tener un gran impacto en todo Honduras especialmente entre los más pobres del área rural, en cuanto a sus actividades productivas así como sus condiciones de vida.

A continuación se presente el desglose del presupuesto global para -

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Tegucigalpa, D. C., Nº.....

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las diez actividades principales, durante los primeros cinco años - del proyecto:

1.	Red Interinstitucional de Información e Investigación Adaptiva.	L.	6,615.0
2.	Sistema de Entrega de Servicios de Asesoría Administrativa y Técnica para las Pequeñas Empresas	"	5,305.8
3.	Sistema para Proporcionara Capacitación a las Empresas Rurales y Pequeños Agricultores	"	1,179.0
4.	Fondo de Desarrollo para Pequeñas Empresas	"	2,000.0
5.	Fondo para el Desarrollo, Adaptación y Diseminación de Tecnologías Apropiadas	"	8,000.0
6.	Desarrollo de Recursos Humanos	"	640.6
7.	Oficina de Asesoría de Empresas	"	338.8
8.	Capacidad de Evaluación/Planificación para Identificar con más Precisión los Problemas de las Pequeñas Empresas .	"	3,028.8
9.	Análisis de la Política del GOH	"	933.2
10.	Coordinación del Proyecto, Gerencia y Administración	"	3,069.8
	TOTAL	L.	31,111.0

El Gobierno de Honduras solicita que la asistencia del A.I.D. sea - otorgada en la forma de donación por la cantidad de 20 millones de Lempiras. Pensamos que una donación es apropiada ya que las actividades a realizarse por el proyecto son completamente nuevas, ademas de que no han sido introducidas en el país; existe un riesgo substancial por parte del GOH y llevará algún tiempo para absorber los costos del proyecto.

El Gobierno de Honduras se compromete a dar 11,110.0 millones de - Lempiras de contraparte para asegurar los logros contemplados en los objetivos del Proyecto.

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REPUBLICA DE HONDURAS

Tegucigalpa, D. C., Nº.....

...3...

El Ministerio de Recursos Naturales a través de su Programa Nacional de Investigación Agropecuaria, el Ministerio de Economía y el Centro de Desarrollo Industrial (CDI) serán las agencias principales encargadas de la implementación del proyecto, teniendo la colaboración y asistencia de otras instituciones.

Agradeciendo su atención a la presente solicitud, me suscribo de usted muy atentamente,

JORGE HERNAN GALEAS DOMINGUEZ
Subsecretario.

cc: Archivo
/gnd.

Certification Pursuant to Section 611 (e) of Foreign Assistance Act of 1961, as Amended

I, John B. Robinson, the principal officer of the Agency for International Development in Honduras, having taken into account, among other factors, the maintenance and utilization of projects in Honduras previously financed or assisted by the United States, do hereby certify that in my judgment, Honduras has the financial and human resources capabilities to effectively maintain and utilize the Project: Rural Technologies.

John B. Robinson
Director, USAID/Honduras
June 22, 1979

UNCLASSIFIED

ANNEX F

DRAFT PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS

PART II

Name of Country: Honduras

Name of Project: Rural Technologies

No. of Project: 522-0157

Pursuant to Part I, Chapter I, section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize a Grant to the Republic of Honduras the "Cooperative Country" of not to exceed Eight Hundred and Fifty Thousand United States Dollars ($850,000) to help in financing certain foreign exchange and local currency costs of goods and services required for the project as described in the following paragraph.

The project consists of developing the capacity of the Cooperating Country to improve incomes and the standard of living in rural areas through the development, adaptation and dissemination of technologies appropriate for use by small farmers, small rural entrepreneurs, and rural households. (hereinafter referred to as the "Project"). Through a process of analyzing national policies that affect employment in Honduras, the Project will also endeavor to influence policy changes that would favor a more efficient utilization of national factor endowments. Pilot rural industries will be developed to

reinforce complementary existing industries and agricultural activity and to generate additional rural employment. Small amounts of experimental credit will be provided to rural enterprises to supplement the technical assistance and training received and to promote the use by small entrepreneurs of the formal credit system.

Eight Hundred and Fifty Thousand United States Dollars ($850,000) of the financing authorized and approved for the Project will be obligated when the Project Agreement is executed. I approve the total level of A.I.D. appropriated funding planned for this Project of not to exceed Ten Million United States Dollars ($10,000,000), grant during the period FY 79 through FY 84. I approve future increments during that period of funding up to $9,150,000, subject to the availability of funds in accordance with A.I.D. allotment procedures.

I hereby authorize the initiation of negotiation and execution of the Project Agreement by the officer to whom such authority has been delegated in accordance with A.I.D. regulations and Delegations of Authority subject to the following essential terms and major conditions, together with such other terms and conditions as A.I.D. may deem appropriate.

Source, Origin or Nationality of Goods and Services

Except for Ocean Shipping, goods and services financed by A.I.D. under the Project shall have their source, origin or nationality in Member Countries of the Central American Common Market or in the United States except as A.I.D. may otherwise agree in writing. Ocean Shipping financed under the Grant shall be procured in the United States.

_____
Assistant Administrator
Bureau for Latin America and the Caribbean

Date: _____

PROFILE OF PROJECT TARGET GROUPS

I. INTRODUCTION

A. Small Farms

The Mission and the GOH completed in February 1979 the Agriculture Sector Assessment for Honduras, which contains an extensive profile of farmer target groups. The analysis for this Project is based on that Assessment; therefore, further relevant information can be obtained by referring to the Assessment.

B. Rural Households

No current extensive or intensive analysis of the problems of the rural household exists for Honduras. The most recent household income-expenditure data is from a 1967-1968 survey financed by A.I.D. The GOH, with AID financing from the Nutrition Loan, is in the process of tabulating data from a 1978 survey. This data will be analyzed, as soon as it is available, by the Project Studies Unit to identify problem areas and estimate demand for consumer products and income levels in rural households.

C. Rural Enterprises

An extensive study of rural industry was conducted for this Project. Data from the survey has been used for the Project design; and for the Economic and Social Analyses. This Annex reports, in some detail, the results of the Survey.

II. RURAL INDUSTRY SURVEY

A. Purpose

The Small Industry Survey was conducted to provide a descriptive profile of small industry in selected regions of Honduras, in order to provide an information base that would assist in the design and implementation of a program to assist said industries. Aspects of employment, capital assets, equipment stock, socio-economic characteristics of the entrepreneurs, and perceived problems were included in the survey.

This preliminary report summarizes the principal findings of the survey. The overview provided here is necessarily preliminary, as an exhaustive analysis remains to be done of the interrelationship of a number of the above factors. Nevertheless, this first cut of the data provides sufficient descriptive information for a profile of the target group for the Small Enterprise Component of the Rural Technologies Project.

B. Methodology

The survey methodology is adapted from the methodology developed at Michigan State University for small industry studies in

Sierra Leone, Jamaica, Bangladesh, and Haiti. Theoretical and methodological presuppositions tested in Sierra Leone and refined in subsequent country surveys are the foundation for this survey. Adaptations and modifications for Honduras were made by a joint USAID-CDI working group.

1. Sample Selection

The regions to be surveyed were selected by the Agricultural Policy Commission with CONSUPLANE as follows: the West and Southwest (Ocotepeque and Marcala-Goascorán) as areas of economic stagnation and high unemployment rates, bordering El Salvador; and the Eastern-Central regions (Danlí and Olancho) as regions for integrated development programs.

A two-stage cluster sample technique was applied within these regions, to select the communities to be surveyed. Census enumeration areas were stratified as follows: Stratum 1, less than 500 inhabitants; Stratum 2, 500-1999 inhabitants; and Stratum 3, 2000 or more inhabitants. A five percent sample of Stratum 1 areas was selected, 50 percent of Stratum 2 and 100 percent of Stratum 3. Within these areas, all industries were identified and surveyed. Projections for the regions, then, can be made on the basis of this complete enumeration of randomly selected clusters within the three strata.

2. Survey Instruments

The survey instruments are adapted and modified versions of the instruments developed by Michigan State University analysts. Instrument 1 measured shop and labor characteristics. Instrument 2 measured equipment, production and raw material stock. Instrument 3 measured entrepreneurial socioeconomic characteristics. Copies of all three are attached in Annex 1.

The principal modifications to these instruments are as follows: labor was differentiated functionally in Instrument 1, and an entire section on socio-cultural features and perceived industrial problems was added to Instrument 3.

3. Data Collection

The actual interviewing for the survey was carried out by a team contracted through a local consulting firm, Fortín, Lagos y Asociados, S. de R.L. The team was composed of 24 fourth-year university students, mostly business administration majors, supervised by an economist with extensive experience as Director of the Census Bureau in Honduras. Technical supervision of the data collection was provided by USAID and CDI.

A total of 2,120 industries were surveyed with Instruments 1 and 2. Approximately every third entrepreneur was surveyed with Instrument 3, for a total of 792. However, due to changes in the survey format, the "problems" section of Instrument 3 was not done in Ocotepeque.

Coding of the instruments was supervised by a research associate from Michigan State University. The coding scheme for all three instruments was developed with local data-processing in mind.

4. Data Processing

The survey data were analyzed using a computer methodology jointly by MSU, USAID, and a contracted Honduran programmer. The programs for analysis of Instrument 2 were adapted from MSU's programming scheme. The programs for Instrument 1 and 3 were developed locally.

A computer data base file has been structured to allow easy access and permit on-going analyses of the data, as analytical hypotheses are developed and tested.

This profile is based on descriptive data disaggregated by region, by industry type, and in some cases by population strata. Further analysis of the data is relatively simple; a procedural manual for analysis of the data base is being developed to allow researchers and interested persons to structure their own analyses.

5. Survey Phases

The data collected in this survey measures industrial stock and entrepreneurial characteristics. A longitudinal follow-on survey is currently in the design process; this longitudinal survey will measure the flow of inputs and outputs in a sample of the firms surveyed.

III. DESCRIPTIVE PROFILE OF LABOR, CAPITAL, AND ENTREPRENEURIAL CHARACTERISTICS

A. Distribution of Small Scale Industrial Categories by Region and Strata 1/

The composition of industrial activities in rural Honduras provides some insight into the nature of the rural industrial sub-sector. The most important industrial categories, in order of importance, are: textiles and apparel, food processing, wood working, metal work, construction, ceramics, leather work and others. Four of every ten industries are tailors/seamstresses, two of every ten are food processors, and one out of ten do woodwork. Regional variation in types is not significant. 2/

1/ This section along with approximately 70 tables to support the analysis are available in a separate bound report.

2/ NOTE: The only region with significant variation from the overall pattern is Goascorán. However, this is because two ceramics communities were purposely added to the random sample. If these are removed, the distributional pattern becomes similar to the other regions.

The most salient finding is the dominant position of clothing manufacture in the rural areas. Tailors and seamstresses constitute 37 percent of all entrepreneurs and 21.9 percent of employment. This coincides with studies of small-scale industry elsewhere, which have underlined the importance of clothesmaking. 1/ Food processing follows in importance, departing from the pattern in other developing countries. Carpentry and related activities, not surprisingly in a woodrich country, are third in importance.

The composition of industries varies importantly with the size of settlements in rural Honduras. Metalworking, repair services, leather works and art are concentrated in larger communities. Ceramics, palm products 2/ and food processing are concentrated in smaller and medium sized communities. However, textiles, construction and wood industries are equally important in each stratum.

B. Capital Services and Stock Inputs

In this study, capital has been divided into four major categories: buildings, equipment, working capital and goodwill. Buildings includes the value of building and land used exclusively for industrial purposes. 3/ Equipment consists of tools, machines, and furniture in use by the enterprise. They are valued at their purchase price as defined by the entrepreneur. Working capital includes the value of the raw material and finished output inventory held at the time of the survey. Fixed capital includes both buildings and equipment.

The average small scale rural industry has $201 of fixed capital, which is comparatively little indeed. Bakers ($85) have the least investment, followed in ascending order by brickmakers ($175.50), clothesmakers ($227), carpenters ($298.50) and blacksmiths ($309). The bulk (90%) of capital investment is in equipment, as most small-scale industry is located in the house.

Regional variation is significant. Danlí, the area with richest agricultural production, has industries with an average capital investment which is twice as large as Marcala-Goascorán, which includes the zone with poorest agricultural production. Olancho has a well developed agricultural sector as well, dominated by medium-to-large cattle farms. Agriculture in Ocotepeque is characterized by small peasant holdings, similar to Marcala and Goascorán. Regional variations underlines the importance of linkages to the agricultural sector. 4/

1/ See Liedholm (1973) for a review of these studies.

2/ Palm products include basket weaving and straw furniture making.

3/ Values were not computed for living space in the household that serves the dual purpose of industrial uses.

4/ These will be analyzed in the longitudinal phase of the study.

Stock inputs are, on the average, only 12 percent of fixed capital inputs. The relative magnitude of stock, however, varies importantly by industry. Brickmakers have two units of stock for every three units of fixed capital. This gives insight into the nature of their enterprise, which uses large amounts of raw material and relatively little equipment. Carpenters have one unit of stock for every five units of fixed capital. Except for brickmakers, carpenters keep larger amounts of stock than other industries though there is more important investment in equipment.

Carpenters keep larger amounts of stock in hand, probably because they must cure some of their raw materials prior to utilization. Tailors purchase raw materials which are themselves finished products of other industries and need not be stocked.

C. Labor Inputs

The average small-scale industry employs 2.1 persons, including the entrepreneur. With adjustments for part-time and child labor, the average size of firm is 1.6 full-time equivalent laborers. 1/ A gross measure of mechanization was constructed by computing the number of machines per laborer, weighted and unweighted. There are an average 1.2 workers per machine in all rural small-scale industries.

Regional variation is not significant, though variation by industry type is. Using the worker-machine ratio as a measure of mechanization, bakeries are the least mechanized (1.9 workers/machine), followed by brickmakers (1.64), blacksmiths (1.46), clothesmakers (1.08), and carpenters (0.55). 2/

One measure of the labor intensity in industry is the investment in fixed capital per laborer. The greater the capital-labor ratio, the less labor intensive is the industry. The mean investment per laborer is $117. One finds regional variation, where Danlí industries are almost twice as capital intensive as those in Marcala-Goascorán; this variation, however, is not statistically significant. 3/ Variation by industry type, however, is significant. Industries are ordered along a continuum of least to most capital intensive as follows: baking ($35.50/person) to brickmaking ($61/person) to carpentry and blacksmithing ($150.50/person) to clothesmaking ($170.50).

1/ Since labor flows will not be available until the end of Phase II, a rough approximation was made by weighting children and part-time laborers at half of an adult full-time worker.

2/ Tools are not included here; machines are distinguished from tools by the presence of working parts that transmit energy.

3/ This is because the variation within regions is greater than that between regions. In general, this holds true for most

Division of labor inputs by sex and age adds further insight into the nature of small-scale industry. All industries use child labor to some extent (15% overall). Palm industries are more heavily dependent on child labor (41%) followed by metal processing (25%) and ceramics (21%). Textile industries and repair services are the least dependent on child labor (10%) Regional variation exists, but probably as a function of industrial composition.

D. Initial Capital Stock Requirements

The average small firm required an initial investment of approximately $400. 1/ The size of the investment is an indicator of the barriers on entry into the small industry sector. It represents a year's wages for a worker earning the minimum wage rate. Since savings is the principal initial source of capital (see below), it is obvious that a considerable number of years' savings accumulation are required for entry into the sector.

E. Sources of Initial Capital

Non-agricultural savings, savings from agriculture, and other sources provide the majority (67%) of funds needed for establishment of small-scale industries, followed by gifts (13%), family or friends loans (12%). Few industries (6%) started with loans from other sources.

F. Credit

Credit is not a significant factor in most small industries. Only 13.5 percent of entrepreneurs requested credit in 1978, and 12.1 percent obtained it. Kinsmen and friends, on the one hand, and private banks, on the other are equally important as sources of credit. The importance of informal credit varies widely from region to region -- 3 out of every 5 loans in Marcala-Goascorán are from family and friends as compared to 2 out of 5 in Olancho and Danlí.

Credit, when it is used, is used principally for working capital, 64.6%, as opposed to 35.4% for investment purposes.

One in four entrepreneurs avoid credit because of risk factors. One in eight have no collateral that can be used for credit. Only one in ten point to other access problems (lack of formal sources or lack of knowledge) as reasons for not requesting credit. The predominant factor is a lack of perceived need for credit, which is true of almost half of entrepreneurs.

G. Excess Capacity

Small firms surveyed work, on the average, 4.7 shifts per week. One half of entrepreneurs feel that they can work additional

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1/ Source: Honduras Rural Industry Survey.

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hours per week. The mean estimated of hours per day that could be worked with no expansion of the shop is 1.9.

H. Apprenticeship Characteristics

Only 13% of firms employ apprentices. 1/ The average length of apprenticeship is one year. Three of every four apprentices is paid, while one of five pays to learn. The significance of apprenticeship may be underestimated, due to problems in the data-gathering process; this will be further explored in the longitudinal study.

I. Entrepreneurial Characteristics

The average age of entrepreneurs is 40 years. Fiftyseven percent are women and forty-one percent are men. There is, as one would expect, a strong correlation of sex and industry type -- seamstresses are women, tailors mostly men, bakers are women, and the rest are primarily male entrepreneurs.

The literacy rate for entrepreneurs is much higher than the overall rural literacy rate 77 percent vis a vis 52 percent. Here one finds a significant regional constrast: Danlí entrepreneurs are more literate (85.4 percent) and Goascorán entrepreneurs less literate (62.5 percent). A similar variation is obtained in numeracy. While 61 percent of all entrepreneurs can do the four basic arithmetic operations, Danlí entrepreneurs are slightly more numerate (65 percent) and Goascorán entrepreneurs significantly less (50 percent). It is instructive to know that there is no significant difference between male and female literacy rates, a phenomenon which is not true of the population as a whole, which has higher male literacy rates.

Mean family size is much bigger than the rural average -- 9.33 vis a vis 5.4 persons. 2/ The percentage of entrepreneurs who employ their own children in the firm (both minors and adults) is 21 percent. 3/

Entrepreneurs are recruited into the small-scale industrial sector by various routes. The most important is self-teaching (31 percent), followed by learning from the family (27 percent), and apprenticeship (26 percent). Formal training amounts for 12 percent of entrepreneurs, including courses (9 percent) and vocational school (4 percent). It should be noted that only 12.5 percent of entrepreneurs now have the same occupation as their parents. The mean length of the learning process is 2 1/2 years, although there is great variation.

1/ It may well be that there is a cultural difference in the definition of apprenticeship, where many who report learning a trade from their family actually served as apprentices. In any case, apprenticeship is significantly less important than in other countries.

2/ Source: Honduras Rural Industry Survey.

3/ Ibid.

Some entrepreneurs (36 percent) have had nonformal training. Sewing and tailoring courses are the most common (9 percent) which is not surprising in view of the dominance of this industry. General management courses (human relations, cooperativism) are next in importance, a reflection of the amount of rural community development work engaged in by various institutions in Honduras. The average entrepreneur has had 15.6 years of experience in his trade, very little of which has taken place in another firm, as the average age of enterprises is 14 years. 1/

1. Occupational Mobility and Multiplicity

A significant number of entrepreneurs show some occupational mobility. Half of them have held previous non-industrial occupations and an additional 6.4 percent have had a previous industrial occupation. Some of this may be accounted for by entrepreneurial expansion, as 3 percent own additional industrial enterprises.

A great amount of mobility may be due to occupational multiplicity, as 49 percent of entrepreneurs have a second occupation. Secondary occupations are probably continuations of occupations which they had prior to becoming entrepreneurs. Secondary occupations among all entrepreneurs are: housewives (16%), farmers (7.3%), agricultural laborers (6.6%). Other occupations are logical correlates or extensions of industrial activity -- merchants (2.5%), bricklayers (1.4%), bakers (1.0%), and other industrial occupations.

Regional variation in occupational multiplicity does occur. Only 2 of every five entrepreneurs in Ocotepeque and Danlí have a second occupation, as compared to 3 of every 5 in Olancho; Marcala and Goascorán lie between the two.

2. Motivation and Work Orientation

Entrepreneurs were asked to enumerate their reasons for establishing their shop. The most common reason named was to earn a living (68 percent). Next in order of importance were a preference for self-employment (23 percent), the possession of experience in the trade (23 percent), and a demand for industrial products (23 percent). The small percentage who inherit a family business (15 percent) is another indicator of the mobile nature of entrepreneurialism. Prestige (6 percent) is not an important motivation for establishing a shop. 2/

A very significant work ethic exists among entrepreneurs. Some observers of rural society have noted a pervasive fatalism

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1/ Ibid.

2/ In this and other questions, the totals add up to more than 100 percent. This is because multiple responses were permitted to some questions.

which reduces the motivation to entrepreneurial endeavor, but only 8 percent of small industry owners attribute any importance to luck as a success factor. Experience (34 percent), hard work (20 percent), and training (18 percent) were named by entrepreneurs as the principal factor contributing to entrepreneurial success. Friendship or "connections" is considered the most important success factor by only 4 percent of entrepreneurs. A motivation to work hard; to acquire training, and to gain experience is denoted by the above data.

3. "Modern" Administrative Practices

Most entrepreneurs do not follow "modern" administrative methods in their industrial establishments. Only 14 percent keep written records, and only 15 percent keep bank accounts. There is some regional differentiation in terms of possession and type of bank accounts. Only 3.5 percent of Goascorán entrepreneurs and 10 percent of Ocotepeque and Marcala entrepreneurs keep any kind of account, as compared to 19 and 21 percent in Olancho and Danlí, respectively. While 70 percent of those who keep bank accounts have savings accounts, savings is more important in Danlí and Olancho (74 and 75 percent) than in Ocotepeque (55 percent) or Marcala and Goascorán (60 percent).

The same regional differences obtain in the keeping of written records. Indeed, the great similarity in these figures tends to support the interpretation that banking and written records are both manifestation of a more profound phenomenon that might be called a "business" orientation in contradistinction to the "artisan" orientation of most small enterprise. This is supported by the fact that almost two thirds of those who keep no written records perceive no need for them.

IV. PROBLEMS AND PROBLEM AREAS IN SMALL INDUSTRY

Two problem areas which are amenable to preliminary analysis and represent areas of potential intervention will be examined here. The first is the area of marketing-production linkages and the second is constraints to expansion of production. In addition, the entrepreneur's perception of his own problems will be explored at some length.

A. Marketing-Production Relationships

Most entrepreneurs produce and sell their own goods. Eighty-eight percent of all entrepreneurs surveyed retail their goods directly from their shop/house. Only 5 percent sell through local retailers and 3 percent through national private distributors; a mere 1 percent export their production out-of-country. 1/

1/ This figure is somewhat lower than reality. Because of the political aspects of marketing across the El Salvador border, it is probably distorted in informants' accounts.

The predominant marketing-production relationship is production on order, which characterizes 56 percent of firms. Thirty-eight percent of entrepreneurs produce goods for retail sale without specific orders or contracts; volume of production is based on experience. Only 5 percent of firms produce goods by medium or long term contracts with a buyer. The only regional variation of any consequence is in Goascorán, where half of all producers retail their goods; this is probably related to the nature of the pottery industry, which is overrepresented in that region.

Very little credit is extended to customers-- 86 percent of all entrepreneurs sell for cash on delivery only. This tends to reduce the cash flow problems that the entrepreneur might experience were he to extend credit to his customers.

Entrepreneurs spend on the average 2.1 days per week selling their production. Thus, they are more accurately characterized as small industrialist businessmen. Opinion as to the adequacy of sales prices is split evenly -- 46 percent think prices are adequate and 47 percent do not.

Eighty-eight percent of all entrepreneurs think that there is a satisfactory demand situation, although this ranges from a low of 76 percent in Ocotepeque through 83 percent in Goascorán and above 90 percent in Marcala, Danlí and Olancho.

Demand considerations rank highest in the entrepreneurs' explanations of production trends for their enterprises, both for the previous year and the last five years. In relation to the past five-year period, approximately one-third of entrepreneurs state that their production has increased over the last five years; more than half of these attribute the increase to improvements in the local economy which have created a greater demand. Approximately 20 percent of the entrepreneurs note a decline in their enterprise over the same period; of those 24 percent attribute the decrease to decreased demand and 20 percent to increased costs.

In relation to the 1977-1978 period, one-third of the entrepreneurs note that their enterprise has remained stable which is attributed mainly to the situation of the local economy and local demand.

It is noteworthy that the same relationships obtain for production trends in the area, rather than the individual enterprise. Though 75 percent of the entrepreneurs declined to opine in the matter, some because there are no similar industries in the area and others because of a lack of knowledge, the state of the local economy is noted as the reason for production trends by 23.3 percent of all entrepreneurs, whether the trend has been up, down, or stable.

It is similarly instructive to note a regional variation in the upward trend of production. Ocotepeque entrepreneurs have experienced the least improvement, while Marcala entrepreneurs have experienced the most improvement in the last year. The local

economy in Ocotepeque is stagnant perhaps because of instability relating to the unsettled El Salvador border problem, whereas Marcala has experienced a recent boom from increased coffee production and coffee prices and public development efforts.

Since past production trends are related to local demand, it is reasonable to assume that entrepreneurs are forecasting future increased production on the same grounds. Approximately 43 percent of entrepreneurs have plans to increase their production, though only 34 percent of those who have plans to increase production have a definite percentage target in mind. The average increase in production targeted is 84 percent over present production. Not surprisingly, given the nature of the small enterprises, only 21 percent of entrepreneurs who expect to increase the production have conducted a feasibility study prior to plans for increasing their production.

Many entrepreneurs who plan an increase in production are relying on credit as the source of expansion capital (38.7 percent of entrepreneurs). However, a significant percentage (21 percent) are reinvesting their own profits. Of entrepreneurs surveyed 9.5 percent will rely on family loans, and 11.1 percent on loans from friends.

B. Constraints to Increased Production

Entrepreneurs were asked to name the problems that they would encounter in attempts to increase their production. Less than a third (31 percent) would have problems of capital; equipment and personnel, 16 percent each; raw materials, 11.6 percent; and insufficient demand, 4.6 percent.

Conversely, entrepreneurs who plan no increase in production were asked to state their reasons. For every two entrepreneurs who rate lack of funds or credit as the reason for having no plans to increase production, there are three that list risk, demand, technology, or labor factors as their constraints.

C. Perceived Problems in Small Industry

A number of questions were directed to entrepreneurs in an attempt to shed light on their perception of problems that affect industrial performance. Some questions were broad, open-ended, exploratory in nature. Others required the entrepreneurs to choose between alternative responses.

When asked to enumerate the problems that their firms face, most entrepreneurs (54.3 percent) named technological, raw material, or personnel problems. One-third (34 percent) have problems of capital. A similar amount (30 percent) have no problems. 1/

1/ NOTE: This adds up to more than 100 percent because entrepreneurs were allowed to enumerate more than one problem.

1. Shop and Equipment Conditions

When asked specifically if they considered their present shop location to be adequate, 17 percent responded negatively. There is some regional variation, with Marcala (31 percent) at one end and Olancho at the other (14 percent). Most of those who have location problems (60.7 percent) would prefer to be in the center of town; this is probably due to the dual production-marketing nature of the enterprise. Thirty-eight percent of entrepreneurs have shops with inadequate space.

While only 3 percent of the entrepreneurs who have equipment consider its capacity insufficient for present production, 75 percent consider it insufficient for increased production. Judgments as to the technical adequacy of equipment await further analysis of the survey data.

2. Raw Materials

Raw materials figure significantly in the problems mentioned by entrepreneurs and as a constraint to increased production. Almost half of the entrepreneurs experience some difficulty in obtaining raw materials quality being the most important, followed by scarcity, storage, distance and transport. Almost 70 percent have to travel less than 12 miles to obtain raw materials, 21.8 percent between 12 and 61 miles and 8.4 percent more than 122 miles. One-third consider the quality of what they obtain to be average-to-poor. The above factors combine to affect firm production, as 38 percent of entrepreneurs lose one or more days per month due to lack of raw materials.

While price problems do not figure significantly among those mentioned (only 6 percent), there are some price constraints. Forty-one percent of entrepreneurs find that raw materials are less costly if purchased outside the local area, while 16 percent get the same price and 19 percent get them cheaper locally. 1/ It is instructive to note that a sizeable percentage (23.3) of entrepreneurs do not have comparative price information.

3. Production

Very few (3 percent) of industries have problems of production overstocks at present. And only eight percent feel that they generate such problems, were they to increase their production. Furthermore, only 57.7 percent of the entrepreneurs feel that current production levels meet local demand. This leads to the conclusion that an important sector of the entrepreneurs feel that production levels can be increased. However, a majority

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1/ It is difficult to tell whether entrepreneurs figured in transportation costs when comparing local and non-local prices.

(65 percent) of entrepreneurs indicated that they would encounter problems if they attempted to increase their production.

Quality control of the production is not very widespread. Only 38 percent of entrepreneurs have quality control measures. There is some regional variation, however: 62 percent of Marcala entrepreneurs have quality control mechanisms, as compared to 42 percent in Goascorán, 39 percent in Danlí, and 32 percent in Olancho.

4. Labor

Interestingly enough, given the relatively high rates of rural unemployment, there appears to be a significant problem in the local supply of labor. Forty percent of entrepreneurs note problems in local supply. In addition to the problem of availability of workers 36.8 percent of all entrepreneurs have other difficulties in local contracting of labor. These are, in order of importance: lack of resources (21 percent), lack of trained workers (20 percent), and lack of worker interest (14 percent).

5. Management

It is difficult to obtain an assessment of management problems from small entrepreneurs directly, as they are probably unaware of certain types of management problems. However, one indicator of management problems is relatively straightforward, and that is the existence of a work plan. Two-thirds of the entrepreneurs do not formulate a work plan. Twenty-two percent formulate plans on a daily basis, and twelve percent on a weekly basis or longer period of time. This low incidence of planning is another indicator of the artisanal rather than industrial mode of production.

V. SUMMARY OF PROBLEMS

A number of the phenomena noted above indicate general problem areas in small enterprise. The lack of written records and of definite work plans seems to verify one of the hypotheses of the Sierra Leone study, i.e., that management problems are paramount in small industry. The lack of knowledge of product market opportunities, especially outside the local area, indicates that marketing skills are one problem area in enterprise management skills. The lack of knowledge of raw materials supply and of quality control mechanisms is similarly indicative of poor management skills. Forty-two percent of the entrepreneurs would encounter technological problems were they to increase their production. Capital problems are consistently ranked relatively low (24.2 percent) by entrepreneurs; given the tendency, documented in the Sierra Leone study for entrepreneurs to overestimate capital problems, this indicates that capital problems are not permanent.

The existence of excess capacity, expressed in terms of man hours and equipment capacity, in the face of unfulfilled demand situations similarly reflects a lack of aggressive management skills.

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The overall situation of small enterprises seem to confirm the salient findings of the Sierra Leone study, i.e., that management, marketing, and technology skills are more problematic in small industry than is the lack of capital. This is further confirmed when it is examined in the light of present sources of capital, which are primarily reinvestment of entrepreneurial earnings. Thus, large infusions of capital would be neither of first necessity nor desirable in attempts to assist Honduran rural entrepreneurs.

SUMMARY OF COSTS BY INSTITUTION BY YEAR ($000)

	YEARS										Total	
	1		2		3		4		5			
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
Ministry of Natural Resources	(825.0)*	(81.5)	256.5	80.8	251.1	231.3	94.0	411.0	94.0	431.7	695.6	1,154.8
Ministry of Economy	79.8	0	254.4	27.6	245.3	52.9	80.8	128.2	77.6	137.2	737.9	345.9
Industrial Development Center	1405.2	64.4	1313.1	603.6	1571.4	765.4	1659.1	998.7	1547.7	1174.0	7496.5	3,606.1
Total	1485.0	64.4	1824.0	712.0	2067.8	1049.6	1833.9	1537.9	1719.3	1742.9	8930.0	5,106.8

* Non-add Grant Funds from Current Small Farmer Technologies Project (0123)

RRR BUDGET SUMMARY (US$ 000)

	YEARS 1		2		3		4		5		Total	
	AID	GOM	AID	GOM	AID	GOM	AID	GOM	AID	GOM	AID	GOM
Development and Adaptation	(722.6)	(72.6)	201.6	59.3	209.6	169.6	54.0	351.1	54.0	369.3	519.2	949.3
Information	(81.6)	(8.9)	54.9	21.5	3.5	61.7	2.0	59.9	2.0	62.4	62.4	205.5
Training	(21.0)	(0)	(0.0)	0	38.0	0	38.0	0	38.0	0	114.0	0
TOTAL RRR	(825.0)	(81.5)	256.5	80.8	251.1	231.3	94.0	411.0	94.0	431.7	695.6	1154.8

OUTPUT # 1

MINISTRY OF NATURAL RESOURCES - DEVELOPMENT AND ADAPTATION - (COMAYAGUA) ($000) Page 1

ITEM	YEARS 1 AID	1 GOH	2 AID	2 GOH	3 AID	3 GOH	4 AID	4 GOH	5 AID	5 GOH	Total AID	Total GOH
I. PERSONNEL												
1. Salaries												
a. Agricultural Economist	(15.0)	-0-	16.0	-0-	-0-	17.0	-0-	18.4	-0-	19.7	15.0	55.1
b. Mechanical Engineer	(44.0)	-0-	47.1	-0-	50.4	-0-	-0-	54.0	-0-	57.7	97.5	111.7
c. Agricultural Engineer (2)	(44.0)	-0-	47.1	-0-	-0-	50.4	-0-	54.0	-0-	57.7	47.1	162.1
d. Agronomists - Interns 4 - first year 3 - subsequent years at 6,000/yr.	(24.0)	-0-	0	25.6	-0-	27.5	-0-	40.5	-0-	45.2	0	138.8
2. Other Direct Personnel Costs												
a. International travel and per diem	(5.0)	-0-	5.0	0	5.0	-0-	5.0	-0-	5.0		20.0	-0-
b. Local travel and per diem	(5.0)	-0-	2.0	3.0	-0-	5.0	-0-	5.0	-0-	5.0	2.0	18.0
c. Storage and/or transportation of personal effects	(12.0)	-0-	5.0	-0-	5.0	-0-	5.0	-0-	5.0	-0-	20.0	-0-
SUB-TOTAL (Personnel)	(149.0)	-0-	122.2	28.6	60.4	99.9	10.0	171.9	10.0	185.3	202.6	485.7
II. TECHNICAL ASSISTANCE												
a. Advisors and Technical Specialists	(30.0)	-0-	24.0	-0-	24.0	-0-	24.0	-0-	24.0	-0-	96.0	-0-
b. Institutional contracts for technical services	(20.0)	-0-	20.0	-0-	20.0	-0-	20.0	-0-	20.0	-0-	80.0	-0-
SUB TOTAL (TECHNICAL ASSIST.)	(50.0)	-0-	44.0	-0-	44.0	-0-	44.0	-0-	44.0	-0-	176.0	

* Non add. Current funds from Small Farmer Technologies Project (0123)

OUTPUT # 1

MINISTRY OF NATURAL RESOURCES - DEVELOPMENT & ADAPTATION PROGRAM - (COMAYAGUA) ($000) Page 2

ITEM	YEARS 1 AID	1 GOH	2 AID	2 GOH	3 AID	3 GOH	4 AID	4 GOH	5 AID	5 GOH	Total AID	Total GOH
III. COMMODITIES												
a. Materials for fabrication and office supplies	(70.0)	(30.0)	5.6	2.4	-0-	8.0	-0-	9.0	-0-	10.0	5.6	29.4
b. Tools and testing equipment	(3.5)	(1.5)	2.8	1.2	-0-	4.0	-0-	3.0	-0-	2.0	2.8	10.2
c. Prototypes for tests, draft animals, etc.	(95.0)	(41.1)	17.0	6.0	-0-	25.0	-0-	25.0	-0-	25.0	17.0	81.0
d. Vehicles (8)	(45.0)											
e. Vehicle Maintenance	(15.0)	-0-	10.0	-0-	-0-	11.0	-0-	12.0	-0-	13.0	10.0	36.0
SUB-TOTAL (Commodities)	(231.5)	(72.6)	35.4	9.6	-0-	48.0	-0-	49.0	-0-	50.0	35.4	156.6
IV. OTHER COSTS												
A. Contracts: construction of shops, data processing, local labor, equipment and other rentals	(90.0)	-0-	-0-	16.0	-0-	17.6	-0-	19.4	-0-	21.3	-0-	74.3
B. Demonstration of tools, machinery and equipment												
- Field Personnel	(19.2)	-0-	(21.1)	-0-	23.2	-0-	-0-	25.5	-0-	28.1	23.2	53.6
- Per Diem	(41.0)	-0-	(62.0)	-0-	82.0	-0-	-0-	82.0	-0-	82.0	80.0	164.0
- Transportation	(5.0)										82.0	
C. Small Farmer Survey	(130.0)			-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-

UNCLASSIFIED
ANNEX H
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OUTPUT # 1 . MINISTRY OF NATURAL RESOURCES - DEVELOPMENT AND ADAPTATION PROGRAM (COMAYAGUA) ($000) Page 3

ITEM	YEARS 1 AID	YEARS 1 GOH	YEARS 2 AID	YEARS 2 GOH	YEARS 3 AID	YEARS 3 GOH	YEARS 4 AID	YEARS 4 GOH	YEARS 5 AID	YEARS 5 GOH	Total AID	Total GOH
D. Vehicle Insurance	(6.7)	-0-	-0-	5.1	-0-	4.1	-0-	3.3	-0-	2.6	-0-	15.1
SUB-TOTAL (Other Costs)	(291.9)	-0-	(103.1)	21.1	105.2	21.7	-0-	130.2	-0-	134.0	105.2	307.0
SUB-TOTAL (D & A Program)	(722.4)	(72.6)	201.6	59.3	209.6	169.6	54.0	351.1	54.0	369.3	519.2	949.3

OUTPUT # 1 . INFORMATION SYSTEM - MNR - COMAYAGUA ($000) Page 1

ITEM	YEARS 1 AID	1 GOH	2 AID	2 GOH	3 AID	3 GOH	4 AID	4 GOH	5 AID	5 GOH	Total AID	Total GOH
I. PERSONNEL												
1. Salaries												
a. Communications Specialist	(24.0)	-0-	25.7	-0-	-0-	27.5	-0-	29.4	-0-	31.5	25.7	88.4
b. Librarian	(5.0)	-0-	-0-	6.0	-0-	6.6	-0-	7.0	-0-	7.4	-0-	27.0
c. Secretary	(5.0)	-0-	-0-	6.0	-0-	6.6	-0-	-0-	-0-	-0-	-0-	12.6
2. Other Direct Personnel Costs												
a. International Travel	(1.0)	(2.0)	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0	4.0	8.0
b. Local Travel	(1.5)	-0-	1.5	-0-	1.5	-0-	-0-	1.5	-0-	1.5	3.0	3.0
SUB-TOTAL (Personnel)	(36.5)	(2.0)	28.2	14.0	2.5	42.7	1.0	39.9	1.0	42.4	32.7	139.0
II. TECHNICAL ASSISTANCE												
- Information Systems Specialist	(25.0)	-0-	5.0	-0-	-0-	-0-	-0-	-0-	-0-	-0-	5.0	-0-
III. TRAINING												
- Conferences	(2.0)	-0-	2.0	-0-	1.0	-0-	1.0	-0-	1.0	-0-	5.0	-0-
IV. OTHER COSTS												
a. Acquisition and Dissemination of Information	(11.1)	(3.9)	12.7	4.5	-0-	11.0	-0-	12.0	-0-	12.0	12.7	39.5
b. Contract Services	(7.0)	(3.0)	7.0	3.0	-0-	8.0	-0-	8.0	-0-	8.0	7.0	27.0
SUB-TOTAL (Other Costs)	(18.1)	(6.9)	19.7	7.5	-0-	19.0	-0-	20.0	-0-	20.0	19.7	66.5
TOTAL (Information)	(81.6)	(8.9)	54.9	21.5	3.5	61.7	2.0	59.9	2.0	62.4	62.4	205.5

OUTPUT # 3 .

MINISTRY OF NATURAL RESOURCES - TRAINING

ITEM	YEARS 1 AID	YEARS 1 GOH	YEARS 2 AID	YEARS 2 GOH	YEARS 3 AID	YEARS 3 GOH	YEARS 4 AID	YEARS 4 GOH	YEARS 5 AID	YEARS 5 GOH	Total AID	Total GOH
Small Farmer Training	(21.0)	-0-	(20.0)	-0-	38.0	-0-	38.0	-0-	38.0	-0-	114.0	-0-

MOE

BUDGET SUMMARY (US$ 000)

	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
Policy Analysis Unit	0	0	135.5	14.3	128.5	30.8	17.5	50.3	10.0	54.9	291.5	150.3
Small Industry Advisory Office	0	0	32.0	7.0	28.1	10.3	2.0	31.5	2.0	31.6	64.1	80.8
Program Coordination	79.8	0	86.9	6.3	88.7	11.8	61.3	46.4	65.6	50.7	382.3	115.2
Totals...	79.8	0	254.4	27.6	245.3	52.9	80.8	128.2	77.6	137.2	737.9	345.9

OUTPUT 9 MOE- POLICY ANALYSIS UNIT ($000) Page 1

ITEM	YEARS 1 AID	1 GOH	2 AID	2 GOH	3 AID	3 GOH	4 AID	4 GOH	5 AID	5 GOH	Total AID	Total GOH
I. PERSONNEL												
1. Salaries (First year-6 mo)												
a. 1 Chief Economist		-0-	16.0	-0-	17.0	-0-	-0-	18.0	-0-	19.0	33.0	37.0
b. 1 Industrial Economist		-0-	12.0	-0-	-0-	12.8	-0-	13.7	-0-	14.7	12.0	41.2
c. Technician (Surveys and Field Information)		-0-	-0-	3.0	-0-	3.2	-0-	3.4	-0-	3.6	0	13.2
d. 1 Secretary		-0-	-0-	3.0	-0-	3.2	-0-	3.4	-0-	3.6	0	13.2
2. Other Direct Personnel Costs												
- International Travel												
- International Travel and Per Diem		0	0.5	0.5	0.5	0.3	0.5	0.3	-0-	-0-	1.5	1.1
- Local Travel and Per Diem		-0-	2.0	-0-	2.0	-0-	-0-	2.0	-0-	2.5	4.0	4.5
SUB TOTAL (Personnel)		0	30.5	6.9	19.5	19.5	.5	40.8	-0-	43.4	50.5	110.2
II. TECHNICAL ASSISTANCE												
1. Economic Policy Analyst												
a. Fiscal Incentives (2 mo)		-0-	80.0	-0-	80	-0-	-0-	-0-	-0-	-0-	160.0	-0-
b. 3 Specialists in Labor Law, Industrial Development, Taxes (9 mo)		-0-	10	-0-	20	-0-	10.0	-0-	10	0	50.0	-0-
SUB TOTAL (Tech. Assistance)		-0-	90	-0-	100	-0-	10.0	-0-	10	0	210.0	-0-

MINISTRY OF ECONOMY - POLICY ANALYSIS UNIT ($000) Page 2

ITEM	YEARS 1		2		3		4		5		Total	
	AID	GOM	AID	GOM	AID	GOM	AID	GOM	AID	GOM	AID	GOM
III. TRAINING												
1 1/2 man/years (short term training)		-0-	5.0	-0-	5.0	-0-	5.0	-0-	-0-	-0-	15.0	-0-
SUB-TOTAL (Training)		-0-	5.0	-0-	5.0	-0-	5.0	-0-	-0-	-0-	15.0	-0-
IV. OTHER COSTS												
a. Local Contracts. (Data collection, computer rental, special studies).	-0-	-0-	4.0	6.0	4.0	10.0	2.0	8.0	-0-	10.0	10.0	34.0
b. Office Equipment		-0-	5.0	0.3	-0-	0.3	-0-	0.5	-0-	0.5	5.0	1.6
c. Supplies and Materials		-0-	1.0	1.5	-0-	1.0	-0-	1.0	-0-	1.0	1.0	4.5
SUB TOTAL (Other Costs)		-0-	10.0	7.8	4.0	11.3	2.0	9.5	-0-	11.5	16.0	40.1
TOTAL (Policy Analysis Unit)	-0-	-0-	135.5	14.3	128.5	30.8	17.5	50.3	10.0	54.9	291.5	150.3

OUTPUT No.: 7 (Page 1 of 1)

SMALL INDUSTRY ADVISORY OFFICE - MOE

(US$ 000)

	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
I. PERSONNEL												
1. Salaries and Benefits												
a. Specialist in small industry development		-0-	16.0	-0-	17.0	0	-0-	18.3	-0-	19.6	33.0	37.9
b. Secretaries		-0-	-0-	5.0	-0-	5.3	-0-	5.7	-0-	6.0	0	22.0
2. Other Direct Personnel Cos												
a. International Travel		-0-	.5	.5	2.5	2.5	-0-	5.0	-0-	3.0	3.0	11.0
b. Local Travel and Per Diem		-0-	.3	-0-	-0-	1.0	-0-	1.0	-0-	1.5	.3	3.5
SUB-TOTAL (Personnel)		-0-	16.8	5.5	19.5	8.8	-0-	30.0	-0-	30.1	36.3	74.4
II. TECHNICAL ASSISTANCE												
Industrial development expert		-0-	13.2	-0-	6.6	-0-	-0-	-0-	-0-	-0-	19.8	-0-
III. TRAINING												
Seminars, etc.	-0-	-0-	2.0	-0-	2.0	-0-	2.0	-0-	2.0	-0-	8.0	-0-
IV. COMMODITIES												
Equipment and Furniture		-0-	-0-	0.5	-0-	0.5	-0-	0.5	-0-	0.5	0	2.0
V. Others												
Various		-0-	-0-	1.0	-0-	1.0	-0-	1.0	-0-	1.0	0	4.0
TOTAL (Small Industry Advisory Of.	0	-0-	32.0	7.0	28.1	10.3	2.0	31.5	2.0	31.6	64.1	80.4

OUTPUT # 10 (Page 1 of 1)

PROGRAM COORDINATION

ITEM	YEARS 1 AID	1 GOH	2 AID	2 GOH	3 AID	3 GOH	4 AID	4 GOH	5 AID	5 GOH	Total AID	Total GOH
I. PERSONNEL												
A. Salaries												
1. Program Coordinator	20.0	-0-	29.4	-0-	31.4	-0-	-0-	33.7	-0-	36.0	80.8	69.7
2. Secretary	3.6	-0-	-0-	5.3	-0-	5.7	-0-	6.1	-0-	6.5	3.6	23.6
3. Program Coordinator (AID)	50.0	-0-	53.5	-0-	57.3	-0-	61.3	-0-	65.6	-0-	287.7	-0-
B. Other Direct Personnel Costs												
1. Travel	1.0	-0-	1.0	-0-	-0-	1.5	-0-	1.5	-0-	2.0	2.0	5.0
2. Per Diem	3.0	-0-	3.0	-0-	-0-	4.0	-0-	4.5	-0-	5.5	6.0	14.0
Sub Total (Personnel)	77.6	-0-	86.9	6.3	88.7	11.2	61.3	45.8	65.6	50.0	320.1	112.3
II. COMMODITIES												
A. Supplies and Materials	.5	-0-	-0-	.5	-0-	.6	-0-	.6	-0-	.7	.5	2.4
B. Equipment and Furniture	1.7	-0-	-0-	.5	-0-	-0-	-0-	-0-	-0-	-0-	1.7	.5
Sub Total (Commodities)	2.2	-0-	-0-	1.0	-0-	.6	-0-	.6	-0-	.7	2.2	2.9
TOTAL (Program Coordination)	79.8	-0-	86.9	6.3	88.7	11.8	61.3	46.4	65.6	50.7	382.3	115.2

(Page 1 of 1) CDI BUDGET SUMMARY (US$ 000)

	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
Program Management (10)	143.5	13.8	118.8	93.1	109.9	115.7	65.4	149.2	69.8	158.2	507.4	530
Program Services (2)	339.4	16.5	359.6	188.0	310.1	255.4	231.4	349.1	128.9	411.0	1369.4	1220.0
Information Center(1)	68.2	6.6	80.8	53.6	77.1	58.8	45.3	95.3	46.8	101.3	318.2	315.6
Studies Division (8)	508.6	10.7	204.3	82.4	114.4	86.3	69.4	93.8	74.9	102.5	971.8	375.7
Training INFOP (3)	82.4	1.2	29.2	27.7	32.8	29.5	0	73.0	0	77.4	144.4	208.8
Human Resources (6)	6.3	0	22.3	7.0	139.3	7.0	36.2	14.9	5.0	42.5	209.1	71.4
Small Enterprise Development Fund (4)	10.0	-.-	110.0	-.-	160.0	-.-	350.0	-.-	370.0		1,030.00	-.-
Appropriate Technologie Development, Adaptation and Dissemination Fund	150.0	-.-	275.0	125.0	525.0	175.0	775.0	175.0	775.0	225 0	2,500	700.0
Central Bank	0	0	32.7	0	20.2	9.0	1.0	16.9	1.0	18.2	54.9	44.1
BHAN	96.8	15.6	80.4	26.8	82.6	28.7	85.4	31.5	76.3	37.9	421.5	140.5
Totals...	1405.2	64.4	1313.1	603.6	1571.4	765.4	1659.1	998.7	1547.7	1174.0	7496.5	3606.1

OUTPUT # 10

CDI PROGRAM MANAGEMENT (US$ 000)

ITEM	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
I. PERSONNEL												
1. Salaries												
a. Program Manager	13.5	-0-	19.8	-0-	21.8	-0-	24.0	-0-	26.4	-0-	105.5	-0-
b. Reporting and Evaluation Officer	-0-	-0-	12.0	-0-	13.2	-0-	14.5	-0-	15.9	-0-	55.6	-0-
c. Training and Institutional Liaison Officer	9.0	-0-	13.2	-0-	14.5	-0-	15.9	-0-	17.5	-0-	70.1	-0-
d. Appropriate Technology Grants Officer	-0-	-0-	0	10.0	0	10.6	-0-	11.5	-0-	13.0	0	45.1
e. Procurement/Contracts Officer	3.0	-0-	10.0	-0-	10.6	-0-	-0-	11.5	-0-	13.0	23.6	24.5
f. Accountants (2)	2.1	-0-	-0-	6.7	-0-	9.7	-0-	10.7	-0-	11.7	2.1	38.8
g. Administrative Officer	2.7	-0-	-0-	5.9	-0-	6.5	-0-	7.2	-0-	7.9	2.7	27.5
h. Bilingual Secretary	3.4	-0-	-0-	4.9	-0-	5.4	-0-	6.0	-0-	6.6	3.4	22.9
Benefits	7.4	-0-	9.0	5.5	9.0	6.7	-0-	17.1	-0-	18.6	27.4	45.9
2. Other Direct Personnel Costs												
a. International Travel	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	
b. Local Per Diem	1.0	-0-	1.0	-0-	2.0	1.0	1.0	3.0	-0-	4.0	5.0	8.0
c. Local Travel	1.5	-0-	3.8	-0-	3.8	-0-	-0-	3.8	-0-	3.8	9.1	7.6
d. Other Costs	0.4	-0-	0.8	-0-	0.8	-0-	-0-	0.8	-0-	0.8	2.0	1.6
	0.2	-0-	0.2	-0-	0.2	-0-	-0-	0.2	-0-	0.2	0.6	0.4
Sub-Total (Personnel)	44.2	-0-	69.8	33.0	75.9	39.9	55.4	71.8	59.8	79.6	305.1	224.1

OUTPUT # 10 CDI PROGRAM MANAGEMENT (US$ 000) (Page 2 of 3)

	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
II. TECHNICAL ASSISTANCE												
a. Project Management Expert (10 M/M)	40.0	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	40.0	-0-
Sub-Total (Technical Assistance)	40.0	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	40.0	-0-
III. TRAINING												
a. Short- Term Training	5.0	-0-	10.0	-0-	10.0	-0-	10.0	-0-	10.0	-0-	45.0	-0-
b. International Travel and Per Diem	-0-	3.6	-0-	3.8	-0-	4.2	-0-	4.2	-0-	4.2	-0-	20.0
Sub-Total (Training)	5.0	3.6	10.0	3.8	10.0	4.2	10.0	4.2	10.0	4.2	45.0	20.0
IV. COMMODITIES												
a. Supplies and Materials	3.5	1.5	-0-	7.0	-0-	7.5	-0-	9.0	-0-	9.0	3.5	34.0
b. Equipment and Furniture	5.6	2.4	-0-	3.0	-0-	2.0	-0-	-0-	-0-	-0-	5.6	7.4
c. Vehicles (2)	16.0	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	16.0	-0-
d. Maintenance and Consumables	5.0	-0-	0	6.0	-0-	6.0	-0-	7.0	-0-	7.0	5.0	26.0
Sub-Total (Commodities)	30.1	3.9	0	16.0	-0-	15.5	-0-	16.0	-0-	16.0	30.1	67.4

OUTPUT # 10

CDI PROGRAM MANAGEMENT (US$ 000) (Page 3 of 3)

ITEM	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
V. OTHER COSTS												
a. Other Local Contracts for Services												
-- Auditing	-0-	-0-	15.0	-0-	-0-	15.0	-0-	15.0	-0-	15.0	15.0	45.0
-- Resource Inventory	-0-	-0-	24.0	-0-	24.0	-0-	-0-	-0-	-0-	-0-	48.0	-0
b. Utilities	12.0	-0-	-0-	13.2	-0-	14.5	-0-	16.0	-0-	17.5	12.0	61.2
c. Rentals	9.0	-0-	-0-	12.0	-0-	12.0	-0-	12.0	-0-	12.0	9.0	48.0
d. Vehicles Insurance	3.2	-0-	-0-	2.5	-0-	2.0	-0-	1.6	-0-	1.3	3.2	7.4
e. Honoraries (US$37.50 per person) - 4 panels	-0-	6.3	-0-	12.6	-0-	12.6	-0-	12.6	-0-	12.6	-0-	56.7
Sub-Total (Other Costs)	24.2	6.3	39.0	40.3	24.0	56.1	-0-	57.2	-0-	58.4	87.2	218.3
TOTAL PROGRAM MANAGEMENT	143.5	13.8	118.8	93.1	109.9	115.7	65.4	149.2	69.8	159.2	507.4	530.0

OUTPUT # 2

PROGRAM SERVICE DIVISION - CDI (US$ 000)

ITEM	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
I. PERSONNEL												
1. Salaries												
a. Chief Program Service Division	7.5		16.5		18.2		19.9		21.9		84.0	
b. Field Supervision	6.0		13.2		14.5		15.9		17.6		67.2	
c. Senior Marketing Specialist			12.0		13.2		14.5		15.9		55.6	
d. Agro Industry Specialist			12.0		13.2		14.5		15.9		55.6	
e. Senior Business Adm. Specialist	6.0		13.2		14.5		15.9		17.6		67.2	
f. Senior Credit Analyst					6.0		13.2		14.5		33.7	
g. Industrial Engineers (2)	20.0		26.4	13.2	29.0	14.5	32.0	15.9		52.7	107.4	96.3
h. Mechanical Engineer	12.0		13.2		0	14.5	0	15.9		17.6	25.2	48.0
i. Business Administrators (2)	13.5		19.8			21.8		24.0		26.4	33.3	72.2
j. Secretaries (bilingual) (2)	4.5			9.9		10.9		12.0		13.2	4.5	46.0
k. Supervisors (4)	5.4			22.7		25.0		27.5		30.2	5.4	105.4
l. Mid-Level Technicians (4)	2.4			18.1		20.7		22.8		25.0	2.4	78.6
m. Marketing Technicians (4)				14.4		20.6		22.7		25.0		82.7
n. Secretaries (4)	1.8			7.6		8.3		9.2		10.1	1.8	35.2
o. Field Agents Zone I (3)	4.9			10.9		12.0		13.2		14.5	4.9	50.6
p. Field Agents Zone II (4)	5.0			10.9		12.0		16.5		18.1	5.0	57.5
q. Field Agents Zone III (3)				6.6		7.3		8.0		8.8		30.7
r. Field Agents Zone IV (3)				6.6		10.6		11.6		12.8		41.6

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OUTPUT #2 — PROGRAM SERVICE DIVISION - CDI — Page 2 of 3

ITEM	YEARS 1 AID	1 GOH	2 AID	2 GOH	3 AID	3 GOH	4 AID	4 GOH	5 AID	5 GOH	Total AID	Total GOH
Benefits	22.6		44.4		55.3			60.7		68.1	122.3	128.8
2. Other Direct Personnel Costs												
a. International Transport	2.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	18.0	18.0
Per Diem US$50-30 days)	1.5		1.5		1.5		1.5		1.5		7.5	
b. Local Travel	6.1		1.8		2.2			2.2		2.3	10.1	4.5
Local Per Diem	7.3		19.0		22.9			24.5		24.5	49.2	49.0
c. Other Costs	0.4		0.6		0.6			0.6		0.8	1.6	1.4
Sub-Total (Personnel)	128.9	2.0	197.6	116.9	195.1	182.2	131.4	291.3	108.9	354.1	761.9	946.5
II. TECHNICAL ASSISTANCE												
a. Training Contract (8 m/m)	40.0		30.0								70.0	
b. Expert in Feasibility Studies (6 m/m)			20.0		15.0						35.0	
c. Expert in Marketing (12 m/m)	12.0		12.0								24.0	
d. Short term technical Consultants	30.0		70.0		70.0		70.0		20.0		260.0	
Sub-Total (Technical Assistance)	82.0	-0-	132.0	-0-	85.0	-0-	70.0	-0-	20.0	-0-	389.0	-0-

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OUTPUT # 2 — PROGRAM SERVICE DIVISION - CDI — Page 3 of 3

ITEM	Years 1 AID	Years 1 GOH	Years 2 AID	Years 2 GOH	Years 3 AID	Years 3 GOH	Years 4 AID	Years 4 GOH	Years 5 AID	Years 5 GOH	Total AID	Total GOH
III. TRAINING												
Training (Short Term)	10.0		30.0		30.0		30.0				100.0	
Sub-Total (Training)	10.0		30.0		30.0		30.0				100.0	
IV. COMMODITIES												
a. Supplies & Materials	2.1	0.9		5.0		5.5		4.0		4.0	2.1	19.4
b. Equipment and Furniture	8.4	3.6		12.7		16.2		3.7		3.7	8.4	39.9
c. Vehicles (9)	72.0										72.0	
d. Maint. and Consum.	15.8	10.0		32.1		32.1		32.1		32.1	15.8	138.4
Sub-Total (Commodities)	99.3	14.5	0	49.8		53.8		39.8		39.8	98.3	197.7
V. OTHER COSTS												
a. Rent of Zonal and Field Off	4.1			7.2		7.5		7.8		8.2	4.1	30.7
b. Utilities per Office (4 zonal & 6 field)	0.8			1.3		1.4		1.4		1.5	0.8	5.6
c. Telephone and Communications	0.9			1.3		1.3		1.4		1.5	0.9	5.5
d. Vehicle Insurance	14.4			11.5		9.2		7.4		5.9	14.4	34.0
Sub-Total (Other Costs)	20.2			21.3		19.4		18.0		17.1	20.2	75.8
TOTAL PROGRAM SERVICE DIVISION	339.9	16.5	359.6	188.0	310.1	255.4	231.4	349.1	128.9	411.0	1369.4	1220.0

OUTPUT # 1 CDI INFORMATION CENTER (US$ 000) (Page 1 of 2)

ITEM	YEARS 1 AID	1 GOH	2 AID	2 GOH	3 AID	3 GOH	4 AID	4 GOH	5 AID	5 GOH	Total AID	Total GOH
I. PERSONNEL												
1. Salaries												
a. Chief Tech. Inf. Center	6.0	-0-	13.2		14.5		15.9		17.6		67.2	-0-
b. Tech. Info. Specialist	4.5	-0-	9.9		10.8		12.0		13.2		50.4	-0-
c. Tech. Info. Specialist	-	-0-	9.0		9.9		10.8		12.0		41.7	-0-
d. Technical Writer	-	-0-	9.0		9.9			10.8		12.0	18.9	22.8
e. Translater	4.5	-0-		9.9	-0-	10.8		12.0		13.2	4.5	35.9
f. Documentalist	7.8	-0-		8.6	-0-	9.4		10.4		11.4	7.8	39.8
g. Bilingual Sec. (2)	2.3	-0-		9.4	-0-	10.4		11.4		12.5	2.3	43.7
Benefits	6.1	-0-	8.9	4.0	8.0	6	-0-	15.3		16.5	23.0	41.8
2. Other Direct Person-Cost Internat'l Travel & Per Diem	-0-	-0-	4.0	2.0	5.8	2.0	-0-	3.0	-0-	3.0	9.8	10.0
Sub-Total (Personnel)	31.2	-0-	54.0	33.9	58.9	38.6	38.7	62.9	42.8	68.6	225.6	204.0
II. TECHNICAL ASSISTANCE												
a. Planning and Set up System	8.0	-0-	6.8	-0-	3.0	-0-	2.5	-0-	4.0	-0-	24.3	-0-
Sub-Total (Tech. Assist.)	8.0	-0-	6.8	-0-	3.0	-0-	2.5	-0-	4.0	-0-	24.3	-0-

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OUTPUT # 1

CDI INFORMATION CENTER (US$ 000)

(Page 2 of 2)

	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
III. TRAINING												
a. Local Training	4.0	.0	2.0	0	3.0	1.0	3.0	1.5	-0-	1.0	12.0	3.5
b. Internat'l Travel & Per Diem	1.0	1.0	1.0	1.0	1.5	1.0	1.1	1.5	-0-	2.5	4.6	7.0
Sub-Total (Training)	5.0	1.0	3.0	1.0	4.5	2.0	4.1	3.0	-0-	3.5	16.6	10.5
IV. COMMODITIES												
a. Supplies and Equipment	13.0	5.6	0	18.7	-0-	12.2	-0-	12.8	-0-	13.2	13.0	62.5
Sub-Total (Commodities)	13.0	5.6	0	18.7	-0-	12.2	-0-	12.8	-0-	13.2	13.0	62.5
V. OTHER COSTS												
a. Personnel Service (Panel)	1.0	-0-	1.0	-0-	0.7	-0-	-0-	0.6	-0-	-0-	2.7	0.6
b. Info. Acquisition	10.0	-0-	16.0	-0-	10.0	6.0	-0-	16.0	-0-	16.0	36.0	38.0
Sub-Total (Other Costs)	11.0	-0-	17.0	-0-	10.7	6.0	-0-	16.6	-0-	16.0	38.7	38.6
TOTAL INFORMATION CENTER	68.2	6.6	80.8	53.6	77.1	58.8	45.3	95.3	46.8	101.3	318.2	315.6

OUTPUT # 8

STUDIES DIVISION - CDI ($000)

ITEM	YEARS 1 AID	1 GOH	2 AID	2 GOH	3 AID	3 GOH	4 AID	4 GOH	5 AID	5 GOH	Total AID	Total GOH
I. PERSONNEL												
1. Salaries and Benefits												
a. Chief Study Division	15.0	-0-	16.5	-0-	18.1	-0-	20.0	-0-	22.0	-0-	91.6	-0-
b. Sociologist	9.0	-0-	13.2	-0-	3.6	-0-	-0-	-0-	-0-	-0-	25.8	-0-
c. Antropologist	9.0	-0-	13.2	-0-	14.5	-0-	15.9	-0-	17.5	-0-	70.1	-0-
d. Economist	9.0	-0-	13.2	-0-	14.5	-0-	15.9	-0-	17.5	-0-	70.1	-0-
e. Field Analysts (4)	-0-	-0-	-0-	26.4	-0-	29.0	-0-	32.0	-0-	35.2	-0-	122.6
f. Secretaries (2)	9.0	-0-	-0-	9.9	-0-	10.3	-0-	12.0	-0-	13.2	9.0	45.9
g. Drivers (2)	3.6	-0-	-0-	3.9	-0-	4.4	-0-	4.8	-0-	5.3	3.6	18.4
Benefits	11.0	-0-	9.0	9.0	9.0	9.0	9.5	9.5	10.8	10.0	49.4	37.5
2. Other Direct Personnel Costs												
a. International Transport	1.0	-0-	1.1	1.0	1.2	1.5	1.3	-0-		3.0	4.6	5.5
b. Per Diem (16 days/year)	0.8	-0-	0.8	.5	0.8	1.0	0.6	-0-		1.0	3.2	2.5
c. Local Transport	0.8	-0-	1.7	1.7	0	1.7	-0-	1.6	-0-	1.8	.8	6.8
d. Vehicle Rental	4.0	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	4.0	-0-
e. Local Per Diem	8.1	-0-	6.6	5.0	5.5	5.0	-0-	10.1	-0-	10.1	20.2	30.2
SUB TOTAL (Personnel)	80.3	-0-	75.3	57.4	68.9	62.4	63.4	70.0	67.9	79.6	355.8	269.4
II. TECHNICAL ASSISTANCE												
a. Rural Sociologist-Anthropologist	50.0	-0-	50.0	-0-	-0-	-0-	-0-	-0-	-0-	-0-	100.0	-0-

200

OUTPUT # B

STUDIES DIVISION - CDI ($000)

ITEM	YEARS 1 AID	1 GOH	2 AID	2 GOH	3 AID	3 GOH	4 AID	4 GOH	5 AID	5 GOH	Total AID	Total GOH
b. Social Scientist (Communication Export 14 MM)	40.0	-0-	7.0	-0-	-0-	-0-	-0-	-0-	-0-	-0-	47.0	-0-
c. Socio-economic Reserch and Survey Design Assistance (12 mo.)	40.0	-0-	0	-0-	-0-	-0-	-0-	-0-	-0-	-0-	40.0	-0-
d. Short Term Specialist (30m/m)	32.0	-0-	59.0	-0-	40.0	-0-	-0-	-0-	-0-	-0-	131.0	-0-
SUB TOTAL (Tech. Assistance)	162.0	-0-	116.0	-0-	40.0	-0-	-0-	-0-	-0-	-0-	318.0	-0-
III. TRAINING												
- Short Term	-0-	-0-	5.0	-0-	5.5	-0-	6.0	-0-	7.0	-0-	23.5	-0-
IV. COMMODITIES												
a. Supplies and Materials	1.4	0.6	-0-	8.0	-0-	8.0	-0-	8.0	-0-	8.0	1.4	32.6
b. Equipment and Furniture	2.7	10.1	-0-	2.9	-0-	2.0	-0-	2.0	-0-	1.0	23.7	18.0
c. Vehicles (3)	16.0	-0-	8.0	-0-	-0-	-0-	-0-	-0-	-0-	-0-	24.0	-0-
SUB TOTAL (Commodities)	41.1	10.7	8.0	10.9	-0-	10.0	-0-	10.0	-0-	9.0	49.1	50.6
V. OTHER COSTS												
1. Other Contracts for Personnel												
a. Field Analysts (7 first year)	55.4	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	55.4	
b. Interviewers (35)	150.2	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	150.2	
c. Key Puncher	4.8	-0-	-0-	5.3	-0-	5.8	-0-	6.3	-0-	7.0	4.8	24.4

OUTPUT # 8

STUDIES DIVISION - CDI ($000)

ITEM	YEARS 1 AID	1 GOH	2 AID	2 GOH	3 AID	3 GOH	4 AID	4 GOH	5 AID	5 GOH	Total AID	Total GOH
2. Computer Time Rental Costs (4 h/m first year, 2 h/m second to fifth years)	10.0	-0-	-0-	5.0	-0-	5.0	-0-	5.0	-0-	5.0	10.0	20.0
3. Vehicle Insurance	4.8	-0-	-0-	3.8	-0-	3.1	-0-	2.5	-0-	1.9	4.8	11.3
SUB TOTAL (Other Costs)	225.2	-0-	-0-	14.1	-0-	13.9	-0-	13.8	-0-	13.9	225.2	55.7
TOTAL (Studies Division)	508.6	10.7	204.3	82.4	114.4	86.3	69.4	93.8	74.9	102.5	971.6	375.7

OUTPUT # 3 TRAINING - INFOP ($000) Page 1 of 2

ITEM	YEARS 1 AID	1 GOH	2 AID	2 GOH	3 AID	3 GOH	4 AID	4 GOH	5 AID	5 GOH	Total AID	Total GOH
I. PERSONNEL												
1. Salaries & Benefits												
a. Programming Instructors (2)	12.0	-0-	12.9	-0-	13.8	-0-	-0-	14.7	-0-	15.6	38.7	30.3
b. Field Instructors (4)	18.0	-0-	-0-	19.3	-0-	20.7	-0-	28.5	-0-	30.7	18.0	99.2
c. Secretary	3.3	-0-	-0-	3.7	-0-	4.2	-0-	4.6	-0-	5.1	3.3	17.6
d. Driver	1.5	-0-	-0-	1.6	-0-	2.0	-0-	2.2	-0-	2.5	1.5	8.3
Benefits	7.0	-0-	7.8	-0-	10.4	-0-	-0-	11.7	-0-	12.4	25.2	24.1
2. Other Direct Personnel Costs												
- Local Per Diem	7.7	-0-	7.7	-0-	7.8	-0-	-0-	8.0	-0-	8.1	23.2	16.1
SUB TOTAL (Personnel)	49.5	-0-	28.4	24.6	32.0	26.9	-0-	69.7	-0-	74.4	109.9	195.6
III. COMMODITIES												
1. Supplies & Materials	0.9	0.4	-0-	1.0	-0-	1.0	-0-	1.0	-0-	1.0	0.9	4.4
2. Equipment & Furniture	1.8	0.8	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	1.8	0.8
3. Vehicles (2)	16.0	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	16.0	-0-
Sub-Total (Commodities)	18.7	1.2	-0-	1.0	-0-	1.0	-0-	1.0	-0-	1.0	18.7	5.2
IV. OTHER COSTS												
1. Educational Equipment (Projectors, Screens, etc)	6.9	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	6.9	-0-

OUTPUT # 3

TRAINING - INFOP ($000)

ITEM	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
2. Educational Films	3.4	-0-	-0-	-0-	-0 -	-0-	-0-	-0-	-0-	-0-	3.4	-0-
3. Miscellaneous Material for Courses	0.7	-0-	0.8	-0-	0.8	-0-	-0-	1.0	-0-	1.0	2.3	2.0
4. Vehicle Insurance	3.2	-0-	-0-	2.1	-0-	1.6	-0-	1.3	-0-	1.0	3.2	4.0
SUB TOTAL (Other Costs)	14.2	-0-	0.8	2.1	0.8	1.6	-0-	2.3	-0-	2.0	15.8	8.0
TOTAL (Training - INFOP)	82.4	1.2	29.2	27.7	32.8	29.5	-0-	73.0	-0-	77.4	144.4	203.8

OUTPUT #6

HUMAN RESOURCES DEVELOPMENT (US$ 000)

ITEM	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
I. PERSONNEL												
1. Salaries												
a. Professor of Business Admin. (classes for small industry)	-.-	-.-	-0-	-0-	6.0	-0-	10.9	-0-	-0-	11.6	16.9	11.6
b. Professor (To teach appropriate technologies for small industry)	-.-	-.-	-0-	-0-	6.0	-0-	10.9	-0-	-0-	11.6	16.9	11.6
Sub-Total (Personnel)	-.-	-.-	-0-	-0-	12.0	-0-	21.8	-0-	-0-	23.2	33.8	23.2
II. TECHNICAL ASSISTANCE												
a. U. S.												
b. Others												
1. Business Administration												
Professor for new courses 1 (1 man/year)	-.-	-.-	-0-	-0-	60.0						60.0	-0-
Curriculum Design (2 man/month)	-.-	-.-	-0-	-0-	15.0						15.0	-0-
Visiting Professor for seminars and short courses (2 man/month)	-.-	-.-	-0-	-0-	10.0						10.0	-0-

OUTPUT # 6

HUMAN RESOURCES DEVELOPMENT (US$ 000)

ITEM	YEARS 1 AID	1 GOH	2 AID	2 GOH	3 AID	3 GOH	4 AID	4 GOH	5 AID	5 GOH	Total AID	Total GOH
2. Technical and Scientific Degree Plans												
Curriculum Design (2m/m)	-.-	-.-	-0-	-0-	15.0						15.0	-0-
Visiting professors for seminars and short courses (2 mm/month)	-.-	-.-	-0-	-0-	5.0	-0-	5.0				10.0	-0-
Sub-Total (Tech. Assistance)	-.-	-.-	-0-	-0-	105.0	-0-	5.0				110.0	-0-
III. TRAINING												
a. Short Term												
Business Administration												
Interns (Vacation period) 15 mm/year, 5 persons 3 mo. each	4.5	-0-	4.5	-0-	4.5	-0-	1.8	2.7	-0-	4.5	15.8	7.2
Technical and Scientific Degree Plans												
Interns (Vacation periods) 6 m/m - 2 persons 3 months each	1.8	-0-	1.8	-0-	1.8	-0-	.6	1.2	-0-	1.8	6.0	3.0
b. Long Term												
Business Administration												
Scholarships for students and professors	-0-	-0-	10.0	4.0	10.0	4.0	4.0	5.0	2.0	6.0	26.0	19.0

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OUTPUT # 6 — HUMAN RESOURCES DEVELOPMENT (US$ 000) — Page 3 of 3

ITEM	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
International Travel and Per Diem		-0-		3.0		3.0		3.0		3.0		15.0
Technical and Scientific Degree Plans												
1. Scholarships for Students and Professors	-.-	-.-	6.0	-0-	6.0	-0-	3.0	3.0	3.0	4.0	18.0	7.0
Sub-Total (Training)	6.3	-0-	22.3	7.0	22.3	7.0	9.4	14.9	5.0	19.3	65.3	48.2
TOTAL HUMAN RESOURCES DEVELOPMENT	6.3	-0-	22.3	7.0	139.3	7.0	36.2	14.9	5.0	42.5	209.1	71.4

OUTPUT # 4 (Page 1 of 1)

SMALL ENTERPRISE DEVELOPMENT FUND ($000)

ITEM	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
Experimental Credit	-0-	-0-	-0-	-0-	-0-	-0-	130.0	-0-	170.0	-0-	300.0	-0-
Grant & Equity Final	10.0	-0-	60.0	-0-	80.0	-0-	200.0	-0-	200.0	-0-	550.0	-0-
Feasibility Studies	-0-	-0-	50.0	-0-	80.0	-0-	20.0	-0-	-0-	-0-	150.0	-0-
TOTAL (Small Enterprise Development Fund)	10.0	-0-	110.0	-0-	160.0	-0-	350.0	-0-	370.0	-0-	1,000.0	-0-

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OUTPUT # 5 (Page 1 of 3) APPROPRIATE TECHNOLOGIES DEVELOPMENT & ADAPTATION AND DISSEMINATION FUND (US$ 000)

ITEM	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
Farm Implements	100.0		100.0	50.0	150.0	100.0	250.0	100.0	250.0	150.0	850.0	400.0
Development Adaptation and Dissemination	50.0		175.0	75.0	375.0	75.0	525.0	75.0	525.0	75.0	1650	300.0
TOTAL	150.0		275.0	125.0	525.0	175.0	775.0	175.0	775.0	225.0	2500	700.0

OUTPUT # 1 (Pag. 1 of 2)

HONDURAN ASSOCIATION OF INFORMATION CENTERS (CENTRAL BANK)

ITEM	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
I. PERSONNEL												
- Salaries												
a. Association Secretary	-0-	-0-	6.0	-0-	6.6	-0-	-0-	-0-	-0-	-0-	12.6	-0-
b. Secretary (half-time)	-0-	-0-	3.0	-0-	-0-	3.3	-0-	-0-	-0-	-0-	3.0	3.3
SUB TOTAL (Personnel)	-0-	-0-	9.0	-0-	6.6	3.3	-0-	-0-	-0-	-0-	15.6	3.3
II. TECHNICAL ASSISTANCE												
- Consultant (for preparation of union catalog)	-0-	-0-	2.4	-0-	-0-	-0-	-0-	-0-	-0-	-0-	2.4	-0-
III. OTHER COSTS												
a. Termatrex	-0-	-0-	1.0	-0-	1.0	-0-	-0-	-0-	-0-	-0-	2.0	-0-
b. Publication of Catalog	-0-	-0-	1.5	-0-	1.5	-0-	-0-	-0-	-0-	-0-	3.0	-0-
SUB TOTAL (Otros)	-0-	-0-	2.5	-0-	2.5	-0-	-0-	-0-	-0-	-0-	5.0	-0-
TOTAL (Association of Info. Centers)	-0-	-0-	13.9	-0-	9.1	3.3	-0-	-0-	-0-	-0-	23.0	3.3
TOTAL (Central Bank)	-0-	-0-	32.7	-0-	20.2	9.0	1.0	16.9	1.0	18.2	54.9	44.1

OUTPUT # 1 (Page 2 of 2) CENTRAL BANK - CENTER FOR INDUSTRIAL INFORMATION (CIIBANTRAL) ($000)

ITEM	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
I. PERSONNEL												
- Salaries												
a. Technical Information Specialist	-0-	-0-	9.5	-0-	10.1	-0-	-0-	10.9	-0-	11.7	19.6	22.6
b. Secretary	-0-	-0-	5.3	-0-	-0-	5.7	-0-	6.0	-0-	6.5	5.3	18.2
SUB TOTAL (Personnel)	-0-	-0-	14.8	-0-	10.1	5.7	-0-	16.9	-0-	18.2	24.9	40.8
II. TECHNICAL ASSISTANCE												
- Consultant (assist tech. Info Specialist)	-0-	-0-	2.0	-0-	-0-	-0-	-0-	-0-	-0-	-0-	2.0	-0-
III. TRAINING												
- Conferences, Seminars	-0-	-0-	2.0	-0-	1.0	-0-	1.0	-0-	1.0	-0-	5.0	-0-
TOTAL (CIIBANTRAL)	-0-	-0-	18.8	-0-	11.1	5.7	1.0	16.9	1.0	18.2	31.9	40.8

Output 1 - (Page 1 of 1)

INDUSTRIAL INFORMATION CENTER (CII) - NATIONAL AUTONOMOUS UNIVERSITY OF HONDURAS (UNAH) (US$ 000)

ITEM	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
PERSONNEL												
- Salaries												
- Technical Information Specialist	2.5	-0-	2.5	-0-	5.0	-0-	5.4	-0-	-0-	6.0	15.4	6.0
II. TECHNICAL ASSISTANCE												
- Evaluation Consultant	3.6	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	3.6	-0-
III. TRAINING												
- (Conference, Travel)	1.0	-0-	1.0	-0-	1.0	-0-	1.0	-0-	1.0	-0-	5.0	-0-
IV. OTHERS												
- (Adcquisition of Information)	1.1	-0-	1.0	-0-	2.0	-0-	2.0	-0-	2.0	-0-	8.1	-0-
TOTAL (CII)	8.2	-0-	4.5	-0-	8.0	-0-	8.4	-0-	3.0	6.0	32.1	6.0

Output No. 1 (Page 1 of 3)

NATIONAL AUTONOMOUS UNIVERSITY OF HONDURAS - ENERGY DEVELOPMENT PROJECT

(US$ 000)

ITEM	YEARS 1		2		3		4		5		Total	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
I. PERSONNEL												
A. Salaries												
1. Director	10.8	-0-	11.6	-0-	12.4	-0-	13.2	-0-	14.2	-0-	62.2	-0-
2. Assistant Research Director	9.0	-0-	9.7	-0-	10.3	-0-	11.0	-0-	11.8	-0-	51.8	-0-
3. Assistant Research Director	9.0	-0-	9.7	-0-	10.3	-0-	11.0	-0-	11.8	-0-	51.8	-0-
4. Shop Technician	-0-	-0-	3.6	-0-	3.9	-0-	4.1	-0-	4.4	-0-	16.0	-0-
Administrative Assistant	1.3	-0-	2.8	-0-	3.0	-0-	3.2	-0-	3.4	-0-	13.7	-0-
Industrial Technician	-0-	3.0	-0-	3.2	-0-	3.4	-0-	3.7	-0-	3.9	-0-	17.2
Bilingual Secretary	-0-	4.2	-0-	4.5	-0-	4.8	-0-	5.1	-0-	5.5	-0-	24.1
Research Assistants (students 5 half time)	6.0	-0-	-0-	12.0	-0-	12.8	-0-	13.8	-0-	14.7	6.0	53.3
Drivers	-0-	.6	-0-	.6	-0-	.7	-0-	.8	-0-	.8	-0-	3.5
B. Other Direct Personnel Costs												
1. International Travel	.5	1.0	1.0	2.0	1.0	2.0	1.0	2.0	-0-	3.0	3.5	10.0
2. International Per Diem	.9	.5	.9	1.0	1.0	1.0	1.2	2.0	-0-	2.0	4.0	6.5
3. Local Travel	1.0	.5	2.0	.5	2.0	.5	.5	.5	.5	.5	6.0	2.5
4. Local Per Diem	2.0	-0-	3.0	-0-	1.0	-0-	.8	-0-	.8	-0-	7.6	-0-
SUB TOTAL (Personnel)	40.5	9.8	44.3	23.8	44.9	25.2	46.0	27.9	45.9	30.4	222.6	117.1

Output No. 1 (Page - 2 of 3)

NATIONAL AUTONOMOUS UNIVERSITY OF HONDURAS - ENERGY DEVELOPMENT PROJECT (US$ 000)

ITEM	YEARS 1 AID	1 GOH	2 AID	2 GOH	3 AID	3 GOH	4 AID	4 GOH	5 AID	5 GOH	Total AID	Total GOH
II. TECHNICAL ASSISTANCE												
A. U.S.												
1. Solar Energy Advisor (1 mm)	6.6	-0-									6.6	-0-
2. Wind Energy Advisor (1 mm)	6.6	-0-									6.5	-0-
3. Others	-0-	-0-	6.0	-0-	6.0	-0-	6.0	-0-	6.0	-0-	24.0	-0-
B. Others												
- Others (ICAITI)	-0-	-0-	3.0	-0-	3.0	-0-	3.0	-0-	3.0	-0-	12.0	-0-
SUB TOTAL (Tech. Assis.)	13.2	-0-	9.0	-0-	9.0	-0-	9.0	-0-	9.0	-0-	49.2	-0-
III. TRAINING												
- Short Term	1.0	-0-	1.1	-0-	1.2	-0-	1.4	-0-	1.4	-0-	6.1	-0-
Sub-Total (Training)	1.0	-0-	1.1	-0-	1.2	-0-	1.4	-0-	1.4	-0-	6.1	-0-
IV. COMMODITIES												
A. Technical Materials & Equip.	27.6	3.0	13.0	.2	13.0	.2	15.0	.2	12.0	.2	80.6	3.8
B. Equipment and Office furniture	1.0	-0-	1.0	-0-	1.0	-0-	1.0	-0-	1.0	-0-	5.0	-0-
C. Maintenance and Expendables	3.0	-0-	5.0	-0-	3.0	-0-	2.0	-0-	1.0	-0-	14.0	-0-
D. Reproduction Costs	-0-	.1	-0-	.1	-0-	.1	-0-	.1	-0-	-0-	-0-	.4
E. Imputed rent	-0-	1.0	-0-	1.0	-0-	1.0	-0-	1.0	-0-	1.0	-0-	5.0
F. Fuel and vehicle maintenance	-0-	.2	-0-	.2	-0-	.2	-0-	.3	-0-	.3	-0-	1.2
SUB TOTAL (Commodities)	31.6	4.3	19.0	1.6	17.0	1.5	18.0	1.6	14.0	1.5	99.6	10.4

Output No. 1 (Page 3 of 3)

NATIONAL AUTONOMOUS UNIVERSITY OF HONDURAS - ENERGY DEVELOPMENT PROJECT (US$ 000)

ITEM	YEARS 1 AID	1 GOH	2 AID	2 GOH	3 AID	3 GOH	4 AID	4 GOH	5 AID	5 GOH	Total AID	Total GOH
V. OTHER COSTS												
A. Rental Costs												
B. Other PSC's	2.0	-0-	2.0	-0-	2.0	-0-	2.0	-0-	1.5	-0-	9.5	-0-
C. Data Processing (cards, key punch use, etc.)	.3	1.5	.5	1.5	.5	2.0	.5	2.0	.5	-0-	2.3	7.0
SUB TOTAL (Other Costs)	2.3	1.5	2.5	1.5	2.5	2.0	2.5	2.0	2.0	-0-	11.8	7.0
TOTAL (Energy Development Project)	88.6	15.6	75.9	26.8	74.6	28.7	76.9	31.5	73.3	31.9	389.3	134.5
TOTAL (UNAH)	96.8	15.6	80.4	26.8	82.6	28.7	85.4	31.5	76.3	37.9	421.5	140.5

GOH and International Donor Programs in Small Scale Industry and Artisanry Development

1. Industrial Technical Cooperation Center (CCTI)

On May 11, 1960, the Government of Honduras and the Government of the United States, represented by the International Cooperation Administration, signed an agreement which established CCTI as a permanent integral center for industrial development programs. Its primary objective was to increase productivity by providing technical assistance to industry and commerce and short-term training for human resource development.

During its 19 years of existence, CCTI has received the following financial support to carry out the efficient development of its activities:

a. US$4,156,319.70 from the GOH for administrative expenses (1960-1978) and US$187,500.00 for the construction and operation of the Center for Artisanal Training (CAAVA) in Valle de Angeles (1967-1970).

b. US$748,334.54 from A.I.D. for the development of special programs (1962-1973).

c. US$63,000 from the National Association of Industries for the development of training courses.

A diversity of activities oriented primarily toward enterprise productivity characterized CCTI during the 1962-1972 period. Beginning in 1973, its operation focussed on technical assistance, promotion and development of small and mid-size industrial enterprises and artisanry, the latter having received particular attention since 1964.

Although the programs carried out by CCTI have been effective, its scope of action has not been expanded due to a lack of sufficient financial support to employ the required technical staff and thereby widen its scope of operations.

In addition to the above, certain programs begun in CCTI were separated and absorbed by other institutions (such was the case with the National Institute for Profesional Training, INFOP; Technical Services, TECHNOSERVE: and Educational Credit, EDUCREDITO).

On December 6, 1978, the Honduran government issued Decree Law Number 687, Law for the Development Center for Small and Mid-size Industrial Enterprises and Artisanry, which as a result made CCTI a semi-autonomous organization with the name, Industrial Development Center (CDI) thus allowing it to widen its range of activities.

2. Honduran Corporation for Forestry Development - COHDEFOR

Created by Decree Law No. 103 on January 3, 1974, as a semi-autonomous organization to carry out government forestry policy,

COHDEFOR has focussed its efforts on programs and projects in forestry and in which only large-scale industries have participated.

Recently the Government of Honduras and the World Bank signed a loan agreement for US$ 15 million, $7.5 million of which would be used by COHDEFOR to promote the development of primary and secondary small and mid-size industries over a 2-3 year period.

3. Directorate for Cooperative Development -- DIFOCOOP

DIFOCOOP is a semi-autonomous organization created in 1954, to promote social and economic organizations based on principles of cooperativism and to coordinate the creation and development of cooperativist associations. During its 24 years of activities, DIFOCOOP has organized 669 cooperatives in Honduras.

With regard to small-scale enterprises, DIFOCOOP provides administrative-management assistance and training to 6 of the 23 existing industrial cooperatives. It has collaborated with CDI by providing courses to two henequen cooperatives in Langue, Valle.

4. National Institute for Professional Training -- INFOP

INFOP was established to contribute to increased productivity and social and economic development of the country through the creation of a professional training system for all economic sectors and employment levels in accordance with actual needs of the country.

Its activities and programs have been directed specifically to training skilled workers for industry and service sectors in carpentry, electricity, mechanics, construction, etc. INFOP has trained a total of 24,984 workers up to 1978. In the agricultural sector, INFOP has given 295 courses to 3,594 trainees. INFOP has given management courses to upper and middle level supervisory management personnel primarily in larger scale industries.

Although INFOP has provided assistance and training, it does not currently have a systematic program directed at satisfying the needs of the small and mid-size entrepreneur and artisan.

5. General Directorate for Industries -- DGI

The DGI is a dependency of the Ministry of Economy and has been in existence since 1972. Its one purpose is to apply laws and agreements to provide incentives to the manufacturing sector. For example, the "Law to Protect Hondurans Engaged in Commerce and Small-Scale Industry" (Decree No.39, October 1965) had the effect of limiting development of the small-scale industry sector and granting advantages to merchants. This Law was annulled in October 1978, and was substituted by Decree No. 681, Law for the Support of Small and Mid-Size Industrial Firms and Artisanry. Through the application of this new instrument, the DGI expects that 70 percent of small-scale entrepreneurs and artisans will come under its protection.

6. Superior Economic Planning Council -- CONSUPLANE

CONSUPLANE was created by Decree No.30 on February 5, 1971, as the State advisory and consulting body for the purpose of formulating integrated economic and social plans for Honduras.

The CONSUPLANE Secretariat fulfills the basic task of coordinating and evaluating activities to reach goals and objectives proposed in annual work plans. Specific activities related to small-scale industry and artisanry have been developed for only one area of the country in an Integrated Development Plan for the Southern Zone.

As the institution responsible for the formulation of plans and policies for national economic development, CONSUPLANE coordinates activities which encourage and develop small-scale industry; conducts periodic evaluations; and prepares sector-wide operating plans.

7. General Directorate of Foreign Trade -- DGCE

The DGCE, a dependency of the Ministry of Economy, has as its general objective the promotion of export growth and diversification. As part of its mandate, the DGCE makes linkages with foreign markets and provides advisory services in the organization of and participation in international commercial fairs. The DGCE has given technical and financial support to 11 small-scale firms and artisan establishments to enable their participation in international fairs. As a complement to the above activities, DGCE operates a Commerce Information Center where all information on foreign markets is compiled and disseminated in a monthly bulletin.

8. Central Bank of Honduras -- CIIBANTRAL

a. Department of Industrial Research

This department operates within the Central Bank as a unit for specific industry and manufacturing studies requested by other Bank departments and by the CONSUPLANE Secretariat.

This department administered the Guarantee Fund for the Promotion of Small-Scale Industries and drew up the guidelines for the Industrial Development Fund established in 1979 with World Bank funds.

b. BANTRAL -- Guarantee Fund

The Guarantee Fund was one of the mechanisms used to stimulate the development of small-scale industry and artisanry when BANTRAL established it in 1972. The total portfolio authorized by BANTRAL was US$1,131,349 of which US$1,005,948 were lent to 448 small industries and artisan ventures. A total of 87 percent was channelled through the National Development Bank (BANAFOM) and 13 percent through commercial banks. The Fund did not produce anticipated results because it was not attractive to the commercial baking system, and only four banks participated in the Fund.

BANAFOM's experiences with the Fund were not positive because of the following: (a) frequent changes of residence and activity of the credit client; (b) the entrepreneurs viewed the credit as a Government grant; and (c) limits on total amount of credit and conditions for credit created administrative problems.

c. BANTRAL --- National Industrial Development Fund - FONDEI

FONDEI is a trust fund agreement signed between the Honduran Government and the World Bank in February 1979, to promote industrial development (in agro-industries, forestry and related wood projects, projects for fish and fish processing, and services related to industry).

Program beneficiaries are entrepreneurs in small and medium-size industries:

-- Small industries: those with assets up to US$100,000 excluding land and buildings.

-- Mid-size industries: those with assets from US$100,000 to US$750,000 excluding land and buildings.

The total credit amount is US$20 million; US$15 million of which are from the World Bank and the remaining US$ 5 million are counterpart funds of the Central Bank to be repaid eventually by the Government to the Bank. Financial intermediaries are private banks, and the National Investment Corporation (CONADI).

9. Inter-American Development Bank (IDB) -- Program to Finance Artisanry Development

CDI has presented a proposal to IDB for a US$500,000 loan to provide integrated financial and technical assistance to the urban and semi-urban artisan sector of the country. CDI counterpart costs consist of marketing and technical assitance.

Funds will be distributed as working capital (US$250,000), plant and facilities (US$100,000), equipment (US$150,000) to five artisan activities: wood, leather, textiles and fibers, metalwork, and food.

Loan conditions and requirements consist of: a 40-year payback period including a 10-year grace period; 1 percent annual interest on balance of funds; disbursements of loans over a 30-month period. CDI will provide semi-annual reports on disbursements, payback rate, and on evaluation of program impact.

10. National Investment Corporation (CONADI)

CONADI is an autonomous organization established to contribute to national economic development by promoting new industrial enterprises and the expansion or consolidation of existing ones. CONADI

finances investment projects above $375,000 either through direct participation or through loans. It supports the implementation of projects for primary industries (pulp and paper, cement, steel).

In the National Industrial Development Fund (FONDEI), CONADI will be a financial intermediary, providing loans to mid-size industry (US$375,000 to US$750,000).

Other Donor Programs at the International and Regional Levels for Small-Scale Industry and Artisanry

1. Centro de Desarrollo Industrial -- CDI

a. Organization of American States (OAS)

(1) Project: Development of Ceramics Industries

Technical Assistance: Three experts for a 13 month period to advise on production, processes, costs, and design in the field of ceramics.

Project Period: May 1977 - March 1979.

Project Costs: US$29,200 (OAS)
US$14,814 (GOH)

(2) Project: Technical Assistance to Small-Scale Food Processing Industries.

Technical Assistance: An expert for 12 months to advise small firms in urban areas on production processes and quality control.

Project Period: June 1979 - June 1980.

b. United Nations Development Program (UNDP)

(3) Project: Technical Assistance to Small and Medium-Size Industries (to support World Bank Program -- National Industrial Development Fund - FONDEI).

Technical Assistance:

-- One small industries expert for urban areas for a two year period.

-- Four consultants (12 man months) in food, leather and shoes, wood, and machine/metal shops.

-- One consultant to prepare individual profiles (two weeks).

Project Period: July 1979 - July 1981.

Project Cost: US$213,600 (UNDP)
US$575,000 (GOH)

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c. Inter-American Development Bank (IDB)

(4) Project: Financing Artisanry in Urban and Semi-Urban Areas.

Financial Asssitance: A CDI proposal requests a US$500,000 loan for sub-loans to artisans who do not have access to credit through commercial banking system.

2. Centro de Información Industrial de la Universidad Nacional Autónoma de Honduras -- CII-UNAH

a. Organization of American States (OAS)

(1) Project: Technological Development

Technical Assistance: Consultants and professors to advise on the creation of an information center in the National Autonomous University of Honduras for national industries (3 months).

Project Period: January - March 1976.

Project Cost: US$11,583 (OAS)

(2) Project: Information Center

Financial Assistance: US$10,000 to finance observational travel, equipment and bibliographies for the Industrial Information Center (CII-UNAH).

3. Centro de Información Industrial del Banco Central de Honduras -- CIIBANTRAL

a. Organization of American States (OAS)

(1) Project: Information Center

Financial Assistance: US$10,400 to cover observational travel, equipment and bibliographies for CIIBANTRAL.

Project Period: 1976

(2) Project: Seminar on Industrial Information.

Financial Assistance: US$3,000 to organize and conduct a seminar in the Central Bank of Honduras in December 1976.

4. Banco Central de Honduras (BANTRAL)

a. World Bank

(1) Project: National Industrial Development Fund -- FONDEI

Financial Assitance: Loan of US$15 million for credit to small and medium-size manufacturing and wood industries. The Honduran Government will contribute US$5 million in counterpart funds. Financial intermediaries will be CONADI, COHDEFOR and the commercial banking system.

The activities of the above donor organizations complement -- but do not duplicate -- the systems and objectives set forth in the Rural Technologies Project. No donor is currently working with rural small-scale industries and enterprise development except for some planned artisan programs in semi-urban areas. No other donor organization, except for current A.I.D. support in the Small Farmer Technologies Project, is undertaking long-range programs in small farm technology development and adaptation. Donor credit programs for the most part focus on urban areas and in most cases on mid-size industries. Likewise, even though there are some internationally supported technical information programs, there has been no large-scale effort to acquire and disseminate information to rural groups who are the targets of this Project. With the exception of small-scale pilot efforts on the part of some PVOs, there have not been any programs to examine the range of low-cost technology choices for application in rural households. Finally, no donor agency has sought to build up the capacities of Honduran institutions to focus on light capital technology applications for the target group of the project or on problems for small-scale rural industry development and technical assistance delivery systems.