

APR 6 1984

52-AB-157
ACTION MEMORANDUM FOR THE ACTING ASSISTANT ADMINISTRATOR (LAC)

FROM : Dwight B. Johnson, LAC/DR

SUBJECT: Honduras Rural Technologies Project (522-0157) PP Amendment

Action: Your approval is requested to authorize the Mission to approve the PP amendment for the subject Project, authorize additional life of Project funding of up to \$4 million, and authorize the extension of the PACD four additional years.

Discussion:

A. Background and Current Status. The PP dated June 26, 1979 requested Grant funding totalling \$3,930,000, of which \$5,000,000 was approved and obligated. The remainder was to be obligated pursuant to an evaluation and submission of an amended PP to the LAC Bureau. The Project Agreement was signed on September 25, 1979. The PACD has been extended twice for a total of 24 months to the current September 25, 1984 completion date.

The Project has focused on technological constraints to improving the well being of small farmers, small entrepreneurs and poor rural households. The purposes of the Project are:

- A) To increase the effective utilization of labor and land by small farmers through the use of improved light capital farm implements and structures.
- B) 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.
- C) To increase the utilization by rural poor of low-cost appropriate technology products designed to improve the quality of life in their homes.

The original Project design had 10 major components:

(1) Interinstitutional Adaptive Research and Information Network; (2) Delivery System for Management and Technical Advisory Services for Small Enterprises; (3) System for Delivery Training to Rural Enterprises and Small Farmers; (4) Small Enterprises Development Fund; (5) Small Farmer and Appropriate Technologies Development, Adaptation and Dissemination; (6) Human Resources Development; (7) Enterprise Advisory Office; (8) Evaluation/Planning Capacity; (9) GOM Policy Analysis; and (10) Project Coordination, Management and Administration. The approved PP permitted initiation of all proposed activities, except the experimental credit (under No. 4) activity.

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After experiencing severe coordination and management problems among six implementing agencies at the outset of the Project, the Mission carried out a streamlining exercise which was completed approximately two years ago. Responsibility for all activities except the development and testing of agricultural implements was placed in the Honduran Industrial Development Center (CDI). The Ministry of Natural Resources continues to administer the adaptation of improved agricultural implements and systems. The Rural Technologies Program (PTR) was created as a management entity within CDI to administer the Project. This consolidation of authority has substantially improved program management and increased impact in rural areas. Commitment of funding for all sub-project activities has been greatly expedited. As a result, implementation has progressed much more quickly during the past one and half years.

B. Progress To Date

To date, under the Project, 2,888 small subsistence farm families have received assistance in agricultural production; 5,213 small rural entrepreneurs have received administrative and business assistance; and 1,394 fuel efficient stoves and other technologies have been installed in rural homes. In sum, since actual dissemination of technologies began 21 months ago, the Project has benefitted more than 48,000 people, after taking into account a 25 percent overlap where one family benefitted from more than one technology, and assuming six persons to a family. Project implementers have been able to integrate the diverse components and inputs to foster development, dissemination and use of the appropriate technologies.

Major achievements to date under the Project are as follows:

(1) Under the Small Farmer Technology Development component, the experimental workshop has developed and produced several technologies and techniques relative to irrigation, terracing and soil improvement that have significantly improved farmer income. Some implements include the water wheel, silos for home grain storage, and a type of land leveler. The techniques include composting, water storage and crop diversification. Several more technologies are in various stages of development and testing.

Under the same component, fuel saving Lorena stoves made of mud and sand have been built in homes around the country. Other technologies developed and used include 48 home fish ponds and a number of waterseal latrines. These improvements have bettered living conditions and enhanced rural home owner productivity.

(2) Under the Technology Dissemination to Rural Industries component, 35 small industries are producing or using Project-sponsored technologies. Over 700 enterprises have received small business assistance in accounting, general business controls, and management.

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As a result of these factors, some recipients have doubled or tripled their income.

C. Evaluation Results

An evaluation was conducted in July-August 1983. The evaluation team reported very favorably on the Project and stressed the need for continuation and expansion of activities initiated to date.

The principal recommendations for overall Project design include the following:

- Maintain focus on the three main program areas (rural farming, industry and homes).
- Make improved agricultural technology a priority, and expand it to cover all aspects of increased productivity. Due to the Ministry of Natural Resources' lack of success in disseminating these technologies, this program failed to reach its intended priority status. Personnel changes and insufficient attention to an integrated approach for development hampered efforts to meet farmer needs on a national level.
- Make credit available to all PTR clients under the three main program areas. The evaluation noted that successes were not always maximized because of a lack of credit. This was particularly true in the case of rural industries. The business clients who were able to borrow doubled or tripled their income, whereas recipients of only training and management assistance generally did not realize gains of the same magnitude.
- With respect to institutional development, the evaluation recommended the following steps: (1) design a system which insulates the Project from personnel turnover due in part from political pressures; (2) contract experienced university graduates in agriculture for each one of the six CDI regional offices; (3) provide complementary training in agriculture for field personnel in charge of disseminating agricultural technologies; (4) hire additional field staff for the small industries component; and (5) stimulate coverage by recruiting and creating additional local PVOs to participate in Project implementation.
- To increase efficiency and target resources more effectively, the evaluation team suggested incremental changes in project management. These included (1) improving transportation for field staff, by proceeding with acquisition of motorcycles or vehicles; (2) modifying regional administration arrangements allowing for field staff to be contracted within each community; and (3) expanding impact by coordinating field activities with other public institutions working in target areas.

D. Proposed Follow-On Activities

The Project purpose will remain unchanged. The priority order by subject (farming, industry and home) will be maintained throughout the extended Project life. Project activities follow in many respects the design as originally envisioned.

The proposed amplification of the Project rests on concentration in disseminating proven technologies. The availability of credit and the strengthened outreach program will facilitate this spread effect. By the end of the Project, the activities should have reached a sufficient number of small independent farm families throughout the country to demonstrate to others that they too can significantly increase incomes.

(1) Rural Farming

Activities in agricultural development will be strengthened by adding one experienced agronomist in each zone of the country. Specific task type contracts will be made with GOH agencies to provide technical expertise to small farmers. PER's capabilities will be strengthened in agronomy by adding farm monitors in the field, and providing specialized and general training for project personnel and participants at model farms. CDI, other GOH agencies, and PVOs will show farmers the benefits of using tested and proven technologies through hands-on demonstrations at the model farms; this should stimulate dissemination and facilitate requests for training and assistance. It is hoped that these Project activities will reach an additional 14,000 farm families.

As the evaluation indicated, lack of credit has been a constraint to sparking greater returns. Credit will be provided through established financial institutions with mainly non-project funds. A small amount of AID financed credit, however, will be provided through CDI for borrowers unable to obtain credit from these institutions. It is hoped that the development of credit arrangements for Project beneficiaries will aid farmers in establishing themselves in the long-term as credit worthy for commercial loans.

(2) Rural Industry

The Project will help establish new (110) industries using light capital technologies to produce industrial items for the farm and to process farmer products. Strategically located blacksmith shop owners will receive training and financial assistance to become metal workers and to produce quality agricultural implements. The credit program for farmers will help them purchase improved implements. Establishment of these industries will make a contribution to reducing the balance of trade deficit, since roughly 70 percent of the equipment, tools, and processed goods are currently being imported.

(3) Rural Homes

Technologies for rural homes will continue to be developed and improved under the Project, but concentration will be on promotion of proven technologies, so that an additional 3,700 homes will be reached. The small shops established under this Project will make available these technologies. The Project will make efforts to place the home improvement component on a self-sustaining basis through the foregoing credit arrangements.

D. Bureau Review

The Bureau conducted an informal review of the PP amendment proposal. The consensus was that the Project has produced good results, that the Mission has addressed the concerns and recommendations in the evaluation, and that the follow-on design has taken the appropriate direction needed for accelerated progress and achievement of the Project's purposes and goal. The decision was made that the Mission will undertake an Environmental Assessment and a Technical Feasibility Assessment for shrimp pond development.

Justification to Congress: A Congressional Notification was sent to the Hill on March 22, 1984. Congressman Long's office put a hold on it pending an economic analysis. The hold was lifted on June 12, 1984 and the statutory waiting period expired June 26, 1984.

Recommendations: (1) That you authorize the Mission to approve the PP amendment in the field.

APPROVED /s/ Marshall D. Brown

DISAPPROVED _____

DATE JUL - 5 1984

(2) That you authorize additional life of project funding of up to \$4 million.

APPROVED /s/ Marshall D. Brown

DISAPPROVED _____

DATE JUL - 5 1984

(3) That you authorize the extension of the PACD four additional years.

APPROVED /s/ Marshall D. Brown

DISAPPROVED _____

DATE JUL - 5 1984

Clearances:

LAC/DR:LKlassen UK 4/3
LAC/DR:CWeber EW 4/3
LAC/DR:JHester JS 4/3/84
LAC/CEN:JRiley [Signature] 4/3/84
LAC/DP:ADiaz [Signature] 4/2/84
GC/LAC:DRobertson ODX 7/3/84
LAC/DR:SSmith [Signature]
LAC/DR:ILevy [Signature]

[Signature]
LAC/DR:TLandau:afg:04/02/84:0570B:ext.29152

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UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D. C. 20523

HONDURAS

PROJECT PAPER

RURAL TECHNOLOGIES

AID/LAC/P-022/1

Project Number: 522-0157

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AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE
 A - Add
 C - Change
 D - Delete

Amendment Number
1

DOCUMENT CODE
5

2. COUNTRY(IES) HONDURAS

3. PROJECT NUMBER 522-0157

4. BUREAU(OFFICE) LAC 05 Rural Technologies

6. PROJECT ASSISTANCE/COMPLETION DATE (PACD)
 MM DD YY
0 2 4 8 8

7. ESTIMATED DATE OF OBLIGATION
 (Under "E" below, enter 1, 2, 3, or 4)
 A. Initial FY 719 B. Quarter 4 C. Final FY 818

8. COSTS (\$000 OR EQUIVALENT \$) =

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AT: Appropriated Total						
(1) Grant	(485)	(365)	850	(2,810)	(10,120)	(12,930)
(2) Loan	()	()	()	()	()	()
Other U.S.						
1. Host Country	10.8	53.6		227.4	2,250	2,477.4
2. Other Donors						
TOTALS				3,037.4	12,370	15,407.4

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE (1. Grant 2. Loan)	D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
			1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) FN	200B	200	5,000		4,000		9,000	
(2)								
(3)								
(4)								
TOTALS			5,000		4,000		9,000	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)
210 220 260 270

11. SECONDARY PURPOSE CODES

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)
 A. Code: _____
 L. Amount: _____

15. PROJECT PURPOSE (maximum 480 characters)

To increase the effective utilization of labor and land by small farmers through the use of improved light capital farm implements and structures to improve income; 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; to increase utilization by the rural poor of low-cost appropriate technologies designed to improve the quality of life.

14. SCHEDULED EVALUATIONS
 Interim MM YY 08 816 Final MM YY 08 818

15. SOURCE/ORIGIN OF GOODS AND SERVICES
 000 941 Local Other (Specify)

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page IF Amendment)

To increase the A.I.D. contribution of the Project by US\$4.0 million to finance credit activities related to the adoption of new agricultural technologies and small business development and to extend the PACD of the Project by approximately four years--from September 29, 1984 to September 24, 1988.

17. APPROVED BY
 Signature: Anthony J. Cauterucci
 TITLE: ANTHONY J. CAUTERUCCI
MISSION DIRECTOR

Date Signed: MM DD YY _____

18. DATE DOCUMENT RECEIVED IN ADDN. OR FOR AMENDMENTS, DATE OF DISTRIBUTION
 MM DD YY 8

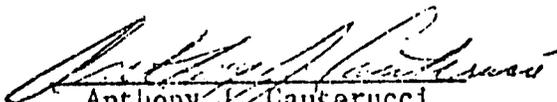
PROJECT AUTHORIZATION
(Amendment No. 1)

Name of Country: Honduras
Name of Project: Rural Technologies
Number of Project: 522-0157

1. Pursuant to Part I, Chapter I, Section 103 of the Foreign Assistance Act of 1961, as amended, the Rural Technologies Project for Honduras was authorized on August 7, 1979. The authorization is hereby amended as follows:

- a. The authorized life-of-project funding is increased from \$5,000,000 to \$9,000,000.
- b. The PACD is extended from September 29, 1984 through September 24, 1988.

2. The authorization cited above remains in force except as hereby amended.


Anthony J. Cauterucci
Mission Director

8/27/84
Date

Cleared:	O/DF:PKranstover/WIKaschak	Date: _____
	OET:BCooper/VDeBeaussette/MSScott	Date: _____
	CONT:PAmos	Date: 5/24/84
	DPMS:RAW:herell	Date: 5/26/84
	RLA:GLECC	Date: _____
	DND:CLEONARD	Date: 8/24/84

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Two years into Project implementation, it was clear that beyond those delays related to the complexity of rural development and designing appropriate technologies acceptable to farmers, some flaws in project design were inhibiting progress. Experience gained during these first two years demonstrated that the involvement of six GOH institutions made implementation cumbersome, overly bureaucratic and expensive. As a result, the USAID Mission, together with the GOH, decided to streamline the Project in two important ways. First, only two GOH institutions were to be directly involved in Project management: the Honduran Industrial Development Center (CDI - a semi-autonomous GOH institution which from the beginning was foreseen as the lead institution for the Project) and the Ministry of Natural Resources (MNR). A special Project unit was created within CDI to implement the Project (Oficina del Proyecto de Tecnologías Rurales - PTR). The MNR also maintained its involvement in the Project in selected agricultural aspects and, particularly, in the experimental workshop. The second important change involved the emphasis placed on the role of PVOs in disseminating technologies in conjunction with CDI. Contracts were signed with 11 PVOs, Honduran as well as U.S., to take advantage of their proven outreach to enhance Project impact.

B. Current Status

As recognized by the DAI evaluation, Project modifications suggested and implemented by USAID/H in mid-1982 have resulted in a significant improvement in Project implementation. During the last year-and-a-half, substantial momentum has been developed in disseminating technologies and reaching a significant number of rural families. A brief summary of accomplishments by Project activities is presented below.

1. Impact on Small Farmer -- Productive Technologies. CDI/PTR aims its efforts mainly at campesinos with fewer than 3.5 hectares and at rural laborers in all areas of the country. This target group includes most of the approximately 350,000 families living in poverty in Honduras' rural areas (about sixty percent of the entire population of the country). Through the PTR staff and PVOs working with CDI/PTR, most benefiting farmers are achieving sustained economic growth. In some cases, family income has risen from \$300 per year to \$1,500 per year through improved basic grain and vegetable production using one or more of the project-disseminated technologies. The distribution of the farm technologies is supervised by the staff of CDI/PTR plus eleven PVO'S which work under contractual arrangements with CDI.

Under the auspices of the Development and Adoption Unit (UDA) of the Ministry of Natural Resources, the new farm implements are being developed and tested. At present, 13 farm implements are considered developed, two have been tested and abandoned, and 14 more are in various stages of development and testing. Implements considered fully market-ready are the unibar plow, silos for home grain storage, cultivator, rice thresher, hydraulic ram, water wheel, tiller, row digger, seeder, grain dryers (2 types), soil roller, and land leveler. The technological packages being distributed to small farmers are those which were determined, after considerable study and field testing,

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to be the most effective in increasing their incomes. They include irrigation techniques, better animal drawn implements, hand tools, dryers, threshers, home storage silos, and permanent land improvements such as terracing, composting, water storage, and crop diversification.

a. Irrigation. The primary interventions being utilized are waterwheels, hydraulic rams, temporary dams to feed water by gravity to the cultivated plots, hand and foot pumps, wind mills, and porous clay jars buried in gardens which, when filled with water, allow it to slowly drain into the soil. The interventions supplied by the Project have significantly improved the cultivation practices of benefiting small farmers. Previously, this group farmed only during the rainy season, which lasts about six months in most areas of Honduras. With irrigation, production is now possible throughout most of the year.

b. Farm implements, grain dryers, and home storage bins. The use of solar or wood-fired driers are enabling benefiting farmers to harvest corn crops as they mature, rather than leaving them to dry in the field for an additional 30 to 90 days. This practice enables participating farmers to cultivate the same plot of land for a second crop during the rainy season. In order to rapidly prepare the land for a second crop, animal drawn improved plows, cultivators, harrows, seeders, and fertilizer spreaders are being distributed at a reasonable cost. The acceptance and purchase of home grain storage bins has greatly surpassed the expectations of project personnel. When used properly, the silos have reduced post harvest losses from 30 per cent or more to nearly zero for participant farmers. The improved implements also allow farmers to work more of their land with the same amount of labor, labor which is usually supplied by the family.

c. Terracing and soil-building. Terracing, which is practiced on steep hillsides, conserves the limited top soil, and compost fertilizers and mulch are used to build up soil fertility. The contour ditches on the inside of the terraces have pits to collect water and prevent run-off. Through Project-sponsored improved agricultural methods, participating small farmers have experienced a significant improvement in crop production on marginal land, and are realizing that poor soils and steep terrain are not necessarily barriers to increased production. Terracing, combined with soil building, has raised corn production from between 8 to 15 hundredweight per manzana (1.7 acres) to 50 hundredweight and more. In several instances, farmers have cultivated other cash crops since they can feed their families on less acreage thereby further increasing their incomes.

d. Improved animal production. Testing has just begun to improve animal production on small farms. The general practice in Honduras is to let animals run free and feed as best they can. With this system, it takes 1 1/2 years to get a pig up to market size whereas with proper pens and feed it can get to market size in six months. The experience with poultry, goats, and cattle is similar. Under the Project, crop production technologies have made it possible for the small farmer to increase his grain production over three-fold. Many small farmers under the Project now have more than enough

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grain to feed their families on smaller acreage. The improved animal production technologies component has permitted these farmers to use land that they no longer require to meet subsistence needs to grow feed for animals, thus further increasing their incomes. Technologies introduced include the growing of trees, bushes, and grasses on the edge of each terrace to help hold the soil and also to provide feed for animals such as the beans from Pigeon pea bushes and protein rich leaves from the leucaena tree. Cattle are also penned and fed grasses, legumes, and leaves from the farm. These cattle are now producing more than twice the milk produced by those that are allowed to run on pasture only. Work has also begun on bio-gas production from the waste of cattle, pigs, and chickens.

2. Technology Dissemination to and by Rural Industries.

Thirty-five small industries are producing or using project-sponsored technologies, and some producers are beginning to expand. In total, they now have approximately 250 employees. Over 700 enterprises, including those producing the technologies, have received small business assistance in accounting, general business controls, and management. The evaluation indicates that managerial help in cost control and record keeping has allowed small entrepreneurs to better understand their businesses, price their products realistically and either remain profitable or achieve profitability. CDI/PTR is relatively strong in the areas of identifying small rural industry opportunities and in providing technical assistance. Although technical assistance to small entrepreneurs has been widespread, it could have produced a much greater impact had it been accompanied by credit. The Project Evaluation, based on a random sample of PTR's small industrial clients, showed that several borrowers who had access to credit doubled or tripled their production and income, whereas recipients of training and management assistance without credit access generally did not realize income gains of the same magnitude.

Presently, twelve selected rural shop owners are being instructed on how to manufacture the market-ready agricultural implements and irrigation equipment developed by the UDA. The shops are increasing their production capacities, and the CDI technicians are simultaneously instructing and assisting the shop owners in promotion and marketing of their products.

One successful example of technology dissemination under this Project is a one-ton capacity metal grain storage bin which is large enough to store grain for the average rural family for one year. The Project contracted with a PVO to distribute about 30 silos to farmers who had recently increased agriculture production through project-assisted terracing and composting. As a result, they were considered good candidates for assistance in post-harvest storage. A family-owned and operated metal shop produced the storage bins with CDI/PTR assistance. The farmers were initially skeptical about investing in what was to them an unproven technology, so the PVO offered concessional financing of three years to cancel the US\$75/unit cost. The storage bins practically eliminated post-harvest losses, and a strong demand for them existed the following year. The PVO had no difficulty in placing 200 additional units with payback terms of one year. The activity was subsequently further

expanded by providing a credit union with COH funds derived from ESF-generated local currency to provide credit at commercial rates for two local shops to produce 1,000 storage bins and provide small loans to the farmers to purchase them. This industry and the sale of silos is now a commercial operation and is no longer financed by the Project in this area. We expect this experience to be repeated with the addition of a credit element to the Project and as more technologies become accepted by farmers and rural laborers.

3. Dissemination of Rural Home Improvements. Under this component, CDI/PTR is developing, testing and delivering new or improved technologies to rural families to improve their well-being. Although it is difficult to precisely measure the impact of household technologies, the evaluation concluded that health conditions, attitudes and outlook on life have improved where technologies have been adopted in rural homes.

As of this date, 1,394 fuel-saving, Lorena stoves made of mud and sand have been built in homes around the country. These stoves use half-or less-the amount of wood consumed by local, traditional methods. The stove is both easy to construct and inexpensive. It can be built in two days, uses a chimney and doors on the fireboxes, conserves heat, reduces heat and smoke in the cooking area, and is quicker to heat up than conventional stoves with an open cooking hearth. Beyond the immediate user benefits, it helps to conserve natural resources by decreasing the demand for fuelwood. Other significant accomplishments under the Project include the establishment of 48 home fish ponds which are used by 572 families; farm animals being raised more productively through improved pasture techniques; and a means of producing low cost pig feed. Furthermore, fencing of improved pastures for cattle has reduced the need to burn the forests for pasturing cattle. Feeding pigs in pens is reducing the spread of parasites to village children. Living conditions have been improved through the use of stackable beds to increase living space in one room farm homes. A number of simple French drains (a drainage pit of graded stones and sand) have been installed to prevent kitchen waste water from accumulating outside the home. This reduces the breeding of mosquitos, and improves health by reducing the incidence of malaria and dengue. A dry-type box toilet was introduced, and was recently replaced with a more acceptable and successful sanitation unit, the water-seal type latrine.

CDI/PTR is coordinating its rural home improvement component with another Mission-funded project. Four PVO's (Hermandad in San Marcos de Ocotepeque, CEVER in Yoro, San Jose Obrero in Choluteca, and Mano a Mano - a U.S. PVO - in Olancho) are providing credit for the construction and purchase of Lorena stoves, beds and grain storage bins under the Rural Housing Improvement Project (522-0171). In many cases, the installation of water-seal latrines, Lorena stoves and other improvements selected by rural homeowners are being financed as a package under the Rural Housing Improvement Project.

The rural home technologies also play an equally important role in overall program strategy. PTR uses this type of technology to gain initial credibility in rural communities and to increase target group receptivity to new productive technologies. Once individual and community confidence is

gained, PTR moves to production and dissemination of technologies such as grain storage bins, grain driers, composting and other agricultural production technologies.

C. Proposed Modifications

The proposed US\$4.0 million funding increase will enable the Project to reach an additional 12,000 farm families (or about 72,000 people) and create approximately 2,000 permanent jobs in rural industries. It is expected that average incomes will be raised by no less than US\$250 per year (in fact, experience on these proven technologies indicates that income could be increased considerably more). If spread effects achieve the levels projected in the PP, some 50,000 families will benefit directly and indirectly, increasing direct and indirect beneficiaries to a significant percentage of the Mission's rural target group. There is some evidence that the projected spread effects are beginning to happen in such cases as terracing and composting where essentially the only input is labor. As technologies become more widely disseminated and are successful around the country, and as commercial credit becomes more readily available, it is expected that many small farmers will install or use the technologies on their own. Thus, the Project's basic goal and the number of benefited families appear as firm and valid today as they were when the Project Agreement was signed.

1. Project Strategy.

The Project will maintain the PTR/PVO focus which was developed as a result of reorganization in 1982. It will continue to be executed and coordinated by the PTR staff, which will contract or sign cooperative agreements with the Ministry of Natural Resources, INA, credit unions, cooperatives, private consultants, private companies, banks, and at least 20 PVOs for implementation of specific project activities. The priority ordering of activities (1. farming, 2. industry and 3. home) was carefully chosen during original design and will continue to be the order of priority throughout the extended Project life. Project activities in these three areas are described in more detail below.

Project implementation efforts to date have resulted in the development, adaptation and dissemination of 37 technologies and techniques. Not all of these have been proven cost effective. During the rest of the Project, PTR, contracted PVOs, and other institutions will concentrate on dissemination of proven technologies and techniques to small farmers throughout Honduras. Efforts to develop new technologies for agricultural production will continue, but at a reduced pace, while some of the old technologies which offer potential may be improved or replaced by better alternatives. An increased emphasis also will be placed on development of simple labor intensive processing technologies for agricultural products. Marketing problems are becoming increasingly important as production rises, and the products must be processed to facilitate storage and marketing.

Credit too will be made available as a part of this PP amendment. Both Project experience and the DAL evaluation indicate the need for a credit element in order to fully maximize Project benefits.

2. Agricultural assistance. PTR will strengthen assistance in agriculture by adding one experienced agronomist in each zone of the country and working closely with other GOH agencies. Specific task-type contracts and other arrangements will be made with the MNR, INA, cooperatives, Peace Corps, INFOP, experienced private sector individuals and possibly BANADESA to provide technical expertise to small farmers on the use of selected technologies. PTR'S capabilities in agronomy will further be strengthened by adding farm monitors in the field, and providing specialized and general training for Project personnel and participants at the model farms. Two privately owned model farms with proven technologies are now complete, and others will be developed in the near future. It is the responsibility of the recipient group or farmer to maintain the model farm to CDI/PTR's specifications. The farms will be used by CDI/PTR's field personnel and by other GOH agencies and PVO's to show small farmers the benefits of using the tested and proven technologies through hands-on demonstrations. This should facilitate more rapid dissemination and facilitate requests for assistance and training.

To enhance the outreach capacity of CDI/PTR, the Project extension will also finance the purchase of approximately six jeep-type vehicles and/or six motorcycles which may also be available to participating PVOs.

3. Credit Program. Funding for the Project's credit program for all three components will be provided through complementary financing generated from the Economic Recovery Program (522-0230). Specific disbursement procedures from these funds will follow those outlined in PII, Number two of the 522-0230 Project. The objective of the credit program will be to provide the greatest possible outreach to the rural sector. This will imply expanding the involvement of non-public institutions in credit delivery to technology users, particularly the involvement of the formal banking sector. All components of the credit program will be based on a number of common elements. These include:

i. loans for all established technologies will be provided at the prevailing market rate in order to maintain fund capitalization and reach the greatest number of farmers;

ii. repayment will be made to the financial institution providing the credit;

iii. continuing with the successful Project Strategy to date, credit will be provided only for technologies and for the type of enterprises that have been proven successful in field trials.

In general, the credit program for the Rural Technologies Project will work through three channels: (a) disbursement through Private Voluntary Organizations (PVOs), cooperatives, campesino organizations, and other non-bank institutions, (b) disbursements through established banking institutions, and (c) disbursement through CDI directly to beneficiaries when and only when other qualified institutions are not available, such as in certain remote parts of the country.

a. Loans through non-bank intermediaries. Wherever possible, disbursements will be made through PVOs, campesino organizations and other non-banking institutions under the following CDI criteria for acceptance of potential intermediaries. The organization must:

- have existing rural development activities in the communities in which it intends to work;
- have the ability and willingness to manage a loan collection system;
- have legal status (personeria jurídica);
- be willing to accept responsibility for repaying its loans from CDI;
- demonstrate acceptable managerial competence and administrative procedures;
- have a good reputation among the target group.
- accept market recovery principle as part of this credit policy.

Intermediaries that want to participate in the Project will contact CDI/PTR directly. CDI/PTR will evaluate the intermediary's capability based on informal discussions and a review of the organization's operating procedures, staffing, logistical capability, and bookkeeping practices. For those intermediaries accepted by CDI, an initial allocation of funds will be approved from the Economic Recovery Program (522-0230) funds allocated to CDI, based on the number of communities in which the organization expects to work during a two-year period. The amount subsequently may be increased (or decreased) by CDI/PTR based upon the intermediary's performance, plans for expansion, and availability of funds.

Accepted intermediaries will sign a formal CDI/PTR intermediary agreement governing their participation in the Project, including the interest rate spread allocated to the institutions for handling the credit program. The agreement will provide for a flexible implementation arrangement whereby CDI agrees to lend a certain amount to the intermediary, and sets forth certain criteria which must be observed in making subloans, including that outlined above. In general, as long as CDI is satisfied with the intermediary, it will allow it to continue using the loan and may increase it by written agreement of the involved parties. A.I.D. will review and approve each agreement between CDI/PTR and the intermediaries prior to signature through Implementation letters under the Rural Technologies Project. CDI/PTR and A.I.D. will agree on the criteria for reducing the amount of, suspending, or terminating a loan to an intermediary prior to CDI/PTR exercising such remedies under any agreement.

Intermediaries will pay CDI/PTR interest rates on funds received from CDI/PTR (up to 5% for eligible PVOs). Given the flexibility required for this type of project and for the credit program, each agreement between CDI/PTR and intermediaries will be negotiated based on experience in Project implementation and the conditions indicated above.

Each intermediary will set up a separate bank account for the Project. All disbursements received from CDI/PTR, interest payments to CDI/PTR, disbursements for Project costs, and subloan repayments will flow through this bank account. Disbursements of the loans to the intermediaries will be made either as advances or reimbursements. CDI/PTR will make advances to intermediaries based on written requests giving a list of communities in which the organization expects to develop activities and the credit funds estimated to be needed. Reimbursement requests will be submitted to CDI/PTR accompanied by copies of signed subloan agreements, a list of subborrowers and disbursements on each subloan, and evidence that disbursements have been received by the subborrowers. CDI/PTR will make all disbursements to the intermediaries within fifteen days of the receipt of reimbursement requests, and conduct post audits of all transactions.

The loans to the intermediaries will remain in effect as long as CDI/PTR is satisfied with their performance. CDI/PTR will have several alternatives should it determine that an intermediary is having implementation difficulties or experiencing a high rate of subloan defaults. It can provide assistance to the intermediary to help improve its operations; suspend disbursements; declare some or all of the loan due and payable; or require the intermediary to make no new subloans and turn over all future collections to CDI/PTR. Non-financial institutions will repay their loans to CDI/PTR as required under the CDI/PTR-Intermediary contract, but pledging of assets other than those provided through the Project will not be required. Intermediaries which are financial institutions and rural industries or businesses will be bound to repay CDI/PTR, as required under the CDI/PTR-Intermediary contract, from any and all resources available to them.

b. Loans to the formal banking system. Increasing formal banking system lending to the target group is a key objective of the credit program. Nonetheless, it is clear that to encourage the formal banking system to participate in the Project, it will be necessary to provide appropriate incentives. It could be that with strong technical assistance supplied by CDI, plus the peer or solidarity pressure of the creditors, no further incentives will be needed to encourage banks to make loans to the rural areas. The Project will make funds available to carry out an investigation and/or to experiment with various additional incentives once the credit program is initiated and experience is gained.

c. Direct CDI Loans. Recognizing the established outreach of CDI/PTR in rural areas, CDI will provide credit directly to the target group only in areas where qualified credit institutions are not available. It will be the lender of last resort. As indicated above, credit will be provided to villages where successful adaptation of technologies has occurred. In order to ensure adequate repayment rates, a group or peer pressure approach (often referred to as joint

and several responsibility) will be taken. CDI will sign formal agreements with villagers who will be represented by "Patronatos" or committees. The agreement will make it clear (and CDI/PTR staff will verbally emphasize) that these leaders will be responsible for selecting the farmers who will be granted credit and ensure the repayment of all loans to the village. The agreements will state that when 5% of the loans in their village are in arrears (a warning will be provided when arrears reach 3%), all further loans to the village will be stopped. At 3% an evaluation of the area and its activities will be undertaken by CDI and a major effort at improved T.A. to the village will be made. At 5% no further loans to the village will be made **and items for which loans have not been repaid will be repossessed. This mechanism will also apply to the small businesses and home improvement components.** CDI will maintain the credit program from reflows.

4. Technical Assistance. The basic technical assistance is (and will be) supplied by the staff of CDI/PTR. This staff is composed of engineers, agronomists, economists, accountants, and field agents. The top positions are advertized and a selection is made on the basis of qualifications. This technical assistance is supplemented by contracting with PVO's. Although the number of PVOs in Honduras interested in or having relevant experience in appropriate technologies is somewhat limited, there are 20-30 organizations that we feel could make a positive contribution to technology dissemination and/or production. CDI/PTR has a system of continuous evaluation of PVO performance so that if PVO's consistently do not comply with the conditions agreed to in the contract they have signed, they are dropped from future contract consideration until their management is improved. Another source of technical assistance which should be used as much as possible is the various GOH organizations such as the MNR, INA, INFOP, various education institutions, etc. Very often this type of T.A. can be secured for specific development areas to which CDI can make financing available. Finally, in selected areas, private technical assistance can also be contracted. This can be a consultant group, a private company, a bank, a cooperative, etc. In general, local technical assistance must be solicited from all possible effective local sources.

Foreign technical assistance is to be supplied as needed to supplement that locally available and as described above. A.I.D. regulations will be followed in securing this assistance. This technical assistance will be both long-term and short-term.

5. Dissemination of technologies to farmers. The dissemination of technologies will continue as at present, but will concentrate on selected village areas so as to more efficiently use the available technical assistance. The process of distribution of technologies to the farmers, rural entrepreneurs, and rural home owners is first to demonstrate the feasibility of the technology in a selected village or area. The rural villages range in size from 50 to 500 families who farm in the surrounding areas. The technologies re demonstrated with from one to ten families in this area or village, depending upon the decision of the technician responsible for the

area. CDI/PTR will finance the demonstration except for the labor of the farmer and his family. As per the original Project Paper, no charge is made to the "demonstration" farmer. He receives the materials or equipment from CDI/PTR, and puts the technologies to work following the instructions of the technicians (repayment will only be made for inputs if the technologies prove to be successful). The tools and systems will be modified until they are accepted. Once these initial farmers have demonstrated the increased profitability of using the recommended technologies, it is assumed that other farmers in the area will want to adopt the same technologies. (Project experience to date supports this assumption.) For this expanded dissemination, credit will be needed since the technologies have been demonstrated and proven to increase the income of the small farmers. As part of the agreement between the demonstration farmers in each location or village area who originally received "free" inputs for demonstration purposes from CDI/PTR, the participating farmer will agree to serve as a "teacher" for other area farmers who will receive credit to install the new technologies. If the farmer is also issued implements and other equipment, then he will pay for these over a period greater than one year. Because these are pilot or testing operations and because he will be required to teach other farmers in the area, he will not be charged any interest. This system will be used in selected areas or villages throughout the country to accomplish as broad a distribution as possible.

As commitments for dissemination are made, shops will be set up to make the tools. CDI/PTR, PVOs, and other contracted organizations will continue to acquaint farmers with new systems, and other industries will be set up to process the farmer's products. Project funds will finance these industries until they are proven profitable. Once the technology or package is proven feasible, then similar industries will be set up in other areas of the country using commercial credit which will be made available to farmers so that they can purchase the products. In both cases (farmers and small businessmen), a PTR technician acting as field manager will make sure that loan funds are properly used. In some cases, small industries making products may also provide financing for small farmers as a means of increasing and facilitating sales. A similar dissemination strategy also will be used for the farm implements and home technologies activities. In the former case, farm implements at the initial stage of testing and modification will be loaned out to farmers to check on acceptability. Once they are adapted, the farmer will sign an agreement with a financial institution or CDI to repay the cost of the implement. If the farmer does not want to pay, then the item will go to someone else. A reasonable time limit will be allowed for negotiation and signature of the agreement by the farmer.

The use of credit will be initiated to the small farmer as early as possible in the process of commercializing each technology. The Project will have met its objective when the farmers, entrepreneurs, and home owners become well trained in the use and manufacture of the technologies, have established good credit ratings and keep growing and increasing their income without the assistance of AID or the GOH. At that point, dissemination can continue with minor support from GOH institutions. Thus, Project replication will not continue to be a drain on limited GOH financial resources at a time of severe financial difficulties.

Technologies to be disseminated to the farmer will be primarily those that have been successful and proven to date including hydraulic rams, silos and driers, water wheels, gravity irrigation and land leveling, catchment basins, hand or animal powered water pumps, small farmer shrimp ponds, terracing and water retention, improved seed production, animal feed production, farm fish culture, bee colonies, and a significant increase in the demonstration areas for rural technologies.

6. Rural Industries. To make a worthwhile impact and help small farmers grow and market more, new industries using light capital technologies will be established. The skills of local blacksmiths will be upgraded to enable them to become metal workers, produce quality agricultural implements and thus facilitate technology distribution. They need additional equipment such as welders and metal presses, as well as raw materials. The twelve shop owners now being trained by the MNR/UDA workshop are strategically located throughout the country to enable them to supply small farmers in all rural areas. The credit and technical assistance program will enable farmers to purchase the improved farm implements. As Project-financed credit use increases and the shop or industry develops a solid market, further financial help to the shops from this Project will not be required. Examples of processing activities and other industries which may be established are cold-pressed castor oil, various solar dried fruits and vegetables, dried tomato powder, granulated dried onions and garlic, distilled essential oils from plants and trees, natural food dyes, cashew nuts, cacao, fresh fruits and vegetables refrigerated for export, cultivated shrimp in small ponds, fruit leathers, animal feed, honey, beeswax, charcoal, sun flower seeds and oil, peanuts, tannin, gypsum panels, solar salt, lime, bakeries using yucca flour, lime silica mortar, fuel briquets from saw dust, cheese, candied fruit, soap, tortilla powder, papain, protein from yucca starch, pickles, broom straw, brooms, and smoked fish from farmers' fish ponds. All these products can be made with light capital technology. The markets for these products are both domestic and foreign. Required technologies are available, needing only adaptation to local conditions. Businesses such as the above can be installed for an average of approximately US\$7,000 - not including working capital. The goal is to install approximately 110 such local industries on a pilot basis. Establishment of the above industries could make a contribution to reducing the balance of trade deficit, since roughly 70% of the above products are currently being imported and some, like castor oil, can be exported.

7. Home Improvement Technologies. Rural household technologies will continue to be developed and improved under the Project, but concentration will be on the promotion of proven technologies such as Lorena stoves, French drains, home gardening, and water seal latrines. It is expected that as farm and industry income increase, many of these technologies will be made available commercially and produced, in part, by the small shops established under the Project. Most home loans will continue to be made by PVOs under the Rural Housing Improvement Project (522-0171).

Although CDI/PTR may continue to donate new or untested interventions to some Project beneficiaries, already proven technologies such as Lorena stoves and

soap-making equipment will be paid for by recipients. PTR will continue to provide technical assistance. Efforts will be made to place the Home Improvement Component on a self-sustaining basis through the Project's credit program.

D. End of Project Status

During the four year Project extension, approximately 12,000 families will have been reached - a sufficient number of small independent farm families throughout the country to demonstrate to a much larger number of campesinos that they can significantly increase incomes through the adoption of appropriate technologies. Rural industries as pilot or test industries will have been established and put into operation to produce and maintain the implements and machinery needed by the farmers, and to refrigerate, dry, store and process small farm products. Once the pilot manufacturing or processing facilities have been proven effective, practical and profitable, replication of these industries can be established around the country with commercial credit. The credit mechanisms developed through the Project should help to facilitate the Project's spread effects.

The only direct, continuing responsibility and involvement of the GOH after this second phase would be in development and adaptation of agricultural technologies and in the dissemination of information to the small farmers and businessmen.

The Table below summarizes performance to date and Project targets and priorities for Phase II implementation.

Table I
Project Performance To Date (as of 1/15/84) and Future Projections
by Technologies
 (direct beneficiary families)

<u>Technology/Technique</u>	<u>Total to date</u>	<u>Total Planned for LOP</u>
A. <u>Small Farmers</u>		
- 1. Hydraulic Rams	23	200
- 2. Water Wheels	219	300
- 3. Gravity Irrigation and Land Leveling	326	1,000
- 4. Catchment Basins	4	65
- 5. Hand or Animal Powered Water Pumps	14	200
- 6. Small Farmer Shrimp Ponds	3	1,000
- 7. Small Farmer Terracing and Water Retention System	203	2,500
- 8. Demonstration Centers for Rural Technologies	7	50
- 9. Improved Seed Production	5	160
- 10. Animal and Feed Production	125	3,400
- 11. Silos and Driers	1,686	4,000
- 12. Farm Fish Culture	48	125
- 13. Bee Colonies	225	1,000
- TOTALS	2,888	14,000
B. <u>Small Rural Industries</u>		
- 1. Export Industries	1	20
- 2. Local Market Industries	33	75
- 3. Support Industries (Village Electricity, etc.)	1	15
- TOTALS	35	110
C. <u>Rural Homes Improved</u>		
- 1. Fuel Saving Wood Stoves	1,394	2,000
- 2. Indoor Latrines with Fertilizer Production	2	500
- 3. Roof Rain Water Collection	0	1,000
- 4. Water Filters	8	200
- TOTALS	1,404	3,700

The technologies/techniques listed above for the farm are only those that to date show the greatest potential for increasing small farmer incomes. Several other technologies with more modest effects on income will continue to be provided, usually in conjunction with one of the technologies listed.

The figures in the "total-to-date" column were provided by the studies and planning unit of PTR which keeps careful records of technologies installed by PTR and the participating PVO's throughout the nation. These figures were current through the early part of 1984 and contain the names and locations of the beneficiaries, which are verified through visits by field staff. Numbers under "beneficiaries to date and planned" may exceed levels discussed above due to some overlapping of beneficiaries (those benefiting from more than one technology).

F. Relationship to USAID Strategy and Program. The Rural Technologies Project is one of the key elements of the Mission's rural development strategy. The Project has supported and will continue to support other USAID and GOH programs. There are many examples of technologies developed under the Project which are contributing to other USAID projects - with these often expanding on Rural Technology efforts.

Cooperative efforts have been taken under the Rural Housing Project (522-0171) where rural businesses have been assisted and can soon be producing improved housing materials such as lime-silica cement, gypsum-sawdust panels, and improved roofing tiles. Small-scale irrigation projects have been undertaken throughout the country using waterwheels, hydraulic rams, and other techniques built with local materials where small rivers and streams could easily be diverted by a few men. This model is presently being used in the irrigation component of the Agricultural Sector II Project (522-0150). The Rural Technologies Project has assisted the Small Farmer Coffee Improvement Project (522-0176) by developing a fuel-fired grain dryer tested for the drying of coffee. The dryer is fueled with coffee husks and worked well in the Corquin area where unseasonable rains during harvest prevented solar drying. The dryer thereby saved one recent harvest. The Natural Resource Management Project (522-0168) has also benefited directly from developed farming technologies. In summary, a distinct pattern exists where Rural Technology innovations strengthen other efforts.

We expect this linkage of other rural development projects and Rural Technologies to continue and to be intensified through a new generation of upcoming projects, particularly in the export field, which will strengthen the Mission's rural development strategy including employment generation, income enhancement, and export promotion efforts.

III. FINANCIAL PLAN

This amendment proposes to add \$4,000,000 in grant funds to the existing Project, bringing the total Project funding to \$9,000,000 in grant funds. A breakdown of Project costs follows. (GOH counterpart contribution for the extension will be \$2,225,000.)

TABLE II

Summary Cost Estimate and Financial Plan
(U.S. \$000)

<u>AID FUNDING BY FY</u>	<u>FY84</u>		<u>FY85</u>		<u>FY86</u>		<u>FY87</u>		<u>TOTAL</u>		
	LC	FX	LC	FX	LC	FX	LC	FX	LC	FX	
a) CDI PTR FIELD STAFF	AG	50	150		100		75		375		
	IND	50	125		75		55		305		
	HOME	25	40		35		25		125		
b) VEHICLES		-		135		-		-		135	
c) UDA STAFF AND SUPPORT		75	115		60		25		275		
d) AGRICULTURE TECHNOLOGIES		75	450		385		230		1140		
e) SMALL BUSINESS DEVELOPMENT		75	325		250		175		825		
f) RURAL HOMES IMPROVEMENT		25	70		65		60		220		
g) TA			50	250		250		50		600	
TOTALS		<u>375</u>	<u>50</u>	<u>1275</u>	<u>385</u>	<u>970</u>	<u>250</u>	<u>645</u>	<u>50</u>	<u>3265</u>	<u>735</u> (4000 total)
<u>GOH FUNDING BY CY</u>											
a) CDI/PTR HEADQUARTERS STAFF		415	750		450		380		1995		
b) UDA STAFF AND SUPPORT		85	65		50		55		255		
TOTALS		<u>500</u>	<u>815</u>		<u>500</u>		<u>435</u>		<u>2250</u>		

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	<u>FY84</u>		<u>FY85</u>		<u>FY86</u>		<u>FY87</u>		<u>TOTAL</u>	
	LC	FX	LC	FX	LC	FX	LC	FX	LC	FX
<u>COMPLEMENTARY FINANCING BY GOH</u>										
a) AGRICULTURE DISSEMINATION OF TECHNOLOGIES - CREDIT			600		700		500		1800	
b) SMALL BUSINESS DEVELOPMENT CREDIT			600		700		500		1800	
c) RURAL HOMES IMPROVEMENT-CREDIT			150		150		97.3		397.3	
TOTALS			<u>1350</u>		<u>1550</u>		<u>1097.3</u>		<u>3997.3</u>	

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Table II

METHODS OF IMPLEMENTATION AND FINANCING

The Mission proposes to use only those methods of payment authorized by the Payment Verification Policy Statements. No special justification is therefore required. Since this is an add-on to an existing project, the Mission has experience in dealing with most of the major implementors of the project. Reviews have been made of the documentation maintained by CBI to support their disbursements and suggestions made to strengthen their payment verification system are being implemented. The methods of implementation and financing proposed for use on this project add-on have been effective in the first phase of the project.

Type of Assistance	Method of Assistance	Method of Payment	Approximate Amount
Technical Assistance	PSC Direct Contract	Direct Payment	\$ 500,000
Technical Assistance	Host Country Contract	Direct Reimbursement	100,000
Commodities	Host Country Procurement	Direct Reimbursement	135,000
Local Support Costs	Host Country	Direct Reimbursement	3,625,000

V. REVIEW OF PROJECT ANALYSIS

A. Economic and Financial Analysis

An indication of the economic benefit of the Project can be obtained by comparison of results to date with the data on page 47, Table I of the PP. The cost-benefit analysis in the PP was based on increased income for small farmers and small industrialists (including factory labor). The PP estimated that at the end of the first phase of the Project, 6,443 farm families directly assisted by the Project would have a net annual income of U.S.\$80,000 or U.S.\$12.38 per family increase per year. It is estimated that the 2,898 families that have directly benefitted from assistance in agricultural production as of September 1983 have increased their net income by U.S.\$90 per year for a total increased income of U.S.\$260,000. This does not include an estimated 8,000 indirect beneficiaries (i.e., those who have not received technologies financed with Project funds but have obtained access to technologies by loan or purchase). Insufficient data are presently available to estimate benefits from the rural industry and home improvement activities. However, based only on the benefits to Project assisted families, it is clear that overall economic benefits exceed planned levels at this time. Even though the outreach of the Project has not been as extensive as expected, the outreach capacity has rapidly increased over the last 18 months.

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A more recent Benefit-Cost Analysis of the project was conducted based on data up to March 1984.

This analysis indicates that:

- The Project's Benefit/Cost (b/C) ratio is 2.87 assuming the 12% discount rate.
- The Project shows a break-even or payback period of about seven years, again assuming the 12% discount rate.
- The project shows an internal rate of return ("IRR" or "yield on investment") of approximately 25%.

B. Social Analysis

The social analysis as contained in the PP is considered to be still valid for the expanded Project, including the estimated positive impact on women.

IV. REVIEW OF PROJECT ANALYSES

A. Economic and Financial Analysis

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- The Project shows an internal rate of return ("IRR" or "yield on investment") of approximately 25%.

B. Social Analysis

The social analysis as contained in the PP still is considered to be valid for the expanded Project, including the estimated positive impact on women.

C. Administrative Institutional Analysis

As indicated above, the original Project concept considered the involvement of six GOH institutions in Project implementation. This resulted in an overly bureaucratic, cumbersome scheme which severely handicapped implementation and added considerably to the overhead costs. Administrative mechanisms have now been streamlined by giving CDI/PTR full responsibility for Project implementation, with the support of the Ministry of Natural Resources and the PVOs which are directly involved in technology dissemination. As indicated in the DAI evaluation:

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"The reorganization of implementing agency responsibilities ...concentrating all responsibilities except that of the Agricultural Implement Development Unit in CDJ and creating PTR within CDI to administer the program has very substantially improved program design and management and increased program impact in rural areas. The strong position accorded to CDI in the Project from its start should be given substantial credit for making this successful reorganization possible."

D. Environmental Analysis

The environmental analysis contained in the PP remains valid with the possible exception relating to the expansion of farmer shrimp ponds. A separate environmental analysis of this component will be undertaken before broad dissemination of shrimp ponds is undertaken.

ANNEXES

- A. Authorization Cable
- B. Amended Log Frame
- C. GOH Letter of Intent

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number: RURAL TECHNOLOGIES PROJECT (522-0157)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><u>GOAL:</u> Increase incomes of small farmers and rural small businessmen, improve quality of rural living.</p>	<ol style="list-style-type: none"> 1. Small farmers/businessmen income increased. 2. Selected indicators related to specific appropriate technologies introduced. 3. Improved living standards of target population as measured by selected quality of life indicators. 	<ol style="list-style-type: none"> 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. 3. Based on Loan Agreements actual calculation of increased income and for industries the number of increased employees. 	<p>Small farmer and small rural industry development will continue to be a high priority area for the GOH.</p>
<p><u>PROJECT PURPOSE:</u></p> <ol style="list-style-type: none"> 1. Increase small farm effective utilization of labor and land through the use of improved light capital farm implements and structures. 	<p><u>EOPS:</u></p> <ol style="list-style-type: none"> 1.a. Increased yield per hectare. b. Cultivation of more land appropriate for production. c. Conservation of long-term land productivity. 	<ol style="list-style-type: none"> 1. Agriculture Sector II small farmer surveys; longitudinal studies; project evaluation. 	<ol style="list-style-type: none"> 1. Continued GOH commitment to small farm agriculture development; small farmers will be receptive to light capital farm implements and structures.

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number: RURAL TECHNOLOGIES PROJECT (522-0157)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
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.	d. Decreased number of man hours per unit of productivity of 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. h. Participants in demonstration activities are willing to purchase implements or structures at end of demonstration period and demand exists among non-participants.	2. Project evaluation; longitudinal studies.	2. Small scale industrial entrepreneurs will be receptive to improve production and management systems; formal credit systems possesses flexibility to deal with credit needs of micro-businessmen.
	2.a. 1500 assisted existing small enterprises increase employment by additional 1,679 work-years, for a total of 2000 jobs. b. Increased returns to capital and labor for existing small enterprises.		

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number: RURAL TECHNOLOGIES PROJECT (522-0157)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>3. Increased utilization by rural poor of low-cost appropriate technologies or products designed to improve the quality of life.</p> <p><u>OUTPUTS:</u></p> <p>1. Improve and expand systems for identification of problems; development, adaptation and dissemination of technologies appropriate for small farmers, rural enterprises and rural households.</p>	<p>c. Establish new viable industries that add value to rural resources and products, increase rural employment.</p> <p>d. Increased utilization by small enterprises of formal credit system, with acceptable default rates.</p> <p>3. Acceptance of low-cost capital technologies among demonstration groups and replication to additional users.</p> <p><u>MAGNITUDE OF OUTPUTS:</u></p> <p>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.</p> <p>b. Expansion of effort of MNR Small Farmers D&A Unit establishment under Small Technology Project.</p>	<p>3. Project evaluation; USAID field inspection.</p> <p>1. Observation; reports prepared by information association; periodic reports prepared by CDI, MNR, UNAH, and PVO's.</p>	<p>3. Rural poor will be receptive to low-cost appropriate technologies.</p> <p>MNR, and UNAH will provide continued support for D&A activities.</p>

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number: RURAL TECHNOLOGIES PROJECT (522-0157)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
2. Delivery system for management and technical advisory services for small enterprises.	c. Appropriate technology pilot project referred to PVOs or other organizations for further development, field testing and/or dissemination, if activity not suitable for execution by above mentioned units. 2.a. Six zonal offices located throughout the country. b. 1,500 small businessmen receive TA in areas of production, management and/or marketing. c. Training needs identified of 500 small businessmen and success of training evaluated for feedback to training system. d. 500 small businessmen advised on credit use, sources and application producers. e. Lenders provided with general advice on lending to small businesses and specific information regarding potential borrowers.	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. b. Entrepreneurs are receptive to the technical assistance provided.

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number: RURAL TECHNOLOGIES PROJECT (522-0157)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
3. System for delivering training to small farmers and rural enterprises.	<p>f. 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.).</p> <p>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.</p>	3.a. Observations; periodic reports by CDI, INFOP, and A.I.D. field visits.	b. Levels of participation and interest sufficient for continued training programs.
4. Small Enterprises Development Fund established and operating.	<p>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).</p> <p>c. Training techniques and curriculum revised and improved through regular evaluation feedback mechanism.</p>	<p>b. USAID field inspection, INFOP and CDI reports.</p> <p>c. Observation.</p>	4. Opportunities exist for expansion or creation of small or medium enterprises
	4.a. 110 Pilot small enterprises established and operating.	4. Observation; USAID field inspection.	

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number: RURAL TECHNOLOGIES PROJECT (522-0157)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
5. Small Farmer and Appropriate Technologies Development and Adaptation and Dissemination Fund.	<p>b. Loans or experimental type of financial transactions made to intermediary credit organizations which lend to small enterprises.</p> <p>5.a. 10-15 blacksmiths and metalmechanic shops producing implements for demonstration.</p> <p>b. At least 25 different prototype implements or structures produced and disseminated.</p> <p>c. Inter-institutional arrangements established between CDI, MNR and other appropriate institutions for the planning, execution and evaluation of prototypes and field demonstrations.</p>	5. USAID field inspection; MNR and CDI periodic reports.	that are economically viable and financially sound over the long term.

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number: RURAL TECHNOLOGIES PROJECT (522-0157)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>6. Establishment of an evaluation/ planning capacity in CDI to more precisely identify problems of small enterprises and continuously improve programs to assist small entrepreneurs.</p>	<p>6.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.</p> <p>b. Also prepares zonal resources inventory and industrial development plans, in consultation with other GOH planning activities.</p>	<p>6. Observation.</p>	
<p>7. Establishment of Project Coordination and Management and Administration Office to perform GOH/AID and inter-institutional coordination and to administer project activities.</p>	<p>7.a. Project Coordination and Management and Administration Office established and fully staffed.</p> <p>b. Timely execution of budget preparation, disbursements, etc.</p>	<p>7. Observation Evaluation</p>	

INPUTS:

See Financial Plan for Project cost details.

Inputs will be made available on a timely basis.



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C. & P.

SECRETARIA DE HACIENDA Y CREDITO PUBLICO

REPUBLICA DE HONDURAS

Tegucigalpa, D. C., 16 de agosto, 1984

No. CP-1646.....

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- EPA. /
- ACR. /
- ENG. /
- RRHH. /
- JAO. /
- CIEN. /
- COMPUT. /
- OTHER. /

Señor
ANTHONY J. CAUTERUCCI
 Director Agencia para el
 Desarrollo Internacional
 Presente

Señor Director :

Los logros alcanzados en el Programa de Tecnología Rural se vienen traduciéndose en beneficios crecientes para las familias campesinas. A raíz de las modificaciones realizadas en el Programa a mediados de 1982, se han logrado mejoras sustanciales en la ejecución del mismo, observándose en el último año y medio un gran impulso en la diseminación de tecnologías y en la incorporación de un significativo número de beneficiarios.

Los resultados positivos, se han reflejado en algunos casos en aumentos del ingreso de las familias de pequeños agricultores de \$300 a \$1.500 al año, mediante la mayor producción de granos básicos y de hortalizas; estas metas han sido alcanzadas por la utilización de las tecnologías diseminadas por el Programa, a través del uso de las 13 herramientas manuales agrícolas, como arados, norias, azadas, etc. que han sido desarrolladas, encontrándose 14 implementos agrícolas más en varias etapas de prueba.

La tecnología de irrigación y secado de granos, introducida bajo el Proyecto, permite a los agricultores plantar más de un cultivo al año, lo cual aumenta significativamente sus ingresos. Treinta y cinco pequeñas industrias, que emplean aproximadamente 250 personas, están produciendo o utilizando las tecnologías patrocinadas y alrededor de 700 pequeños negocios han recibido asistencia técnica en contabilidad, controles generales de negocio y manejo gerencial. La evaluación realizada por la Consultora Development Associates, concluyó que las condiciones de salubridad, actitudes y perspectivas de vida han mejorado en los hogares rurales donde las tecnologías han sido adoptadas.

Por todo lo anteriormente expresado, el Gobierno de Honduras está muy interesado en la continuación de este Proyecto y por este medio solicita la extensión del mismo por un período adicional de cuatro años, es decir hasta el 24 de septiembre de 1988, asimismo, solicita que se incremente la donación del AID en US\$ 4.000.000.00.

El Objeto de la solicitud de extensión del plazo y del incremento de la donación es el de realizar la segunda fase del programa, la cual ya ha sido debidamente planificada para que provea créditos a los pequeños agricultores e industriales para la compra y producción de las tecnologías de bajo costo del Programa de Tecnología Rural.

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El Gobierno de Honduras, por su parte, se compromete a seguir prestando su apoyo al Centro de Desarrollo Industrial (CDI/PTR) y al Ministerio de Recursos Naturales (MRN/UDA) mediante el suministro de los fondos necesarios para la eficiente ejecución del proyecto, lo cual incluye el pago de sueldos, viáticos, materiales, manteniendo en todo caso, una aportación no menor del 25% del monto total del Proyecto.

Sin otro particular, me es grato ofrecer a usted las muestras de mi mayor consideración y estima.



Carturo Corleto Moreira

HAD/niv