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

PERU

PROJECT PAPER

EXPORT, TRADE AND DEVELOPMENT
AMENDMENT NUMBER 2

AID/LAC/P-840
CR-688, 781

PROJECT NUMBER: 527-0349

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE: C (A = Add, C = Change, D = Delete) — Amendment Number: TWO

DOCUMENT CODE: 3

2. COUNTRY/ENTITY: PERU

3. PROJECT NUMBER: 527-0349

4. BUREAU/OFFICE: LAC / 05

5. PROJECT TITLE (maximum 40 characters): Export, Trade and Development

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM 03 DD 31 YY 98

7. ESTIMATED DATE OF OBLIGATION (Under "B." below, enter 1, 2, 3, or 4)
A. Initial FY 91 B. Quarter 4 C. Final FY 97

8. COSTS ($000 OR EQUIVALENT $1 =)

A. FUNDING SOURCE	FIRST FY 93 B. FX	C. L/C	D. Total	LIFE OF PROJECT E. FX	F. L/C	G. Total
AID Appropriated Total	4,000	500	4,500	19,857	7,643	27,500
(Grant)	(4,000)	(500)	(500)	(19,857)	(7,643)	(27,500)
(Loan)	(-)	(-)	(-)	(-)	(-)	(-)
Other U.S. 1.						
Other U.S. 2.						
Host Country PL 480 (Title III)					10,413	10,413
Other Donor(s)	600	-	600	3,000	105	3,105
TOTALS	4,600	500	5,100	22,857	18,161	41,018

9. SCHEDULE OF AID FUNDING ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE 1. Grant	2. Loan	D. OBLIGATIONS TO DATE 1. Grant	2. Loan	E. AMOUNT APPROVED THIS ACTION 1. Grant	2. Loan	F. LIFE OF PROJECT 1. Grant	2. Loan
(1) ESF	PEBD			9,500		-		19,500	-
(2) DA	PETI			-		8,000		8,000	
(3)									
(4)									
TOTALS				9,500		8,000		27,500	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

11. SECONDARY PURPOSE CODE: EDPE, PEFM

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code	NAR	TIP	CIT	RUR	TWN		
B. Amount	27,500	27,500	11,000	11,000	5,500		

13. PROJECT PURPOSE (maximum 480 characters)

The purpose of the project is to generate employment and to increase Peru's exports, primarily non-traditional exports.

14. SCHEDULED EVALUATIONS
Interim MM 08 YY 94 — MM 10 YY 95 — Final MM 02 YY 98

15. SOURCE/ORIGIN OF GOODS AND SERVICES
[X] 000 [ ] 941 [X] Local [ ] Other (Specify): _____

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

This amendment adds a new component to the Project, extends the termination date by one year and increases the LOP funding by $8.0 million.
This amendment is consistent with D.O.A. 752, Section I.B.1. dated September 14, 1992.
Mission Controller has reviewed and concurs with methods of implementation and financing included herein.

James Sanford, Controller

17. APPROVED BY
Signature: George A. Wachtenheim
Title: Mission Director
Date Signed: MM 09 DD 23 YY 93

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION
MM DD YY

AID 1330-4 (8-79)

PROJECT AUTHORIZATION

AMENDMENT NUMBER 2

Name of Country: Peru

Name of Project: Export, Trade and Development (527-0349)

Number of Project: 527-0349

A. Pursuant to Section 531 of the Foreign Assistance Act of 1961, as amended, the Investment and Export Promotion Project for Peru was authorized on September 30, 1991, (the "Authorization"). The Authorization is hereby further amended as follows:

1. Section 1 of the Authorization is deleted in its entirety and the following is substituted in lieu thereof:

"1. Pursuant to Part II, Chapter 4, Section 531 and to Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Export Trade and Development Project ("Project") for Peru, involving planned obligations of not to exceed Twenty Seven Million Five Hundred Thousand United States Dollars (US$27,500,000) in grant funds ("Grant") over a six year period from the date of authorization, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to help in financing foreign exchange and local currency costs for the Project. The planned life of the Project is seventy eight months from the date of initial obligation."

2. Section 2 of the Authorization is deleted in its entirety and the following is substituted in lieu thereof:

"2. The project consists of the provision of technical assistance to non-traditional exporters in agriculture and industry and the enhancement of the export promotion services capability of the Association of Exporters (ADEX) and other export promotion organizations to provide sustained export services after the end of the Project. The Project will consist of three components: an export promotion services component to help identify export enterprises with the potential to increase their exports rapidly, a component to provide technical assistance to those export enterprises identified for Project support and an agricultural productivity improvement component which will focus on the productivity and competitiveness of farmers engaged in the production of exportable agricultural products.

B. Except as modified herein, the Authorization remains in full force and effect.

George A. Wachtenheim
Director, USAID/Peru

Date: 9/23/93

Clearances:

ORD: HWing		Date: 9/28/93
PDP: JBoyer		Date: 9/21/93
CONT: JSanford		Date: 9/21/93
A/DD: JBoyer		Date: 9/21/93
RLA: JBorns	(i/d.)	Date: 9/22/93

ORDADM:09/21/93
C:\WPWIN\PERUAPIC\AUTHO.AM2

Export, Trade and Development (527-0349) Project Paper Amendment No. 2

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ACRONYMS

ADEX	Exporters' Association
ACDI	Agricultural Cooperative Development International
API	Agricultural Productivity Improvement
ATT	Agricultural Technology Transformation Project
CA	Cooperative Agreement
CODESE	Comité Departamental de Semillas
COFIDE	Compañía Financiera de Desarrollo
EOPS	End of Project Status
ETD	Export, Trade and Development Project
GOP	Government of Peru
IFI	Intermediate Financial Institution
INDDA	Instituto Nacional de Desarrollo Agroindustrial
INIA	Instituto Nacional de Investigación Agraria
IPM	Integrated Pest Management
MOA	Ministry of Agriculture
NGO	Non-governmental Organization
PACD	Project Assistance Completion Date
PSC	Personal Services Contract
UNALM	Universidad Nacional Agraria - La Molina

Export, Trade and Development Project (527-0349)
Project Paper Amendment No. 2

I. Summary

A. Basis for the Amendment

USAID/Peru amended the Investment and Export Promotion Project on March 15, 1993, to delete the investment component to conform with the provisions of Section 549/599 of the 1993/94 U.S. Foreign Operations Appropriations Act (FOAA). The amendment narrowed the focus of the Project to activities contributing to increased exports as a means to the creation of jobs and the generation of foreign exchange earnings through the private sector. The Project was also appropriately retitled "Export, Trade and Development (ETD)."

As a complement to the revised ETD Project, the Mission continued to implement 15 activities within the Agricultural Technology Transformation (ATT) Project which promoted the development and use of modern technology to increase agricultural production and productivity. Following an in-depth final evaluation, the Mission and the Government of Peru (GOP) agreed not to extend the ATT Project beyond the PACD of August 31, 1993. Instead, the Mission decided that a few critical, successful Project activities to promote the development and production of exportable agricultural products would be incorporated into the ETD Project.

Given the need to focus and concentrate the Mission's portfolio, this decision made imminent sense. Accordingly, the AA/LAC approved this approach in the Mission's FY 1994-1995 Action Plan.

The goal of the ETD Project remains as shown in the original Project. The goal is to support a rapid and sustainable private sector-led economic reactivation that generates foreign exchange, employment and boosts productivity. The purpose is to generate employment and to increase Peru's exports, primarily non-traditional exports.

Consistent with the goal and the purpose, this Amendment adds an Agricultural Productivity Improvement (API) Component to the Project as a vital element to reach the planned targets and contribute to achieving the goal. Thus, the purpose of the API Component is to improve the productivity and competitiveness of farmers engaged in the production of exportable agricultural

products. By improving productivity, the API Component, together with other ETD Project components, will improve the competitiveness of Peruvian agricultural products and contribute directly to the Project goal and purpose.

The API Component is vital because unless productivity levels are raised, achievement of the purpose of the ETD Project will be jeopardized. Over time, productive efficiency -- measured in terms of product quantity, quality, prices and marketing services that meet the demands of external markets -- is a critical factor affecting competitiveness. In the absence of high levels of productivity, Peru's farmers -- who have the potential to participate in external markets but lack the technical and financial resources to deal with the problems affecting the use of their productive means -- will not compete successfully.

The API Component will help farmers increase their productivity through a mix of technical assistance, use of improved technologies (such as certified seed and rootstock), application of the findings of adaptive research on exportable crops, workshops, and credit to acquire the necessary productive technologies.

Other factors that affect the competitiveness of Peru's agricultural exports, such as the appropriate exchange rate and related agricultural policies, are being addressed through mechanisms and policy dialogue outside the scope of this amendment. In this respect, USAID/Peru is collaborating closely with other donors, such as the World Bank and the Interamerican Development Bank, as well as undertaking sector policy dialogue with the GOP through its 1993-95 Title III program. Part II provides more detailed information about the policy dialogue agenda related to the Project.

The design of the API Component is based on the findings and recommendations of the ATT Project evaluation and an internal analysis on the status of the Project. The evaluation is included as Annex B to this Project Paper Amendment.

B. Scope of the Amendment

The scope of the ETD Project will be expanded to add a series of inter-linked activities under the API Component. All of the proposed activities revolve around the overall original ETD Project purpose of generating employment by increasing exports.

During 1992/93 the existing ETD Project is undertaking multiple activities related to increased exports. ADEX (ETD's Grantee) has organized seminars, workshops and courses to promote non-traditional exports. In the agricultural sector, the

following topics were covered: the introduction of improved dry bean export varieties; hot water treatment to control nematodes in garlic; market linkage for asparagus and mango; and the identification of new export products such as grapes and strawberries. Negotiations are underway for the establishment of an Animal and Plant Health Inspection Service (APHIS) office in Peru to advise local exporters on U.S. requirements for fresh agricultural products and develop activities required for the inclusion of new products in the U.S. admissible list. For the light industries sector, courses were held on pattern-making for apparel and new casting techniques for jewelry; sustainable management of tropical forests and market potential for new wood varieties. Peru's metalworking industry market potential was also assessed. In the fisheries sector, seminars were held to introduce the Food and Drug Administration's Hazard Analysis and Critical Control Point (HACCP) quality control system; the shellfish farming industry was evaluated to determine the potential of new export products such as abalone and scallops; and the Peruvian fishing fleet is being studied to determine what improvements are needed.

The design of a Monitoring and Tracking System to determine ETD Project impact is underway and a Commercial Information System being developed, considered critical to the Project's success, to strengthen ADEX's Information and Documentation Center (CID). Another ETD Grantee, the International Executive Services Corps (IESC), has provided short-term experts (retired U.S. executives) for one-two month periods to select export product-oriented companies which need assistance.

The purpose of the API Component is to improve the productivity and competitiveness of farmers engaged in the production of exportable agricultural products. By improving productivity, the API Component, together with other ETD Project components, will improve the competitiveness of Peruvian agricultural products and contribute directly to the Project goal and purpose. Productivity improvement will be measured in terms of product quantity, quality, prices and the efficiency of marketing services that meet the demands of external markets. The key indicator to measure competitiveness will be the increase in volume of agricultural exports as a result of the various activities under the ETD Project.

This purpose will be achieved through three inter-linked activities, and together will reinforce the activities currently being implemented under the existing ETD Project. The new activities under the API Component, which integrally will promote agricultural production and productivity of exportable products, are summarized below.

1. **Production Technologies.** The Project will support private sector efforts in two areas: (a) **Seed and Rootstock Certification** through the existing private national seed system and through a network of fruit nurseries on the Coast, and (b) **Technology Transfer** through private research stations, commodity groups, private producer associations, and commercial enterprises.

2. **Production and Business Development Financing.** The Project will provide assistance to: (a) set up a pilot rural financial institution (*Caja Rural*) and export-oriented, **community-based agricultural enterprises;** and (b) establish **lines of credit** through the *Caja Rural* and the commercial banking system using a $10 million GOP contribution from local currency generated under the P.L. 480 Title III program. This amount is expected to leverage another $31 million from the banking sector, as discussed in Part IV of this Amendment.

3. **Human Resource Development.** The Project will provide support to the Instituto Nacional de Desarrollo Agro-Industrial (INDDA), to the National Agrarian University at La Molina (UNALM), to regional universities on the Coast, and to technical schools (e.g., Instituto Rural Valle Grande) in the **development, strengthening and implementation of academic and non-formal training curricula and programs** related to fruit and vegetable production, integrated pest management, post-harvest handling, agro-processing, and agribusiness management.

C. Project Termination Date

This Amendment extends the termination date of the ETD Project by one year, from March 31, 1997 to March 31, 1998. This extension is necessary to offset the time lost in implementing the original Project due to unforeseen political and security events which delayed the procurement and provision of technical services. These events include: (a) the dissolution of the Peruvian Congress on April 5, 1992, which caused a temporary suspension of assistance to Peru; and (b) the surge in bombings in Lima in mid-1992, which delayed the arrival of the planned short-term technical experts under the Project.

D. Funding Requirements

This Amendment increases the LOP funding by $8 million from the currently authorized level of $19.5 million to $27.5 million. The $8 million will finance dollar and local currency costs for the activities summarized above. This and the GOP contribution will be used for the API Component as follows:

Project Element	USAID/ Peru	Cost Sharing & Counterpart	Total (US$000s)
1. Cooperative Agreement Grants with NGOs/Foundation:			
A. Production Technologies:			
1. Seed and Rootstock Certification	1,135		1,135
2. Technology Transfer	1,655		1,655
B. Production/Business Development (*Caja Rural*, ACDI/TechnoServe)	2,800	10,413	13,213
C. Human Resources Development: Local Training, ST TA & pilot packing plant for training	473		473
D. Implementation Costs	1,465		1,465
Sub-total	7,528	10,413	18,941
2. A.I.D. Implementation Costs:			
A. PSC Project Coordinator	310		310
B. PSC Secretary	58		58
C. Evaluations	104		104
Sub-total	472		472
Total	8,000	10,413	18,413

E. Implementation Arrangements

Current management, monitoring and implementation arrangements under the existing components of the ETD Project will continue. For the API Component, appropriate mechanisms will be used based on the experience gained in the implementation of the ATT Project. These mechanisms include: (1) Cooperative Agreements (CAs) with selected non-governmental organizations (NGOs) and/or foundations to coordinate and implement activities listed under Project Element 1 in the above table and (2) Personal Services Contracts (PSCs) with a technician specialized in agronomy/agribusiness and a bilingual secretary to assist the Mission in monitoring the technical and financial aspects of the API Component. Part VII (Analyses) provides detailed information about the NGOs which will participate in the implementation of the API Component.

Under the substantial involvement provisions of the CAs, USAID/Peru will concur with the hiring of key Project personnel for these selected implementing organizations and key procurement actions, the value of which will be determined during the CA negotiation process. In addition, the NGOs/foundations will submit semi-annual workplans for Mission review and approval.

Local NGOs/foundations will be used to coordinate and

Local NGOs/foundations will be used to coordinate and implement the above activities for two reasons: (1) significantly lower cost than those related to a consulting firm and (2) potential for these non-profit institutions to secure funding from other donors to further promote agricultural development after ETD Project funding terminates.

F. Project Paper Amendment Approval Factors

1. **A.I.D./W Concurrence.** The proposed amendment to the Export, Trade and Development Project was included in the USAID/Peru FY 1994/1995 Action Plan, which A.I.D./W reviewed on July 2, 1993. Per State 217455 (classified) of July 17, 1993, the AA/LAC concurred with the Mission's plan to amend the Project as proposed and delegated authority to the Director, USAID/Peru, to authorize the amendment. The cable does not contain any specific suggestions on the design of the amendment.

2. **Project Analyses.** The Revised Project is based on the evaluation of the ATT Project (attached as Annex B to this paper) and the day-to-day implementation experience of Mission personnel. As an amendment and as an integral part of the recently initiated ETD Project, the technical, economic, social soundness, and environmental analyses contained in the original Project design are still valid. Part VII of this Paper complements the existing institutional analysis to include information on the NGOs/foundations. Part V (Implementation Plan) contains suggested criteria to select local NGOs which will participate in the implementation of most of the activities under the API Component.

II. Amendment Background and Problem Statement

A. Background

The approval of the original ETD Project assumed continuation of assistance under the ATT Project to boost the productivity of farmers with the potential to produce agricultural products for export. However, the GOP and the Mission agreed that the ATT Project should be terminated on its PACD of August 31, 1993. A decision was made, however, to incorporate into the ETD Project some key activities carried out under the ATT Project which are required to help farmers increase production for export. The selection of these activities is based on an independent evaluation of the implementation experience of the ATT Project from its outset through April 1993.

The proposed activities to be incorporated into the ETD Project respond to the continuing difficulties which Peruvian farmers face as they attempt to increase their productivity and incomes. Peruvian agricultural production is widely diverse in the land base, types of farmers, agro-climatic zones, sizes of farms, and product traits. Thus, demand for agricultural production services and technology also is broad and diverse. Each of the many types of production requires its own adaptation of technologies. Accordingly, improved seed, technological and farm management information, land improvements, appropriate water use, improved agronomic practices, more profitable input mixes and marketing assistance must be sufficiently varied to accommodate a wide range of production schemes.

Yet, as documented in numerous studies, the private and public sector institutional base providing agricultural technology generation and transfer, input supply, and output marketing services to this diverse agriculture is limited in scope, responsiveness and capability. Indeed, public sector support for these activities has nearly disappeared in recent years.

B. The Problem

The GOP seeks more rapid equitable increases in agricultural output and rural incomes. Such increases can be achieved by: (1) incorporating more land into agricultural production; (2) increasing the efficiency in the use of existing factors (land, labor, capital, management) utilized in the agricultural production system; or (3) a combination of the above.

Land expansion options for Peru are limited and generally very costly, and often are negative relative to returns. For example, major irrigation schemes currently under way cost from $7,000 to $15,000 per hectare of land brought under production. Potential returns are insufficient in most cases to amortize more than a small portion of these high development costs.

Agricultural production on existing land generally is highly inefficient in terms of factor productivity because of low levels of improved technology use. Peruvian crop yields (with some exceptions, such as rice) are among the lowest in Latin America; irrigation water use efficiency often is no more than one-third that which is technically feasible; and unit costs of production for most producers of major crops compare very unfavorably with those of other countries and with the few efficient producers in Peru.

In contrast to the high cost of land expansion, studies show that costs of increasing factor use efficiency through adoption of improved production technology on a large proportion of Peruvian farmland potentially is quite low compared to returns. Clean and improved seed varieties for a number of basic crops (potatoes, wheat, corn) increase yields by 25 to 200 percent, requiring only minor changes in use of other inputs and cultural practices. Despite these benefits of technological changes, few Peruvian farmers have adopted them because of lack of efficient extension services and high cost. Less than five percent of all farmers use certified seed, and only one-fourth use chemical fertilizers or pesticides of any kind. Most Sierra farmers do not adopt or maintain soil and water conservation measures, and irrigated-land farmers continue inefficient on-farm use of water.

In sum, a basic problem limiting more rapid agricultural output is inefficient factor use because of low adoption of improved production technologies. Not only should current improved production technologies be adopted, but new technologies must be continually generated in an on-going process. Production technology, especially that embodied in improved seed, deteriorates and becomes outdated, inefficient and ineffective. Once halted, the technology generation process is slow and expensive to revive. This Amendment to the ETD Project will deal with this problem in order to increase the productivity of farmers engaged in producing for export.

C. Constraints to Increased Use of Improved Productivity Technologies

Prior Mission documents have identified the major constraints to increased adoption of improved productivity technologies as follows:

- structural, human resource and institutional weaknesses within the agricultural technology transfer system
- inadequate infrastructure for both domestic and export marketing
- unsupportive policy environment

- o limited profitability of agricultural production
- o inadequate financing of production

The API Component will help to address the institutional/ technical constraints by facilitating the transfer of technology mainly through the private sector. The existing components of the ETD Project are addressing the marketing and, to some extent, the policy constraints affecting the exports of Peruvian agricultural products. By promoting the production of profitable crops (e.g., asparagus, mangoes) demanded by international markets as well as the provision of financing for improved technology use, the remaining two constraints mentioned above will be dealt with. Specifically, within the above groups the API Component will address the following problems:

1. **Weak demand-supply linkages that affect the transfer of agricultural production technologies.** Given Peru's difficult economic situation, the GOP's capability to continue to provide assistance to agricultural research and extension has declined drastically. As a result, there is a significant gap between technology needs and technology generation and dissemination. The on-going INIA national commodity programs (that in the past have focused primarily on seed improvement) do not provide a sufficiently broad range of research results or technical backstopping for the transfer function to be broadly responsive to farmers' needs. To fill the vacuum, the private sector has begun to assert itself in research and extension. Farmer organizations now have an improved understanding of their member needs, and input suppliers are beginning to recognize that they must provide technological information with the sale of improved inputs if input use is to expand.

Agricultural markets have not effectively communicated their demand to producers which in turn would increase the profitability of production, thereby encouraging technology improvement in order to increase yields. Farmers will not increase the use of modern (and expensive) technology unless there is adequate incentive provided by the market to reward them for the investment.

Further, farmer organizations are relatively inexperienced. Their objectives, strategies, organizational forms, types of support services, and ability to serve farmer interests and needs are still evolving. At the national level, the need to provide economic services often is confused with the desire to increase organizational membership to support the lobbying function. At the same time, both national and local-level organizations, whether organized along commodity or geographic lines, have a significant interest in providing producer services. Lack of experience and

knowledge about marketing options, as well as limited human and financial resources, hampers the scope and effectiveness of these organizations' technology transfer efforts.

The API Component -- through technical assistance, training and NGO implementation efforts -- will deal with these problems.

2. **Limited financial support for technology adoption.** Studies carried out during the design of the ETD Project, as well as several other recent studies, conclude that a major impediment affecting the productivity of farmers engaged in production for exports is their limited access to credit, both to obtain productive inputs and to cover working capital needs. This problem is compounded by the dismantling in recent years of the principal financial institution (the Banco Agrario del Peru) that used to serve the farming sector. The local currency credit lines and support to a pilot *Caja Rural* will help to address these problems.

3. **Weaknesses in training for technology transfer.** The ability of Peruvian universities and technical schools to provide relevant training in a more dynamic technology transfer system is constrained primarily by the lack of adequate and effective linkages into the broader national and international agricultural scientific community and into Peruvian agricultural production systems. The API Component will help address these problems through the establishment of relevant curricula and training of farmers and agricultural technicians in technology transfer and agri-business approaches, particularly as they relate to production for export.

Policy constraints which affect Peru's prospects of increasing exports are being addressed in several ways. Within the ETD Project, policy dialogue and reform is conducted through the Export Sector Panel (ESP) comprised of representatives from the Exporters Association (ADEX), National Society of Industries, Lima Chamber of Commerce, the Association of Small and Medium Industrialists of Peru (APEMIPE), the Ministry of Industry, Commerce and Tourism, and USAID. The ESP meets on a quarterly basis to articulate to the GOP the interests of exporters and identify specific regulatory and operational problems handicapping exporters.

A technical panel with representatives of the above organizations has also been formed to implement the decisions of the ESP. Currently, a study on the effects of the Peruvian draw-back system is underway to determine the impact on the GOP's budget. Through the auspices of the ESP, an arbitration center to settle international and local commercial disputes will be

established in September 1993 within the Lima Chamber of Commerce.

In spite of limited to non-existent financing for agricultural operations, the GOP has embarked on an ambitious plan to develop *Cajas Rurales* to replace the defunct Agricultural Bank of Peru. As part of the Mission's policy dialogue on credit through this Project, we will insist that rural financing be provided at market rates and that banking criteria be used in the ACDI/TechnoServe pilot *Caja Rural* activities and in COFIDE lines of credit.

The Mission is presently carrying out agricultural sector policy dialogue with the GOP through its P.L. 480 Title III program. This dialogue is focussed on three major topics (Internal Marketing, Agricultural Exports, and Technology Transfer) and includes such specific issues as: a reduction of variable surcharges on imports of agricultural commodities; the privatization of the GOP marketing agency (ENCI); making the Anti-Monopoly Law effective; determining the feasibility of a Peruvian commodity exchange; improving the regulatory environment for agroexports; support the privatization of the GOP's agricultural research stations; and passage of a Seed Law.

III. API Component Strategy

A. The Strategy

Consistent with the goal and the purpose of the ETD Project, this Amendment Number 2 adds an Agricultural Productivity Improvement(API) Component to the Project as a vital element to reach the planned targets and contribute to achieving the goal. The proposed activities will do this by improving productivity on a sustained basis and competitiveness of farmers engaged in the production of exportable agricultural products.

The strategy focusses on the transfer of technology through the private sector. It seeks to optimize the use of private institutions supported by the ATT Project, such as the Departmental Seed Committees (CODESEs), commercial firms, NGOs/ foundations, and producers associations as technology transfer mechanisms to help farmers produce for export. By utilizing private sector entities, the activities proposed under the API Component will help to fill the vacuum left when GOP funding for public sector research and extension and related technology transfer activities was considerably reduced. Such mechanisms will also alleviate the budgetary burden of the public sector.

The proposed activities will build on the experience gained during the implementation of the terminated ATT Project, as reflected in the aforesaid evaluation.

B. Relationship of the Revised Project to the A.I.D. Strategy and Other USAID-Sponsored Activities

The ETD Project is an important element of USAID/Peru's Strategic Objective No. 2: "To help Peru attain sustainable economic growth led by the private sector." It also responds directly to Strategic Sub-Objective No. 2.1: "expanded participation in and efficiency of domestic and export markets."

Further, as part of the ETD Project, the API Component also complements nicely USAID/Peru efforts to support activities that promote economic stability, economic growth, and employment generation. Some of these activities include balance of payments assistance and P.L. 480 programs to help the GOP with its serious foreign exchange shortages.

C. Other Donor Programs

Currently, there are no other donor programs directly promoting the development and productivity of farmers producing for exports. The World Bank and the Interamerican Development Bank, however, are planning projects in the areas of agricultural research and rural infrastructure which will have an impact on the production and marketing of agricultural products. USAID/Peru maintains a dialogue with representatives of these organizations to coordinate the provision of assistance.

IV. PROJECT AMENDMENT DESCRIPTION

A. Project Goal and Purpose

The goal of the Project remains as shown in the original Project: **To support a rapid and sustainable private sector-led economic reactivation that generates foreign exchange, employment and boosts productivity.** The purpose was changed through Amendment 1 to the Project Authorization which deleted the investment component and retitled the project "Export, Trade and Development (ETD)." Per that amendment, the **Project purpose is to generate employment and to increase Peru's exports, primarily non-traditional exports.**

Consistent with the goal and the purpose of the Project, this Amendment Number 2 adds an Agricultural Productivity Improvement (API) Component to the Project as a vital element to reach the planned targets and contribute to achieving the goal. Thus, the **purpose of the API Component is to improve the productivity and competitiveness of farmers engaged in the production of exportable agricultural products.**

By improving productivity, the API Component, together with other ETD Project components, will improve the competitiveness of Peruvian agricultural products and contribute directly to the Project goal and purpose. Productivity improvement will be measured in terms of product quantity, quality, prices and the efficiency of marketing services that meet the demands of external markets. The key indicator to measure competitiveness will be the increase in volume of agricultural exports as a result of the various activities under the ETD Project.

This purpose of the API Component will be achieved through three inter-linked activities which, together, reinforce the activities currently being implemented under the existing ETD Project. The new activities under the API Component, which together will promote agricultural production and productivity of exportable products, are detailed below. These are based on the findings of the ATT Project evaluation contained in Annex B of this paper and the wealth of day-to-day experience gained by USAID personnel and the local foundations which participated in the implementation of that project.

The Logical Framework attached to this Amendment as Annex A provides detailed information about the planned End of Project Status (EOPS), the outputs, and the inputs for the API Component of the ETD Project. These are also discussed immediately after the description of the API Component activities.

As indicated previously, the activities proposed under the API Component were not included in the original design because

they were being carried out as part of the ATT Project, which has terminated.

B. Detailed Description of the API Component

The API Component will provide funds to finance technical assistance, training, commodities, the establishment of financing mechanisms for export activities, and other implementation costs under three activities, namely: Production Technologies, Production and Business Development Financing, and Human Resource Development. Marketing assistance to farmers engaged in the production of exportable agricultural products is already included as part of the institutional contract funded under the existing ETD Project.

1. Production Technologies

Under this activity, the Project will support private sector efforts in two areas: (a) Seed and Rootstock Certification and (b) Technology Transfer. These efforts are inter-linked and are required to develop exportable agricultural products from Peru.

a. Seed and Rootstock Certification

(1) Overview

Good seed is the core of productivity improvement. However, genetic improvement has little value until the improved seed is used by farmers. This requires a separate chain of actions by producers, processors, and distributors. Farmers cannot determine solely by observation the genetic composition and quality of the seed. Certification programs are needed to assure the buyer that seed is of high quality. Certification can be provided by the users, acting collaboratively through crop improvement programs, by the government, or by the private seed industry. There are strong reasons for selecting the seed industry to perform this work.

Based on the implementation experience under the ATT Project, seed multipliers/distributors are as interested as the farmer-client in assuring the quality of the seed sold. Guaranteed high-quality seed helps increase the use of purchased seed and expands the market. When certification is identified by a recognized label known and used for only high-quality seed by all seed multipliers/distributors, then all have a stake in assuring that only high-quality seed is distributed. One lot of poor quality seed can affect the reputation and sales of seed multipliers/distributors.

Both the public and private sectors of the Peruvian seed industry have responded to regional variations and differential

commodity demand. A number of medium to large firms, representing foreign and domestic seed sources, concentrate on lucrative markets in Coastal agriculture, where more than 80 percent of the area in cotton, hard corn and rice is grown with certified seed. The Selva, which is rapidly becoming a major producer of rice and corn, also relies largely on certified purchased seed. In contrast, less than 15 percent of the wheat, barley, soft corn, and grain legumes in the Sierra are planted with certified seed.

Seed certification services have been provided by both the public and private sectors. However, the GOP Ministry of Agriculture (MOA) has privatized its seed certification activities. Currently, all such activities are handled by non-governmental organizations and private commercial firms. Certification services formerly carried out by the MOA are now provided by the non-profit National Seed Commission. The Commission operates through departmental seed committees known as CODESEs, established in nine locations in Peru on the basis of the agricultural production potential. These CODESEs, and the seed they are now specialized in certifying, are as follows:

- CODESE Piura - cotton, rice
- CODESE Chiclayo - rice, corn, cotton
- CODESE La Libertad - rice, wheat, potatoes
- CODESE Lima - cotton, corn, pulses
- CODESE Ica - beans, cotton, corn
- CODESE Arequipa - rice, potatoes, wheat, oats, barley
- CODESE Cuzco - corn, potatoes, wheat
- CODESE Apurimac - potatoes, wheat
- CODESE San Martin - rice, corn

Although these CODESEs have been focussing primarily on the certification of seed for traditional products for domestic consumption, the proposed technical assistance under the API Component will help them to certify seed for export products, such as vegetables. Further, the API Component will provide funds through selected NGOs/foundations to work with the CODESEs in establishing germplasm banks in strategic Coastal locations (e.g., *Fundación Hualtaco and Vivero San Carlos in Huaral*) to provide the required rootstock for the production of high-quality exportable products, such as mangoes, chirimoya, pepino dulce, melons and avocados.

In addition, a number of private firms presently producing seed for sale to farmers should be incorporated into the certification process by the concerned departmental CODESE.

(2) Planned Assistance and Expected Results

Continuation of this activity under the ETD Project is essential in order to further develop Peru's private sector

potential to produce seed which farmers can use to attain high levels of efficiency in the production of export crops. Thus, the Project will seek to strengthen the seed supply system, especially the phases of commercial multiplication, conditioning, storage, quality control and distribution, in order to gain widespread use of improved varieties. The focus will be on increasing the availability and use of certified seed for export crops. The specific varieties of seed will be determined by a market analysis to be conducted under the market development activities of the original ETD Project. Further, assistance will be provided to prepare the marketing regulations for the existing seed law.

Significant progress has been achieved under the ATT Project in the institutionalization of the certified seed system. However, most of the nine CODESEs still need some financial assistance to cover limited operational expenses until they are able to generate sufficient revenue to become self-sustaining. As indicated below, all of the CODESEs are expected to become self-sustaining by the Project termination date on the basis of fees collected from their seed certification services. Currently, two of the CODESEs are generating enough income to cover all of their expenses and the rest generate between 10 to 50 percent of their needs. The Project will provide some financial support on a declining basis to help those CODESEs attain self-sufficiency.

Through technical and financial assistance, the following EOPS will be achieved:

- The national seed system will be fully functioning and will be financially self-sustainable. This EOPS will be measured by the number of private firms engaged in developing and selling certified seed, including seed for exportable products, to farmers, and the volume of sale of such seed.

- The existing nine CODESEs will have expanded their linkages with private sector seed producers and increased the volume of sale of certified seed to farmers, thereby assuring their financial sustainability.

- Sufficient certified seed will be available to meet the demand of farmers engaged in the production of exportable products.

- Private sector commercial firms will have increased their investment in seed multiplication/distribution by at least 25 percent.

- Four germplasm banks providing certified rootstock to private nurseries will be fully operational on the Coast.

To attain these EOPS, the Project will produce the following major outputs:

- Eighteen demonstration plots will be established yearly by the CODESEs to show increased yields resulting from the use of certified seed and to disseminate technologies to farmers with potential to produce crops for export.

- At least 4,000 metric tons of high-quality seed will be certified yearly by the Project termination date.

- Eighteen workshops per year will be held for seed multipliers/distributors, farmers and CODESEs' staff.

Attaining the above activity EOPS and outputs assumes that the MOA will continue to support the private seed system and stay out of the seed certification business.

(3) Inputs

The inputs required to reach the above outputs related to seed certification include the following:

-- **Technical Assistance.** The Project will provide funds to contract the services of external experts for approximately 18 person-months in seed production technologies and distribution to work with the CODESEs, private seed multipliers/distributors and farmers in solving problems related to the production and use of seed for export crops. Six months of such services are expected to be provided each year during the implementation period of the API Component. The services of these short-term experts will be contracted directly by the NGO/foundation which will manage and coordinate the implementation of certain activities, as described in the Implementation Plan, Part V. of this PP amendment.

-- **Training.** The Project will provide funds to cover the costs of 18 workshops per year on seed production technologies, planting techniques, seed varieties, demonstration plots, etc. These workshops will be planned and conducted by the National Seed Commission, in concert with the CODESEs. The aforesaid experts will assist the Commission in planning and conducting the workshops. Funds will be provided to cover the workshop costs through the Cooperative Agreement with the previously mentioned NGO/foundation.

-- **Other Costs.** The Project will provide funds to help seven of the nine CODESEs with their operational expenses on a declining basis until they attain self-sufficiency by the Project termination date. This financial assistance will also be channelled through the selected NGO/foundation.

b. Technology Transfer

(1) Overview

Peru's public research and extension services to producers has been declining steadily over recent years, primarily because of the GOP's critical budgetary situation which has not allowed the payment of salaries to retain personnel and support the operations of the institutions involved in the system. Currently, the extension staff in the public sector is estimated at under 100 persons, down from some 1,400 persons prior to 1986.

Similarly, the research and extension capability of Peru's university system has been eroding, also as a result of central government budget cuts. Generally, the research facilities in the universities are not being used for lack of financial resources, with their extension services practically non-existent.

The vacuum left by the decline of the GOP and university research and extension systems is now being filled to some extent by the private sector, particularly by non-governmental organizations. The ATT Project provided some support for research and extension activities through FUNDEAGRO (Fundación para el Desarrollo del Agro), the Instituto Nacional de Investigación Agraria (INIA) and the Universidad Nacional Agraria at La Molina (UNALM). However, such assistance has been terminated with the closing of the ATT Project in August 1993. Further support to selected private sector organizations engaged in research and technical assistance activities is needed to assure that the required technologies reach the farmers engaged in the production of exportable agricultural products.

In addition, commercial enterprises which supply inputs for agricultural production can be effective vehicles for the transfer of technology. Yet, this cost-effective delivery mechanism is not often used in Peru.

Although an attempt was made under the ATT Project to use selected private sector firms to further promote the transfer of technologies to farmers, only producer associations were used. The API Component will continue to use producer associations, but will also re-orient the approach to facilitate the participation of commercial firms in providing farmers with improved technologies to increase agricultural production for export.

Within the scope of this re-orientation, the API Component will also provide assistance to promote the establishment and/or strengthening of the facilities known in Peru as "Centros de Acopio." Briefly, the key function of these Centers is to collect and classify agricultural products for marketing. The API Component will provide assistance in the installation of packing equipment already provided to agricultural producers by the GOP. Thus, with minor assistance, these Centers will be able to carry out product classification, packing and quality control processes of products for export.

The establishment of properly equipped Centros de Acopio will represent a significant Project response to the problem of inadequate volume of high-quality products for export. Since many farmers will route their production through such Centers, which will also handle the marketing effort, their sale effort will be eased. In addition, these Centers will facilitate the acquisition and distribution of productive inputs (technology transfer) by farmers through the bargaining power that the members of the Centers represent. By the Project termination date, these Centers will be self-sustaining.

Implementation of assistance to the *Centros de Acopio* will be handled by the selected NGO/foundation who will coordinate closely with ADEX the assistance to be provided to establish the centers. Once established, the NGO will continue to work with ADEX to help the centers implement their important marketing function.

(2) Planned Assistance and Expected Results

The provision of research and technical assistance through the private sector will be carried out through a qualified NGO/foundation. The selected institution will develop a yearly plan that enlists the participation of private sector entities and individuals to implement research and technical assistance actions which directly contribute to the production of exportable products.

The **research** aspects will build on the progress made under the recently terminated ATT Project. Funds will be made available through the NGO/foundation for competitive research grants to individual researchers and/or to teams of researchers who have obtained or can obtain access to research facilities and who will be carrying out applied research in subject areas and/or commodities not covered by and/or with high complementarity to research activities.

The NGO/foundation will seek the participation of farmer organizations, agri-businesses and firms marketing agricultural inputs to support certain kinds of research. Thus, a proportion of the funds available for this activity will be reserved for

proposals that include cost-sharing from such sources in order to encourage private sector participation in research aspects related to the development of the range of exportable agricultural products, either raw materials or processed. Also, the institution providing the cost share may submit the proposal and subsequently make the award or awards to researchers they select.

The mechanism developed under the ATT Project for review and approval of proposals will continue to be used. Briefly, the NGO/foundation will form ad-hoc panels on a case-by-case basis to evaluate each research proposal.

The **technical assistance** aspect of this activity will also be managed and implemented by the NGO/foundation which will use the expertise already available in-country to help farmers engaged in the production of exportable products deal with specific production problems. Implementation will be demand driven. In essence, it is planned that the NGO/foundation will establish a roster of agricultural specialists or technical resources which farmers can tap to solve specific problems. The specialized areas for which expert assistance will be available include: water management, plant pathology, production techniques, the use of high-yielding certified seed, soils and sound soil conservation practices, marketing of agricultural products, sources and financing mechanisms of productive inputs.

Initially, Project funds will cover up to one-half of the costs of such assistance, with participating farmers covering the balance. After the Project termination date, this extension service will be expected to be self-sustaining. In this respect, the NGO/foundation will set a fee structure to assure that Project contributions decline gradually until the user assumes 100 percent of the costs. Since the farmers engaged in the production of exportable products are expected to be the most progressive and technologically conscious group in Peru's agricultural sector, this self-sustainability target is highly feasible. Funding will be provided to cover the costs of approximately 36 person-months of short-term services to farmers.

Also, producers' associations and commercial firms will be used as vehicles for technology transfer. Examples of associations which will be used include: Fundación Huatalco, Subsuelo Motupe, CAU La Esperanza, Instituto Rural Valle Grande, Asociación de Agricultores de ICA, and the Centro Hortofruticola de Zonas Aridas.

Examples of commercial enterprises include Bayer and Occidental Petroleum which handle agro-chemicals for agricultural production. Although no assistance will be provided to commercial firms, the NGO/foundation will enlist their

cooperation to help farmers with their production problems. In the case of producers' associations, the NGO/foundation will provide some financial support so they can carry out for their members training workshops on productive technologies and establish demonstration plots using certified seed and related productivity improvement technologies. The feasibility of using INIA "privatized" research stations will also be explored.

Through technical and financial assistance, the following EOPS will be achieved:

- The existing private agricultural research system will have been strengthened and will be operating on a cost-share basis. The success of this system will be measured by the extent of the participation of private firms in the financing of the research proposals.

- A private agricultural technical assistance mechanism (the roster of experts) will have been established and will be operating on a cost-share basis. This will be measured by the number of farmers using and paying for the services provided by private research firms.

- At least two commercial firms will be working closely with producers' associations and farmers engaged in the production of agricultural exports in dealing with productivity problems. These firms will be helping farmers as part of their commercial/marketing operations.

- At least three producers' associations will have established programs to help farmers deal with production problems. They will be doing this through periodic workshops and demonstration plots to show the use of improved production technologies.

- Four Centros de Acopio will be operational.

To attain these EOPS, the Project will produce the following major outputs:

- A panel of experts established to evaluate research proposals submitted by private researchers.

- Approximately 20 research proposals related to the production and marketing of exportable agricultural products approved and funded per year.

- A roster of experts on agricultural production problems prepared.

- The results of the research proposals published.

- At least three training workshops carried out per year by producers' associations for their members.

- At least three demonstration plots established in strategic locations to show the use of improved technologies.

(3) Inputs

The **inputs** required to reach the above outputs include the following:

-- **Technical Assistance.** The Project will provide 36 person-months of services (through the roster of experts) to help farmers deal with specific production problems, such as: water management, plant pathology, production techniques, the use of high-yielding certified seed, soils and sound soil conservation practices, marketing of agricultural products, the sources and financing mechanisms of productive inputs.

-- **Research Grants.** The Project will provide funds for approximately 20 grants per year.

-- **Other Costs.** The Project will provide funds to:

- cover the costs of preparation and publication of the results of the research activities described above;

- complement resources available through the original ETD Project to establish the *Centros de Acopio;* and

- help producers associations which will manage the *Centros de Acopio* in designing and carrying out workshops and establishing quality control and classification processes in such centers. Support to the associations will cover the preparation and distribution of training materials and logistic support. The associations will provide the required technical personnel for the seminars.

2. Production and Business Development Financing

a. Overview

Farmers may not be able to optimize the use of the technologies developed and made available to them through the above efforts unless they are able to buy the required productive inputs (certified seed, technical expertise, implements,

fertilizers, etc.). Credit is needed for this purpose. Yet, Peru's rural financial market is in disarray and despite recent signs of recovery the availability of credit and the mechanisms to deliver such credit are very limited. With the demise of the Agricultural Bank of Peru, both the institutional mechanisms and the financial resources flowing to the agricultural sector disappeared.

Several in-depth studies have been carried out to document the requirements to re-activate Peru's financial system and renew the flow of resources to the vital farming sector. One such study completed in November 1992 for the Mission by the consulting firm Farm Management Services shows that "the participation of farm credit in the overall domestic credit system has dropped considerably, from 24 percent in 1970 to 7 percent in 1991. Likewise, the number of hectares covered by farm credit also decreased to 8 percent of the average recorded for the 1985-1989 period. Furthermore, real loans per hectare have been consistently reduced from year to year and in 1991 were one-fifth of the average recorded for the 1985-1989 period."

Regarding credit demand, the study concludes that:

> "... the agricultural sector requires a minimum of 300 million dollars a year, to be turned over twice a year and to sustain annual crops and to maintain perennial crops. Since the Agricultural Bank has gone bankrupt, a new capitalization of approximately this amount is required in order to take advantage of the forthcoming 1992-1993 farming season which looks promising. However, in order to obtain this essential farming production increase and thus prevent a further drop in the per capita consumption during the next decade, more working capital must be made available as well as additional contributions to capitalize and modernize farming enterprises and production and marketing facilities within each valley and region. To this end, an additional sum of 300 million dollars a year is required."

Recently, the GOP announced plans to make available up to US$250 million for the 1993/1994 farming season, but the actual availability of such resources is still uncertain. In addition, the mechanisms to channel resources to farmers are not yet fully in place. The API Component will help to alleviate these problems by establishing a pilot credit delivery mechanism on the North Coast, testing that mechanism and helping to replicate it in other areas of Peru. It will also assist the GOP to channel up to $10 million of its local currency generations from P.L. 480 programs to leverage an additional US$31 million from the Corporación Financiera de Desarrollo and participating intermediate financial institutions (IFIs) which will participate in the delivery of credit to farmers producing for export, to agro-processors and to agro-exporters.

b. Planned Assistance and Expected Results

The proposed assistance will consist of: (1) establishment of a pilot *Caja Rural* and export-oriented, community-based enterprises through NGOs, and (2) establishment of lines of credit through the *Caja Rural* system and the commercial banking sector. These are discussed below.

(1) Pilot *Caja Rural* and Export-Oriented, Community-Based Enterprises through NGOs

The API Component will provide funds to develop during a three-year period a sustainable, community-based *Caja Rural* and export-oriented, community-based enterprises in three communities in the northern Coastal valleys of Peru. These communities -- Olmos, Motupe, and Jequetepeque -- were chosen because they have the potential to produce agricultural products for exports and have the minimal institutional base for a pilot effort focussing on the production of exportable products that could be used as a model for replication in other communities in Peru. Examples of these products include mangoes, limes, mandarines, chirimoya, tangelos, granadilla, pineapple and vegetables.

On the basis of an unsolicited proposal received by the Mission, the proposed pilot effort will be carried out through two U.S. NGOs working in concert: Agricultural Cooperative Development International (ACDI) will develop and implement the community-based credit institution and TechnoServe the export-oriented, community-based enterprises. A Handbook 13 Grant Agreement will be signed with ACDI who in turn will make the necessary arrangements for the participation of TechnoServe.

Problems which farmers in these communities face include:

- Commercial bank loans are not available. Even the few farmers that can obtain bank loans receive their credits late and never for the full amount needed.
- Agricultural research, currently in the process of privatization, is very unreliable and continues to ignore export crops.
- Post-harvest assistance or value-adding processing infrastructure is either nonexistent or limited to traditional crops.

Yet, the selected three valleys offer great agricultural export potential and competitive opportunities to establish farmer-owned processing facilities. Irrigation and transportation infrastructure of the zone is adequate to permit development of high-yielding, profitable crops for both local and external markets. The region also has a mix of farmers capable

of adopting the latest technologies, small farmers that can add needed volume and scale to a strategic plan, and an entrepreneurial environment conducive to the implementation of export schemes that would justify the installation of profitable post-harvest services and processing facilities.

Within this context, the API Component will provide funds to:

- Develop and test a new model of community-based, locally-owned and managed, self-sustainable, rural financial institutions (*Caja Rural*) driven by a market mentality and a profit motivation that can meet the needs of the selected area inhabitants in developing market-responsive agricultural production and agricultural-based businesses.

- Identify and strengthen a central rediscount facility that can service the pilot *Caja Rural* with a smooth functioning loan rediscount mechanism.

- Develop self-managed, profitable, community-based enterprises and assist the institutions which will service those enterprises.

- Mobilize technical and financial resources to increase agricultural productivity.

- Promote and assist in the development of second-level agro-processing community enterprises.

ACDI will work with a newly formed Lambayeque-La Libertad *Caja Rural*, developing in the process a model for financial intermediation in Peru's agricultural sector. In this way, the concept of a viable, profitable, self-sustaining, community-based, socially responsible lender can be piloted and the operational difficulties worked out on a small scale.

The model will be designed to be replicable. It will serve not only to replace the now defunct Agricultural Bank of Peru, but also as a new model for rural credit at a time when the GOP is promoting *Cajas Rurales* throughout the country as a community response to ineffective, public sector development institutions. Because of this emphasis on replicability, ACDI will also assist in the development of a rediscount facility to maintain the liquidity of the *Cajas Rurales* and provide access to national capital markets.

The pilot *Caja Rural* will be community-based, as contemplated in the enabling legislation, instead of a centralized, bureaucratic and heavily subsidized rural bank. It will be capitalized and directed by local groups. Local lenders

will work with their neighbors to develop viable, profitable projects. Local capital will be at risk, thus local capitalists will have vested financial interest in the outcome.

After an initial injection of funds through a revolving credit line (from GOP local currency contributions), limited start-up investments, and technical assistance, the system should be self-sustaining. It will become a small-scale commercial bank working in a rural setting, deriving its lendable capital from sold shares, a portfolio of rediscounted loans, savings mobilization and fee-based financial services.

The *Caja Rural* will (a) make both production and agribusiness loans only when such loans are demonstrably profitable, and (b) offer a range of banking services, provided these services are profitable. The *Caja Rural* will be driven by a profit motivation but sensitive to local community concerns, distributing its activities across primary production as well as agribusiness lending and fee-based services. In this way, the *Caja Rural* will have a role beyond passive lending. It is best conceptualized as a small business incubator that links markets, producers and capital. It will identify promising opportunities and make information available to the community so that interested groups or individuals can build projects around these opportunities.

ACDI will collaborate closely with TechnoServe, which will focus on community-based enterprise development, building the entrepreneurial, organizational and business management skills of farmers. In this way they will be able to more fully and profitably participate in the economic development of the region, gaining sustained access to the agricultural markets and financial resources they need.

By concentrating on the business viability of enterprises, the Project will avoid the trap of assisting groups or activities that in the end are not sustainable. Organizing rural groups as business enterprises encourages producers to take a market-oriented view of their activities. To be successful they must think about the future, gather and analyze market and financial information, motivate people, and make strategic plans and decisions. These skills need to become more complex as the business grows and participates more fully in the market. Recognizing this, TechnoServe will field multi-disciplinary teams to provide intensive assistance to communities in the areas of diagnostic business studies, feasibility analysis, technology transfer, business management, strategic planning, agribusiness operations and marketing. The teams will help six communities establish viable businesses, introduce at least three new commercially viable products, double their income, and raise their levels of employment.

Through technical and financial assistance, the following EOPS will be achieved:

- A minimum of six agro-enterprises will have been established, with identified markets for their production.

- A minimum of three export crops will have been developed and arrangements will have been completed, in coordination with ADEX, for their export. The value of such exports will be determined during the first year of implementation of this activity.

- The gross value of the agricultural production of the region, the per capita income of the target population, and employment levels will have increased. The specific indicator for this EOPS will be determined during the first year of implementation of this activity.

The above efforts through ACDI and TechnoServe will produce the following outputs:

- A financing mechanism developed to provide credit and assistance in the preparation of project proposals that qualify for credit through existing financial institutions.

- Training workshops and seminars carried out on credit application preparation, agro-industry opportunities, cash cropping systems, and marketing of agricultural and agro-industrial products.

- An inventory of existing technical, training and credit resources prepared, analyzed and provided to potential exporters of agricultural or agro-processed products for their possible use in running their operations.

- Technical assistance provided to farmers in target areas on business management, productivity technologies, quality control, marketing strategies, and feasible ways of obtaining financing for investment and working capital purposes from existing credit institutions in Peru.

- Thirty persons trained in business management aspects, including: organization, administration, technology support services, financial management, and marketing.

- At least 100 farmers trained in key production topics such as crop management, harvesting, post-harvest

management, collection, storage and packaging for the selected alternative crops and the traditional crops.

- An inventory of post-harvest services, storage, processing, packaging and transportation services for the selected alternative crops completed and made available to farmers in the target areas.

- A marketing research and information system developed. Information will be disseminated through a bulletin containing information on: prices, production, directories of buyers, links with crop research services, external market demand, export routes, costs and procedures, etc.

- A minimum of three regional seminars on marketing of export products carried out.

(2) Establishment of Lines of Credit through the *Caja Rural* System and the Commercial Banking Sector

To complement the above efforts through ACDI and TechnoServe, the GOP will provide US$10 million in local currency from P.L. 480 Title III program generations for agricultural credit for farmers engaged in the production of products for export, as well as for agro-processors and agro-exporters. These GOP funds will be used as follows:

- $3 million to establish a reserve fund so that the *Caja Rural* serving farmers in the target areas where the ACDI/TechnoServe pilot activity will be carried out will be able to leverage funds available through other financial institutions. This reserve fund will allow the *Caja Rural* to have access to approximately $8 million in credits to be provided by the Corporación Financiera de Desarrollo (COFIDE). According to a credit demand study carried out by ACDI/TechnoServe, this will roughly meet the demand of the farmers in the target pilot areas.

- $7 million to be channeled through the existing banking system (intermediate financial institutions) on a nationwide basis. Based on current negotiations with COFIDE, this $7 million seed capital will leverage approximately $23 million more in resources which entrepreneurs engaged in the production, processing and export of agricultural products will be able to tap to finance their working capital and investment requirements. Such leverage of additional funds should happen as follows (in US$000):

GOP Contribution (in tranches)	COFIDE Participation	IFI Participation	Available for Credit
$3,000 (for reserve fund)	8,000		8,000
$3,000 (for credit)	7,000	5,000	15,000
$4,000 (for credit)	6,000	5,000	15,000
Total available for credit			38,000

Implementation of credit activities through the *Caja Rural* to be carried out in the pilot areas will be managed and coordinated by ACDI. It will work with the concerned *Caja Rural* in establishing the criteria for loan approval which will include loan limits, interest rates, collateral, other payment terms, and the extent to which the loan will contribute to the development and production of crops for exports. In all cases loans will be extended at prevailing market interest rates.

Implementation of credit activities through the banking system will follow the banking practices of the participating IFIs and COFIDE, but will be limited to activities that contribute to the financing of agricultural production and processing for export -- either processed or not processed. The criteria for the credit terms and other provisions on the use of this line of credit will be negotiated with COFIDE and the participating IFIs prior to the transfer of funds to these institutions.

c. Inputs

The planned inputs to establish the pilot *Caja Rural* and export-oriented, community-based enterprises through NGOs include technical assistance, training, commodities, and related costs as contained in the unsolicited proposal attached as Annex C of this PP amendment and summarized in the Financial Plan and Cost Estimates, Part VI, of this paper. The $10 million provided by the GOP from P.L. 480 local currency generations will leverage $21 million from COFIDE and $10 million from IFI contributions.

3. Human Resources Development

a. Overview

Agricultural technology generation and transfer is a professional field which requires suitably educated administrators and technical specialists for effective performance. Peru lost a high percentage of its best agricultural professionals during the twelve-year military government of the 1970's, and has been unable to recover most of them because of their alternative opportunities and of a continuing generally non-competitive professional and economic environment in Peru. The development of the agricultural technology generation and transfer system depends directly on the capacity of Peruvian educational institutions to improve the quality of its faculty, and to produce quality professionals for operating an efficient and effective technology generation and transfer system.

UNALM, with an enrollment of about 3,500 undergraduates and 350 graduate students, is the center of professional agricultural education in Peru. It is noted for the quantity and quality of the agriculturists it produces, and provides the only M.S. program of acceptable quality and diversification. It is the principal in-country facility for upgrading, specializing, and replacing MOA agricultural sector personnel. It provides academic leadership to the agricultural faculties of the regional universities, and upgrades the latter through its M.S. program.

However, due to UNALM's financial situation during the last decade, many of the M.S. students had to abandon their studies prior to graduation. An informal survey of several regional universities has shown that several of the professors teaching in the agricultural faculty have not completed their M.S. degrees. Many of these only lack the completion of their thesis. Some of these students can carry out their theses work on key issues related to the development of agricultural exports. Thus, with minor financial support, these students can provide valuable regional information which will be helpful for the long-term development of the agricultural export sector in Peru. As part of their research work, these students and their professors will be expected to work with producer groups in key topics related to exports such as: food and vegetable production, product storage, integrated pest management, and the processing of agricultural products.

In addition, UNALM will make available the facilities of its Instituto de Desarrollo Agroindustrial (INDDA) to establish a pilot packing plant which can be used to train farmers and technicians engaged in the production of exportable products on vital agro-processing aspects, such as product classification, cleaning, and packing for exports.

Besides UNALM, there are a number of technical schools throughout Peru which can develop specialized programs to train farmers in agri-business and technical production areas relevant to the development of agricultural products for exports. For example, such facilities exist in Ica, Piura, Chiclayo, and Trujillo.

b. Planned Assistance and Expected Results

The Project will provide support to approximately 30 students now working as professors in universities throughout the country, so they can complete their degrees at the UNALM. This support will consist of travel expenses, tuition, printing and publishing of theses. The estimated cost per student is $2,500.

The Project will also provide funds and technical assistance to establish a pilot packing plant in INDDA which will be used to train farmers and technicians as discussed above. This activity will be carried out in close coordination with ADEX, which will provide information on markets, quality control, packaging, etc., to be used by INDDA, in its training and testing activities. The testing activities will include, for example, fruit conservation at different temperatures, washing and waxing methods, and packaging options. Additionally, the Project will provide funds and technical assistance to help from three to six technical schools on the Coast establish agri-business training programs for farmers and technicians.

Through financial and technical assistance, the following **EOPS** will be achieved:

- o 30 students will have completed their M.S. degrees in agricultural sciences and will be transferring their knowledge to students at several universities throughout the country.

- o A training program established in INDDA to train farmers on agro-processing topics related to exports.

- o Agri-business training programs established in at least three technical schools.

To attain these EOPS, the Project will produce the following major **outputs:**

- o 30 theses completed on key agricultural topics, most of which will be on aspects related to the export and marketing of agricultural products.

- o A pilot packing plant installed in INDDA for use in the training of farmers engaged in production of agricultural exports.

- o An agri-business development curriculum designed for use in technical schools.

c. Inputs

The Project will finance the following:

- o Approximately 30 scholarships for students to complete their M.S. degrees at local universities with agricultural faculties.

- o The procurement of equipment to install a pilot packing plant in INDDA.

- o Short-term technical assistance to help up to four technical schools design and establish a training program on agribusiness development for persons engaged in the production or processing of agricultural products for exports.

4. Other API Component Inputs

In addition to the above inputs under the three proposed activities, the Project will provide funds to cover a Cooperative Agreement with a qualified local NGO/foundation, which will manage and coordinate the implementation of all component activities, except the Production and Business Development Financing activity. Further, the Component provides funds to cover the costs of a Project Coordinator and secretary to be hired directly to monitor the API Component and coordinate its implementation with the other components of the ETD Project and related USAID-sponsored programs in Peru.

V. IMPLEMENTATION PLAN

A. Implementation Arrangements

Funds under the API Component will be obligated through at least two Cooperative Agreements (CAs), as follows:

1. **A CA with a locally-registered non-governmental organization** with proven experience in promoting agricultural development in Peru. This NGO/foundation will implement and/or coordinate the implementation of all actions under: (a) API Component activity No. 1 -- Production Technologies -- which includes Seed and Rootstock Certification, and Technology Transfer; and (b) API Component activity No.3 -- Human Resources Development-- under which the Project will provide financial and short-term technical assistance to selected faculty of agricultural specializations, carry out research on topics related to exports and training for persons engaged in agricultural production and agro-processing for exports.

   At a minimum, the selected NGO/foundation must:

   - o be registered in Peru;
   - o have the infrastructure and logistic capability to implement the proposed activities;
   - o have the capability to contract local and short-term external personnel;
   - o have the capability to maintain financial systems that are consistent with A.I.D. financial control requirements, in addition to being familiar with A.I.D. project implementation procedures and processes;
   - o not be dependent on the resources provided through the Project to exist, as the API Component will provide resources only to support Project implementation activities and not for organizational strengthening.

Tentatively, the Project will provide funds to the selected NGO/foundation to cover the following costs directly related to the implementation of the aforesaid activities: a Project Manager, five activity coordinators, secretarial assistance, an accountant and a budget analyst, a contract officer, an administrative officer, a driver, and miscellaneous office supplies and costs. The estimated funds to be provided for these implementation items are detailed in Part IV, Cost Estimates and Financial Plan.

Under the substantial involvement provisions of the CA with the selected NGO/foundation, USAID/Peru will concur with the

hiring of key personnel and certain procurement actions, the value of which will be determined during the CA negotiation process. Salaries paid to its personnel must be consistent with the compensation practices in Peru for the specific personnel to be hired. Guidance in this respect will be provided to the NGO/foundation during the CA negotiating process.

Currently, several NGOs/foundations are being considered, including FUNDEAGRO, the Fundación para el Desarrollo Nacional, TechnoServe and ASPA. To assure the selection of the best organization to carry out the proposed activities, within 60 days after approval of this Amendment an analysis will be conducted of the institutional capability of these and other organizations presently established in Peru.

A short summary of the experiences of each of the above organizations is included in Part VII (Analysis) of this document.

2. **A CA with ACDI**, which will work jointly with TechnoServe in carrying out a program to establish a pilot financial institution and export-oriented, community-based enterprises in three agricultural communities in Peru. The ACDI/TechnoServe proposal is included as Annex C.

These NGOs will be required to submit semi-annual workplans for USAID/Peru review and approval. Such workplans will review the progress made during the preceding period and discuss the actions for the subsequent six months. Disbursements to these NGOs will be closely tied to the performance of the NGOs as contained in such workplans.

The current management, monitoring and implementation arrangements under the existing components of the ETD Project will continue as originally planned.

In addition to the above, USAID/Peru plans to contract directly the services of a Personal Services Contractor and a secretary to assist in overall API Component monitoring and coordination functions.

Procurement of commodities under the API Component will be minimal, as shown in Table VI-5 and in the ACDI/TechnoServe proposal. The source and origin of such commodities will be either the U.S. or Peru and their purchase will be included in the respective Cooperative Agreements discussed above.

B. USAID/Peru Project Management Arrangements

USAID/Peru has already assigned a Project Manager who assures that other USAID-sponsored activities in Peru and other

donor activities complement and reinforce the ETD Project. To facilitate the API Component implementation, this Amendment includes funding for a U.S. locally-hired Coordinator. This person, who will have specialized experience in agricultural production and economics, will work under the direct supervision of the USAID/Peru Project Manager. This person will monitor the performance of the NGOs/foundations and any other contracts financed under the API Component.

Table V-1: Implementation Schedule

Activity	Responsibility	Elapsed Time (months)
Start Date: Signing of Project Amendment	USAID	0
1. Sign CA with ACDI	USAID/ACDI	1
2. Sign CA with local NGO	USAID/NGO	3
3. ACDI mobilizes personnel and starts implementation of pilot activities	ACDI	2
4. Local NGO mobilizes personnel and starts implementation of all other activities	NGO	5
5. GOP Transfers Local Currency contributions to COFIDE	GOP/USAID	4
6. COFIDE establishes credit lines with participating IFIs.	COFIDE/IFIs	5
7. Reserve fund for *Caja Rural* in ACDI/ TechnoServe pilot areas is established	COFIDE/ACDI	5
8. Participating entities start implementing terms of credit lines	ACDI/Caja/IFIs	6
9. Additional funds obligated	USAID/NGOs	6
10. Mid-term evaluation conducted	USAID/NGOs	24
11. Project activities completed	USAID/NGOS	54
12. Final evaluation finished	USAID/NGOS	50
13. Project Completion Report written	USAID/NGOs	54
14. Complete Project Close-out actions	USAID/NGOs	54

C. Implementation Schedule of the API Component

Table V-1 shows the major actions that will be carried out to implement the Project. Precise timing and dates for the completion of these actions is not possible now because of uncertainties regarding the actual availability of funds and key procurement activities, such as the signing of the Cooperative Agreements with the NGOs and the GOP transfer of local currency funds for the credit lines. Thus, the following modified Gantt Chart lists the major actions and the elapsed time from the milestone point which starts once the CAs are signed, thereby making available the required funds for Project implementation.

D. Audits

Annual audits will be performed in accordance with agency policy. The Peruvian recipients (ADEX and an NGO/foundation to be determined) will contract directly for audits following the scope of work developed by the RIG/A and will competitively select the audit firm from the approved listing for Peru. Funding for the cost increment related to meeting A.I.D. audit standards will be included in the annual budgets. The ACDI and TechnoServe audits will be conducted in accordance with the guidance provided by OMB Circular A-133.

E. Information, Evaluation, and Monitoring Plan

Per A.I.D. Evaluation Handbook, Sections 1 and 3.2, an Information, Evaluation and Monitoring Plan was incorporated as an integral part of the original Project Paper. Overall, the factors and indicators to be assessed during the extended life of the Project are similar to those discussed in the original Project design. A monitoring and evaluation team will be established to monitor the API Component. The team will consist of the A.I.D. Component Coordinator, the A.I.D. Project Manager, and key personnel from the implementing NGOs/foundations of the different activities. The Plan for this Component is summarized below. The Logical Framework has been revised to reflect the modified EOPS for the Project as a result of the API Component.

1. Implementation Arrangements for the Monitoring Plan

The Plan entails:

-- The establishment of a Monitoring Unit within the selected local NGO/foundation which will implement the Production Technologies and Human Resources Development activities.

-- The designation of one specialist each by TechnoServe and ACDI to monitor the pilot community-based, export-oriented enterprises and the *Caja Rural* implementation plan of the Production and Business Development Financing activity.

-- Establishment of baseline data sets and procedures for periodic data collection for the Component activities.

-- Reporting requirements included in the CAs with the implementing NGOs and PVOs which will include reporting on the identified indicators mentioned below, at least on a quarterly basis, and their progress toward meeting the purpose of the API Component.

2. API Component Indicators and Targets To Be Monitored

a. Project Goal: The Project goal is to support a rapid and sustainable private sector-led economic reactivation that generates foreign exchange, employment and boosts productivity.

The **indicators** to measure Component contributions to this goal include:

- o Increased foreign exchange earnings from the export of agricultural products
- o National employment increases
- o Per capita income increases

b. Project Purpose: The Project purpose is to generate employment and to increase Peru's exports, primarily non-traditional exports.

The **indicators** to measure Component contributions to this purpose include:

- o New jobs created
- o Increased value of traditional and non-traditional exports of products assisted by the Project

The ETD Project is currently establishing through ADEX a mechanism to collect data for these indicators on a continuous basis. To the extent possible, performance will be reported in the Mission's Semi-annual Review (SAR) reports submitted to A.I.D./W.

c. API Component Outputs

Output No. 1: Improved productivity and competitiveness of farmers engaged in the production of exportable agricultural products

The **indicators** to measure Component contributions at the output level include:

- o Increased volume and value of production of exportable crops of assisted farmers by type of crop

Baseline data sets will be established within the first year. It is anticipated that sample surveys will be conducted to obtain the data. Depending upon the relationship between the assisted farmers or enterprises and ADEX, data concerning Project purpose indicators (exports and employment) will be collected through the ADEX monitoring system.

Output No.2: Increased availability and use of production technologies

The **indicators** to measure Component contributions at this output level include:

- o Quantity and type of certified seed and seedlings produced per year by the private sector and by the CODESEs
- o Number of demonstration plots established
- o Number of workshops held
- o Number of farmers receiving technical assistance by type
- o Adaptive research on production and marketing of exportable agricultural products conducted and results published and disseminated
- o Number of workshops carried out by producers' associations on improved production technologies
- o Number of Centros de Acopio with quality control and classification processes operating

The Monitoring Unit of the local NGO/foundation which will implement Component activities will establish a data collection mechanism to record data on the above mentioned indicators on a continuous basis. The data should be forwarded at least on a quarterly basis to the Mission. It is anticipated that administrative records of the local NGO/foundation and the CODESES will be used. For evaluation purposes information collected for the baseline should include data on utilization ratio of certified seeds and seedlings in target areas (areas under CODESES), utilization ratio of improved inputs, technological levels, and yields. In addition, early in the

implementation process, criteria will be established to measure the progress of the CODESEs in attaining financial sustainability.

Output No.3: Community-based, economic development models for export-oriented enterprises financed by community-owned financial institutions developed and tested in Olmos, Motupe and Jequetepeque

The **indicators** to measure Component contributions at this output level include:

- Volume, value and type of agricultural products marketed by pilot enterprises
- Financing mechanism developed
- Number of targeted farmers trained in business management, production, post-harvest management, etc.
- Number of targeted farmers receiving technical assistance on business, improved technologies, quality control, marketing, etc.
- Number and type of seminars/workshops in business management, production, financing, marketing, etc.
- Marketing research and information system developed and in use

ACDI and TechnoServe will establish a mechanism to gather data on the mentioned indicators on a continuous basis. Baseline data will include information on volume and value of production, yields per hectare for type of crop, exports, market prices, hectares planted and harvested, costs of production, quantity of labor involved, technological levels, marketing process, costs of transportation, and profitability. Surveys will be conducted within the target area to evaluate the performance of the pilot model, as indicated in the Evaluation section.

ACDI, the implementing agency for the pilot community-based financial institution, will report on a quarterly basis on progress made on the development of the pilot institution. Since the pilot financing institution activities will be mostly directed to the pilot export-oriented enterprises, periodic interviews to these enterprises will be made to evaluate the quality of services of the financial institution. Administrative records will be a source to monitor efficiency and self-sustainability.

Output No. 4: Increased availability of credit to finance improved agricultural inputs and technology and agro-processing and agro-export efforts

The **indicators** to measure Component contributions at this output level include:

- o Amount and type of credit provided
- o Number of loans
- o Percentage of repayment

COFIDE and the participating IFIs will keep track of these indicators. Additionally, COFIDE will keep profile data on the farmers assisted in order to evaluate the impact of the credit. Data collected will include: location, number of hectares financed, crops, current production levels, use of the credit, and expected and actual production levels with the use of the credit.

Output No. 5: Human resources developed

The **main indicators** to measure Component contributions at this output level include:

- o Number of agricultural science participants receiving M.S. degrees
- o Number of farmers and agricultural technicians receiving short-term training

The Monitoring Unit of the local NGO/foundation will establish a data collection mechanism to record data on the above mentioned indicators on a continuous basis. The data should be forwarded at least on a quarterly basis to the Mission.

3. Evaluation

During the extended life of the Project, one major evaluation is planned. This mid-term evaluation will be carried out at approximately 24 months after the date of signature of the CAs providing funds for the activities contained in this revision. The purpose of this evaluation will be to assess progress made in meeting Project implementation targets and to recommend adjustments in design and/or implementation procedures, as appropriate, in order to increase the probability that Project investments will meet the stated purpose of the Project.

Funds are included in the budget for USAID/Peru to contract the services required to carry out this evaluation.

The final Project Completion Report will be prepared at approximately the Project termination date. Its purpose will be to document the Project experience and the lessons learned during its implementation.

VI. Cost Estimates and Financial Plan

The overall cost of the API Component is estimated at approximately $18 million, composed of an A.I.D. contribution of $8 million and a GOP local currency contribution of $10 million. There are other contributions in cash and in-kind to be provided by the participating local organizations, such as the CODESEs, the target farmers, the producers' associations and the commercial enterprises which will participate in the technology transfer process, but these cannot be estimated and tracked reliably.

A. The A.I.D. Contribution

The additional A.I.D. contribution of $8.0 million will be provided on an incremental basis, starting with an initial obligation up to $2.6 million in FY 1993. The remaining $5.4 million will be provided in increments in FY 1994, FY 1995 and FY 1996. This obligation plan may need to be revised, based on actual availability of funds.

A.I.D. funds will finance the inputs summarized in Table VI-1 which flow from the detailed budget contained in Table VI-3. These funds will be disbursed for the various Project elements as shown in Tables V-1 and VI-2 (Methods of Implementation and Financing).

B. The GOP Contribution

The GOP will provide $10 million from local currency generated under the P.L. 480 Title III program. Currently, it plans to provide this amount in tranches of $3 million in CY 1993 and $7 million in CY 1994. These contributions represent approximately 56 percent of the total cost of the API Component.

C. The ACDI/TechnoServe Contribution

The ACDI and TechnoServe cash and in-kind contribution is estimated at $413,000, mostly for personnel and logistic support. This represents approximately 13 percent of the cost of implementing the Pilot Program discussed in Part IV. A detailed listing of this contribution is included in Annex C.

D. Financial Plan

The financial tables included in this section relate directly to each of the API Component activities discussed in Section IV (Project Amendment Description) of this paper. Table VI-1 shows in summary form the illustrative disbursements for all API Component activities and by major element spread over a four-year period. Table VI-2 summarizes the Project inputs in terms of activity by year. Table VI-3 shows in detail the estimated

financing requirements by API Component activity, category of input and year, and the estimated mix of foreign exchange and local cost requirements. Table VI-4 shows an illustrative budget of the proposed assistance to the CODESEs; Table VI-5 shows an estimated budget to cover the personnel and related implementation costs to be included in the Cooperative Agreement with the selected local NGO/foundation.

It should be noted that the costing of Project inputs and the corresponding disbursements are illustrative and estimated. It is envisioned that a number of adjustments will be necessary based on Project implementation experience. The basis for such adjustments will be the negotiated contracts with the NGOs, contracts with local technicians, pro-forma invoices requested from potential suppliers of goods and services, recommendations made by the U.S. technical assistance experts once Project implementation is well underway, and the semi-annual workplans to be prepared by the NGOs under the terms of the Cooperative Agreements.

E. Methods of Implementation and Financing

Table VI-2 shows the methods of implementation and financing by Element and by source of supply. They indicate the preferred methods of financing the various Component inputs. The amounts represent the best estimates available at the time of Project Paper Amendment. Budget revisions will be made as necessary during the life of the Project, based on actual implementation experience.

Table VI– 1
Export, Trade and Development Project
Agricultural Productivity Improvement Component
Summary Budget By Activity and Year (US$000s)

API Component Activity	This Amendment					LOP Percent
	Year 1	Year 2	Year3	Year 4	Total	
1. Production Technologies:						
a. Seed & Rootstock Certification	170	290	208	362	1,030	12.87%
b.Technology Transfer	460	524	392	98	1,474	18.43%
Subtotal	630	814	600	460	2,504	31.30%
2. Production & Bus. Dev. Financing						
a. Pilot NGO Project (ACDI)	1,070	910	820	0	2,800	35.00%
3. Human Resources Development	263	107	72	59	501	6.26%
4. API Project Coordination and Implem.						
a. Project Coordinator (PSC)	75	75	75	75	300	3.75%
b. Secretary (PSC)	12	12	12	12	48	0.60%
b. API Implementation (NGO)	350	350	350	175	1,225	15.31%
Subtotal	437	437	437	262	1,573	19.66%
5. Evaluations	0	50	0	50	100	1.25%
Sub–total	2,400	2,318	1,929	831	7,478	93.47%
7. Contingency	200	150	172	0	522	6.53%
Grand Total	2,600	2,468	2,101	831	8,000	100.00%

TABLE VI - 2
METHODS OF IMPLEMENTATION AND FINANCING
(U.S. $000)

		BUDGET			
INPUTS	METHOD OF IMPLEMENTATION	METHOD OF FINANCING	AMENDMENT No. 1	AMENDMENT No. 2	REVISED
PROJECT COSTS					
ADEX	Coop. Agreement (PIO/T)		18,500		18,500
1.Institutional Contractor	(Contract - PIO/T)	Letter of Credit	8,905		8,905
4. ADEX Program	(Implement. Letter)	Advances/Liquidat.	7,928		7,928
6. APHIS (PASA)	(PASA - PIO/T)	Direct Payment	555		555
7. A.I.D. Administration and Support	(Contracts, PIO/T + PIO/C)	Direct Payment	862		862
8. Evaluation	(Contract - PIO/T)	Direct Payment	100		100
9. ADEX Audit/ Financial Review	(Implement. Letter)	Advances/Liquidat.	150		150
5. IESC	Grant - PIO/T	Letter of Credit	1,000		1,000
10. ACDI (Technoserve)	Cooperative Agreement (PIO/T)	Letter of Credit		2,800	2,800
11. PVO/NGO	Cooperative Agreement (PIO/T)	Advances/Liquidat.		4,728	4,728
12. ADM. COSTS: Coordin.(API) Secretary	PSCs (PIO/Ts)	Direct Payment		368	368
13. Evaluations	Contract (PIO/T)	Direct Payment		104	104
			19,500	8,000	27,500

Table VI - 3
Agricultural Productivity Improvement Component
Detailed Budget By Activity, By Input, and By Year (US$000s)

APIC Activities and Inputs	Unit Cost	Year 1 Total No.	Year 1 FX	Year 1 LC	Year 2 Total No.	Year 2 FX	Year 2 LC	Year 3 Total No.	Year 3 FX	Year 3 LC	Year 4 Total No.	Year 4 FX	Year 4 LC	All Years Total FX	All Years Total LC	Grand Total	Percent
1. Production Technologies																	
(a) Seed/Rootstock Certification																	
Technical Assistance Thru an NGO:																	
ST External Experts	15	3	45		6	90		4	60		5	75		270	0	270	3.38%
Training thru NGO:																	
Workshops	5	10		50	12		60	12		60	20		100	0	270	270	3.38%
Other Costs thru NGO:																	
Operational Assistance to CODESEs	25	3		75	5.6		140	3.5		88	7.5		187	0	490	490	6.12%
Sub Total Seed Certification			45	125		90	200		60	148		75	287	270	760	1,030	12.87%
(b) Technology Transfer																	
Technical Assistance Thru an NGO:																	
ST Local TA (roster)	7	12		84	12		84	12		84			0	0	252	252	3.15%
Research Grants(thru NGO)	10	20		200	20		200	20		200				0	600	600	7.50%
Other Costs (thru NGO):																	
Preparation & Publication of research results	3	2		6	20		60	20		60	18		54	0	180	180	2.25%
Sub Total			0	290		0	344		0	344		0	54	0	1,032	1,032	12.90%
External ST TA to help install packing plants	22	6	132		6	132								264	0	264	3.30%
Training Workshops	5	2		10	4		20	4		20	8		40		90	90	1.13%
Demonstration Plots	2	12		24	12		24	12		24					72	72	0.90%
Other Costs	1	4		4	4		4	4		4	4		4		16	16	0.20%
Sub Total Tech. Transfer			132	38		132	48		0	48		0	44	264	178	442	5.53%
Total Production Technologies			177	453		222	592		60	540		75	385	534	1,970	2,504	31.30%
2. Production & Bus. Dev. Financing																	
(a) Pilot NGO Project (per ACDI/TechnoServe Proposal)			685	385		355	555		374	446				1,414	1,386	2,800	35.00%
Sub Total Prod.& Bus. Fin.			685	385		355	555		374	446		0	0	1,414	1,386	2,800	35.00%
3. Human Resources Development																	
-- Scholarships for MS degrees locally (thru NGO)	2.5	20		50	10		25	0		0				0	75	75	0.94%
-- Pilot Packing Plant (INODA)			100													100	1.25%
-- Packing Plant Oper. Costs				20			20			10			10	0	60	60	0.75%
-- ST local TA to INODA	7	4		28	3		21	3		21				0	70	70	0.88%
-- Local TA for Tech. Sch	4	10		40	4		16	4		16	6		24	0	96	96	1.20%
-- Audits			25			25			25			25		100	0	100	1.25%
Sub - total HR Devlpt.			125	138		25	82		25	47		25	34	200	301	501	6.26%
4. Project Coordination/Implementation																	
USAID Proj. Coordinator (PS	75		75			75			75			75		300	0	300	3.75%
Local Secretary (PSC)	12			12			12			12			12	0	48	48	0.60%
Coop. Ag. Grant with NGO (includes personnel & OP)				350			350			350			175	0	1,225	1,225	15.31%
Sub Total Proj. Coord. & Implem			75	362		75	362		75	362		75	187	300	1,273	1,573	19.66%
5. Evaluations			0			50						50		100	0	100	1.25%
Sub Total All Inputs			1,062	1,338		727	1,581		534	1,365		225	606	2,548	4,930	7,478	93.47%
6. Contingency			200			150			172					522	0	522	6.53%
Total - This Amendment			1,262	1,338		877	1,581		706	1,365		225	606	3,070	4,930	8,000	100%

TABLE VI-4

PROJECTED OBLIGATIONS AND EXPENDITURES OF API COMPONENT BY FISCAL YEAR (FY) IN US$000

U.S. FISCAL YEAR (Project Year)	FY 93 1	FY 94 2	FY 95 3	FY 96 4	FY 97 5	TOTAL
Begining Balance	0	2,614	3,125	2,932	831	0
Obligations	2,614	3,111	2,275	0	0	8,000
Expenditures	0	2,600	2,468	2,101	831	8,000
Ending Balance	2,614	3,125	2,932	831	0	0

F. Recurrent Costs

The addition of the API Component to the ETD Project is expected to have a positive impact on the recurrent cost situation of the participating organizations as follows:

1. CODESEs. The API Component will provide technical assistance to strengthen the capacity of these CODESEs to certify seed. In addition, the Component seeks to increase the availability of certified seed, which means that more seed producers will be using the CODESEs' certification services. Since the CODESEs charge a fee for such services, the Component will help them to attain self-sufficiency.

2. Producers' Associations. Through the proposed training workshops and the dissemination of improved agricultural technologies (such as information on the availability and sources of certified seed and related agricultural inputs), the Component will improve the capacity of selected producers' associations to provide services to their members. The availability of such services should lead to increases in memberships, thereby contributing to the associations' sustainability.

3. Instituto Nacional de Desarrollo Agroindustrial (INDDA). The API Component will use INDDA to develop training programs for agribusinesses and farmers engaged in producing for exports. INDDA currently charges tuition for its training courses. By helping INDDA, through the NGO/foundation, to establish a pilot packing plant for training purposes, the API Component will be contributing to INDDA's prospects of attaining financial sustainability.

4. Technical Schools. The API Component will help selected technical schools to establish training programs for agribusinesses and farmers producing for exports. Since participants in these courses will pay a fee to attend training sessions, the API Component will help participating technical schools increase their revenues.

5. Non-governmental Organizations. The API Component will be implemented through ACDI/TechnoServe and a local NGO/ foundation to be selected. ACDI and TechnoServe are U.S. organizations which have been established for a long time. They will be expected to make a positive contribution in strengthening the institutional capacity of a *Caja Rural* serving three communities. This means that such *Caja* will be able to develop and expand the range of financial services it will be providing in the target communities. Since the Caja collects fees for its services, the assistance to be provided through the API Component will contribute to its long-term sustainability.

The local NGO/foundation to be selected to participate in the implementation of the API Component will be required during the Cooperative Agreement negotiating process to present a plan to assure its long-term sustainability after termination of ETD Project funding. As indicated in Part IV of this amendment, an important function which the selected NGO/foundation will perform is the provision of specialized technical assistance for a fee to farmers engaged in the production of agricultural products for exports. Such assistance is expected to be provided through a roster of experts who will be paid on a case-by-case basis when they provide services. Therefore, they will not affect the recurrent cost situation of the NGO/foundation. Rather, through the fees the users pay, they will contribute to the NGO/foundation's sustainability whenever the NGO/foundation arranges for their services.

The success in the implementation of the API Component does not depend on the long-term sustainability of the implementing local NGO/foundation. If such organization carries out the activities as planned under the API Component, the targets of those activities will have been accomplished by the Project termination date.

Yet, successful and effective completion of the API activities will probably help the NGO/foundation in its efforts to obtain additional funding from other donors to continue performing services similar to those carried out under the API Component.

VII. Analyses

The revised Project is based on the evaluation of the ATT Project and the day-to-day implementation experience of USAID personnel. As an amendment and as an integral part of a recently designed Project, now in its early implementation stage, the technical, economic, social soundness, and environmental analyses contained in the original ETD Project are still valid. The following sections provide additional clarifying information to complement the analyses contained in the ETD Project Paper.

A. Technical Analysis

Annex L.2 (Production and Marketing Analysis of Non-Traditional Agricultural Exports) of the ETD Project discusses in detail the agricultural products which have potential for exports. The findings and conclusions of the study which provided the analysis are still valid. The study identifies a number of agricultural products which have potential for exports and discusses the financial aspects of the production of each of the following agricultural products: asparagus, mango, tomato paste, garlic, grapes, beans (menestras), green beans, snow and sugar peas, broccoli, artichoke, oranges, mandarins and key limes. Since then, ADEX has refined the list of agricultural products which have export potential to the U.S. and other external markets to include also: *chirimoya*, watermelon, *tangelo*, *guanabana*, pineapple, *granada*, *granadilla*, *tuna*, plantain, brussels sprouts, and cucumber.

The implementing NGOs/foundations will work closely with ADEX as they consider the production and marketing aspects with farmers who will be engaged in the farming of these products.

B. Institutional Analysis

This API Component involves working with some institutions which participated in the ATT Project, such as the CODESEs, the National Seed Commission, the National Agrarian University at La Molina, and some producers' associations. The main organization which will participate in the implementation of the API Component is the NGO/foundation which will be in charge of the overall implementation and coordination of the Production Technologies and Human Resources Development activities discussed in Part IV of this paper. This local NGO/foundation will be selected on the basis of the criteria listed in Part V. The USAID Controller's Office will assess the financial and administrative capability of the selected organization to assure its implementation capabilities. Possible candidates for this responsibility which have several years of field experience include:

1. Foundation for Agricultural Development (FUNDEAGRO)

The Foundation was established in 1988 as an autonomous institution under the auspices of the Organización Nacional Agraria (ONA). It has received financial support from A.I.D. to strengthen its operations and manage the implementation of the Agricultural Technology Transformation (ATT) Project. The role of FUNDEAGRO is to promote the modernization of Peruvian agriculture through the use of modern technology for the development of sustainable agricultural systems. The Foundation promotes research, technology transfer, development of human resources and innovative investment. In addition to A.I.D. support, FUNDEAGRO has implemented programs with the Canadian, Spanish, and Dutch governments and has undertaken consultancies with the IDB.

2. TechnoServe

TechnoServe/Peru has been working in the country since 1982, assisting small enterprises throughout Peru, most recently in the valleys of Huaral, Canete, Santa-Chimbote, Lares-Cuzco, Cajamarca, Chanchamayo, Jequetepeque and Chulucanas. It has an experienced local management team of Peruvian professionals as well as the financial, administrative, and monitoring systems in place which can be immediately applied to project activities. Furthermore, TechnoServe/Peru has developed institutional relations with the private, public and international organizations.

3. Fundación para el Desarrollo Nacional (FDN)

The FDN was established in 1970 to contribute to Peru's economic development, with emphasis on the agricultural sector. Over its 23-year existence, the Foundation has built up a wealth of experience supporting agriculture, agro-industry and artisanry. FDN has had many contracts and agreements with international as well as Peruvian institutions to implement projects and studies. Among its ongoing activities are: environmentally sound bee production (IDB funding); regeneration of algarrobo trees (Dutch government funding); guinea pig production and consumption (Interamerican Foundation funding); agro-industrial promotion; forestry research; and a farmer training center in the Chilca Valley. The Foundation has an experienced professional and administrative staff, with a proven financial system to implement and track its activities.

4. Asociación de Promoción Agraria (ASPA)

ASPA was established in 1986 through financial support from the German Konrad Adenauer Foundation. Its purpose is to support small farmer activities through their organizations

(cooperatives, associations, etc.) in order to improve standards of living and agricultural development. ASPA is implementing the following programs: analysis of agricultural policies; technical production assistance to small farmers; strengthening farmer organizations through management training; and rural development projects.

In addition, ACDI and TechnoServe will participate in the implementation of the pilot activities in the areas of Olmos, Motupe, and Jequetepeque. ACDI and TechnoServe are well-established U.S. organizations. ACDI is a cooperative development organization that has been working with farmers for 30 years and has ample experience in carrying out the types of activities proposed in this Amendment. TechnoServe was founded in 1968. It has worked in collaboration with A.I.D. since 1972, and has managed a series of A.I.D. grants and cooperative agreements in 15 countries.

C. Bumpers Amendment

Within Amendment No. 1 of the ETD Project, the Bumpers Amendment issue was dealt with as follows:

> "Although exports were explicitly targeted for support in the IEP Project Paper, the Mission will continue to review export promotion activities in terms of their applicability to restrictions such as the Bumpers Amendment...the Mission has determined it prudent to take precautions consistent with A.I.D. Policy Determination 15 to ensure that Peruvian exports assisted under the Project do not directly compete with exports of similar U.S. agricultural commodities to third world countries and have a significant impact on U.S. exporters. The Mission will determine whether Peruvian exports assisted under this Project are considered "sensitive" and, if so, consult with the relevant USG authorities in order to make a final determination on whether the use of Project funds is appropriate."

Non-traditional agricultural exports from Peru supported by the ETD Project will be targeted principally to the U.S. (a) providing tropical fruits and vegetables (e.g., Oriental vegetables, chirimoya, lucuma) which are not produced in the U.S. or (b) taking advantage of "windows of opportunity" for out-of-season products which are imported.

In the case of agricultural exports targeted to third countries, with the arrival of the Institutional Contractor (IC) before the end of CY 1993, the Mission will establish a permanent working group to determine: the export potential of each commodity in question, the magnitude of production likely to result from the

Project, likely export markets, volume of U.S. exports of each commodity in question and similar commodities, and the U.S. share of the world or regional market that could reasonably be expected to be affected by increased exports of each commodity. The working group will be composed of representatives of: USAID's Office of Rural Development, the AGATT, ADEX, the NGO/foundation implementor of the API Component, and the IC.

EXPORT, TRADE AND DEVELOPMENT PROJECT
(527-0349)

AGRICULTURAL PRODUCTIVITY IMPROVEMENT (API) COMPONENT LOGFRAME

NARRATIVE	OBJECTIVELY VERIFIABLE INDICATOR	MEANS OF VERIFICATION	ASSUMPTIONS
Goal: Support a rapid and sustainable private sector-led economic reactivation that generates foreign exchange, employment and boosts productivity.	- Foreign exchange inflows from licit sources increase - National employment increases	- BCR records - National Employment records - Customs records	-GOP economic stabilization program is maintained -Worldwide demand for non-traditional exports continue -
Purpose: To generate employment and to increase Peru's exports, primarily non-traditional exports.	**End of Project Status:** - $215 million LOP increase in non-traditional export earnings - Over 21,000 workers newly employed - Three non-traditional export products being exported from coca-growing areas – Private sector will be effectively engaged in developing and selling quality production inputs (seed, research, technical assistance) for exportable products.	- ADEX MIS - Project reports - Evaluations - BCR records	- Exchange rate favorable for exporters - Economic policies favorable for investments in Peru - Infrestructure allow development of export enterprises - Peruvian banking system has adequate liquidity - GOP continue to encourage the outputs provided by the Project

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NARRATIVE	OBJECTIVELY VERIFIABLE INDICATOR	MEANS OF VERIFICATION	ASSUMPTIONS
Outputs:			
1. Productivity and competitiveness of farmers engaged in the production of exportable agricultural products increased (API component).	- Volume of production of selected exportable crops in selected areas increased - Yield per hectare of selected exportable crops increased	- Regional Statistics - Special Studies, surveys - API component reports	- The Ministry of Agriculture will continue to support private seed system. - Macroeconomic policies do not effect negatively agriculture activities - Farmers are willing to adopt new technologies - Knowledgeable technical staff are able to reach and train farmers
1.1 Increased availability of Production Technologies - Availability and use of certified seeds for export crops	- 4,000 MT of certified seed for exportable crops produced yearly – 18 Demonstration plots established yearly – 18 workshops held for seed producers yearly	- Local NGO reports - CODESES administrative records - Regional Statistics	
- Adaptive Research related to production and marketing of exportable crops disseminated	- 20 research proposals per year conducted by private sector and published.	- Sight visits	
- Technology transfer to farmers and producers's associations on the use of improved production technologies	- Number of farmers receiving TA and paying for services	- Local NGO reports	
	- 3 workshops per year carried out by producers' associations	- Local NGO reports	
	- 3 demonstration plots established in strategic locations.		
	- 4 Centros de acopio established with quality control and classification processes		

NARRATIVE	OBJECTIVELY VERIFIABLE INDICATOR	MEANS OF VERIFICATION	ASSUMPTIONS
1.2 Pilot model of Community-Based Financing institution and Export-Oriented enterprises developed and tested. - Pilot Community-based Export-oriented enterprise established and functioning --- Quality production inputs delivered to farmers in pilot enterprises --- Information on markets delivered - Pilot Caja Rural in Lambayeque established	- Volume and value of agro-industry products exported by 6 pilot enterprises - Three export crops with identified markets developed --- Number and type of workshops and training --- 30 farmers trained in business management aspects --- 100 farmers trained in production topics --- Number of farmers receiving technical assistance --- Market information system established - Operating costs covered by fees. - Savings	- Technoserve reports - Regional statistics - Sample surveys - ACDI reports	- Macroeconomic policies do not affect negatively agriculture activities - Farmers are willing to adopt new technologies - Knowledgeable technical staff are able to reach, train and provide technical assistance to farmers - Confidence in Cajas Rurales
1.3 Credit lines available to buy improved inputs and technology and working capital	- Amount and type of credit provided - Number of loans - Percentage of repayment	- COFIDE reports	- GOP makes available funds for the component - Confidence in Cajas Rurales
1.4 Human Resources Developed	- 30 participants with long-term training - A training program established in INDDA - Three technical schools with training programs	- Local NGO/foundation reports - INDDA administrative records	
2. Specialized Technical assistance for selected promising export enterprises provided	- Number of export firms receiving technical assistance by issue, sector and type.	- ADEX MIS - Contractor reports - CISE reports	- Export firms interested in receiving technical assistance - Security do not restricts contracting of consultants and they can travel to export firms locations.
3. Strengthened local export promotion capability	- ADEX has improved export promotion services capability; i.e. more equipment, better access to market information and more skilled staff - Increased number of requests of ADEX services - Increased number of affiliates	- ADEX MIS - ADEX administrative records - Project evaluations - Project reports	- Consultants effectively transfer export promotion skills to ADEX over time

NARRATIVE	OBJECTIVELY VERIFIABLE INDICATOR			MEANS OF VERIFICATION	ASSUMPTIONS
4. Greater information sharing and education within the export sector on critical export issues	-Number of training workshops and seminars provided annually on critical export issues by issue, type, sector and participants. At least 30 workshops/seminars provided annually			- ADEX MIS - Project reports	- Security do not restricts contracting and traveling of consultants - Consultants effectively transfer information to participants
5. Strengthened capability within the export sector to identify and prioritized needed policy proposals to the GOP for adoption	- Number and type of issues identified by Export Sector Panel and submitted to the PAPI Project for study and further implementation with the GOP			- ADEX MIS - Export Sector Panel reports - Project reports/evaluations	- Export Sector Panel works effectively as an advocate for exporters
6. Increased production, management and marketing capabilities of export firms	- Quality of export products improved - Volume and sales of exports of target enterprises			- ADEX MIS - Sight visits - Consultant reports - Special studies	- Security do not restricts contracting and traveling of consultants - Consultants effectively transfer information to export firms - Export firms capable of adopt improved skills
7. Improved quality of exportable production base	- Product rejection rates reduced - New markets developed - Increased volume and value of exports in target enterprises			- ADEX MIS - project evaluations and reports	- Security do not restricts contracting and traveling of consultants - Consultants effectively transfer information to export firms - Export firms capable of adopt improved skills
Inputs: - Technical Assistance (API) - ACDI/TECHNOSERVE Grant - Credit/Reserve Funds - API Component Management - Export promotion Activities - Technical Assistence through ADEX/CISE/IC - Project Management/Contingency Total	A.I.D 3,925 2,800 1,275 11,385 5,605 2,510 27,500	GOP 10,000 10,000	Private Sector 3,000 3,000	- Implementing agencies reports - Administrative Records - Controller reports - Project reports - Contractors reports - ADEX reports	- Funds are approved in a timely manner - Security restrictions do not affect contracting and travel of technical advisors - Technical advisors available

ANNEX B

JUNE, 1993

THE FINAL EVALUATION OF THE AGRICULTURAL TECHNOLOGY TRANSFORMATION (ATT) PROJECT, 1987 - 1993

EVALUATION TEAM

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INTERAMERICAN PROGRAMS
OFFICE OF INTERNATIONAL COOPERATION
AND DEVELOPMENT
U.S. DEPARTMENT OF AGRICULTURE

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NEW OUTLINE (GENERAL)

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ABBREVIATIONS AND ACRONYMS

LISTA DE ABREVIATURAS Y SIGLAS

AID	Agency for International Development (Agencia para el Desarrollo Internacional)
AID/P	AID/Perú
AID/W	AID/Washington
ANAPA	Asociación Nacional de Profesionales Agrarios (National Association of Agricultural Professionals)
APALAM	Asociación de Profesionales Agrarios de Lambayeque (Association of Professionals in Agriculture in Lambayeque)
APID	Agricultural Policy and Institutional Development Project (Proyecto de Política Agraria y Desarrollo Institucional)
ATG&T	Agricultural Technology Generation and Transfer System (Sistema de Generación de Tecnología Agrícola y Transferencia)
ATT (TTA)	Agricultural Technology Transformation Project (Proyecto de Transformación de Tecnología Agrícola)
BAN	Biblioteca Nacional Agraria, UNALM (National Agrarian Library, UNALM)
BAP	Banco Agrario del Perú (Agrarian Bank of Peru)
BS	Bachelor's degree of Science (Licenciatura en Ciencias)
CARE	Cooperative for American Relief Everywhere (Cooperativa Americana para la Asistencia en todo lugar)
CAU	Cooperativa Agraria de Usuarios (Agrarian Cooperative of Users)
CD/ISIS	An FAO bibliographic computer program

	(Programa computarizado bibliográfico de la FAO)
CDSS	Country Development Strategy Statement (Declaración de Estrategia de Desarrollo del País)
CDINFOR	Centro de Documentación Forestal (Forestry Documentation Center)
CDR	Centro de Desarrollo Rural, MINAG (Rural Development Center, MINAG)
CEAC	Centro de Estadística y Análisis Económico, ONA (Statistical and Economic Analysis Center, ONA)
CIAT	Centro Internacional de Agricultura Tropical (International Center for Tropical Agriculture)
CICAP	Centro para la Investigación y Capacitación de Chiclayo (Research and Training Center of Chiclayo)
CIMMYT	Centro Internacional de Mejoramiento de Maíz y Trigo (International Wheat and Corn Improvement Center)
CIP	Centro Internacional de la Papa (International Potato Center)
CIPA	Centro de Investigación y Promoción Agraria, INIPA (Center for Agricultural Research and Extension, INIPA)
CNA	Confederación Nacional Agraria (National Agrarian Confederation)
CNPA	Comité Nacional de Productores de Arroz (National Committee of Rice Producers)
CODESE	Comité Departamental de Semillas (Departmental Seed Committee)
CONCYTEC	Consejo Nacional de Ciencia y Tecnología (National Council for Science and Technology)
CONFIEP	Confederación Nacional de Instituciones Empresariales Privadas (National Confederation of Private Enterprise Institutions)
COTESU	Cooperación Técnica Suiza (Swiss Technical Cooperation)
CRSP	Collaborative Research Support Program

	(Programa Colaborativo de Apoyo a la Investigación)
CS	Coordinador de Semillas, INIA (Seed Coordinator, INIA)
CTTA	Communications for Technology Transfer in Agriculture Project (Proyecto de Comunicaciones para la Transferencia de Tecnología Agrícola)
DEP	Departamento de Economía y Planificación, UNA (Economics and Planning Department, UNA)
DG	Director General (General Director)
ECASA	Empresa Comercializadora de Alimentos, S. A. (Food Trading Enterprise)
EDAP	Equipo de Desarrollo Agropecuario de Cajamarca (Agricultural Development Team of Cajamarca)
EEA	Estación Experimental Agraria, INIA (Agricultural Experimental Station, INIA)
ENCI	Empresa Nacional de Comercialización de Insumos (Monopolio estatal de comercialización, importaciones de alimentos y distribución) (National Input Marketing Company)
ESF	Economic Support Fund, AID Fondo de Apoyo Económico AID
ETTASA	Empresa de Transferencia de la Tecnología, S.A. (Technology Transfer Enterprise, S.A.)
FONAGRO	Fondo para el Desarrollo Agropecuario (Agricultural and Livestock Development Fund)
FUNDEAGRO	Fundación para el Desarrollo del Agro (Agriculture Development Foundation)
FUNDEAL	Fundación para el Desarrollo del Cultivo Algodonero (Foundation for the Development of Cotton Cultivation)
FUNDETRIGO	Fundación para el Desarrollo del Trigo (Foundation for Wheat Development)
FUNSIPA	Fundación de Servicios a la Investigación y Promoción Agropecuaria (Foundation for Services to Agricultural Research

	and Promotion)
FDA/UNALM	Fundación para el Desarrollo Agrario/UNALM (Agrarian Development Foundation of UNALM)
GDP	Gross Domestic Product (Producto Bruto Interno)
GNP	Gross National Product (Producto Bruto Nacional)
GOP	Government of Peru (Gobierno del Perú)
IARC	International Agricultural Research Center (Centros Internacionales de Investigación Agropecuaria)
IBRD	International Bank for Reconstruction and Development (Banco Internacional para la Reconstrucción y Desarrollo)
ICE	Instituto de Comercio Exterior (Foreign Trade Institute)
IDB	Inter-American Development Bank (Banco Inter-Americano de Desarrollo)
IDRC	International Development Research Center, Canada (Centro Internacional de Investigación en Desarrollo , Canadá)
INAF	Instituto Nacional de Ampliación de la Frontera Agrícola (National Institute for Agriculture Frontier Expansion)
INDDA	Instituto Nacional de Desarrollo Agro-industrial (National Institute for Agro-industrial Development)
INIA	Instituto Nacional de Investigación Agraria (National Institute for Agricultural Research)
INIPA	Instituto Nacional de Investigación y Promoción Agropecuaria (National Institute for Agricultural Promotion and

	Research
INP	Instituto Nacional de Planificación (National Planning Institute)
IPAE	Instituto Peruano de Administración de Empresas (Peruvian Institute of Business Administration)
IPM	Integrated Pest Management (Manejo Integral de Pestes)
IRRI	International Rice Research Institute (Instituto Internacional de Investigación del Arroz)
ISNAR	International Service for National Agricultural Research (Servicio Internacional para la Investigación Nacional de Agricultura)
IVITA	Instituto Veterinario de Investigaciones Tropicales y de Altura, UNMSM (Veterinary Institute for Tropical and Highland, UNMSM)
LOP	Life of Project (Vida del Proyecto)
MEF	Ministerio de Economía y Finanzas (Ministry of Economy and Finances)
MIAC	Mid-America International Agricultural Consortium (Consorcio Mid-Americano Internacional de Agricultura)
MINAG	Ministerio de Agricultura (Ministry of Agriculture)
MS	Master's degree of Science (Magister en Ciencias)
NARCs	National Agricultural Research Centers (Centros Nacionales de Investigación Agropecuaria)
NCBA	National Cooperative Business Association (Asociación Nacional de Negocios Cooperativos)
NCSU	North Carolina State University (Universidad Estatal de Carolina del Norte)
NGO	Non-governmental Organization (Organización No-gubernamental)

NRP	National (commodity) Research Programs (Programas Nacionales de Investigación de Productos)
NRSP	National Research Support Programs (Programas Nacionales de Apoyo a la Investigación)
OARD	Office of Agriculture and Rural Development, AID (Oficina de Agricultura y Desarrollo Rural, AID)
OAS	Organization of American States (Organización de Estados Americanos)
ONA	Organización Nacional Agraria (National Agrarian Organization)
PhD	Doctor of Philosophy degree (Doctor en Filosofía)
PL480	Public Law 480, USA (Ley 480 de EE. UU.)
PM	Person Month (Persona al mes)
PNUMA	Proyecto de las Naciones Unidas para el Medio Ambiente) (United Nations Environmental Project, UNEP)
PRATEC	Proyecto Andino de Tecnología Campesina (Andean Project of Peasantry Technology)
PRISMA	Proyecto de Informática, Salud, Medicina y Agricultura (Information Management, Health, Medicine and Agriculture Project)
PVO	Private Voluntary Organization (Organización Voluntaria Privada)
PY	Person Year (Persona al año)
RD&E	Research, Development and Extension (Investigación, Desarrollo y Extensión)
REE	Research, Education and Extension Project (Proyecto de Investigación, Educación y Extensión)
SEINPA	Servicios de Investigación en Papa, COTESU (Potato Research Services, COTESU)

SNIDA	Sistema Nacional de Información Documental Agraria (National System of Agrarian Documental Information)
TA	Technical Advisor (Asesor Técnico)
TT	Technology Transfer (Tranferencia de Tecnología)
UNALM	Universidad Nacional Agraria - La Molina (National Agrarian University - La Molina)
UNC	Universidad Nacional de Cajamarca (National University of Cajamarca)
UNMSM	Universidad Nacional Mayor de San Marcos (National University Mayor de San Marcos)
UNPRG	Universidad Nacional Pedro Ruiz Gallo (National University Pedro Ruiz Gallo)
US	United States (Estados Unidos de Norteamérica)
USG	US Government (Gobierno de los EE. UU)

EXECUTIVE SUMMARY

I. EVALUATION AND SHORT-TERM RECOMMENDATIONS

The Agricultural Technology Transformation (ATT) project was completing the Project Paper stage and entering the implementation stage during a period of rapid change in 1987-88. Expected A.I.D. funding declined from $60 million to $25 million, debt repayment difficulties resulted in the withdrawal of World Bank and InterAmerican Development Bank support, extensive reorganizations of public sector institutions impacted agencies charged with implementing project activities, and politically based security problems were increasing. In spite of these difficulties, the project achieved worthwhile accomplishments.

The ATT project was a broad-based, fairly ambitious project. Under ideal conditions, it would have been surprising if all the projected outputs were accomplished, and given the conditions under which the implementation took place, such accomplishment would have been a miracle. The evaluation team concentrated more on identifying programs, activities and systems which either show promise or lack thereof, than on a detailed analysis of the Log Frame outputs. In that same spirit, a section of thoughts and recommendations for the future development of the agricultural sector in Peru is presented separately from the summary evaluation discussions and recommendations, but as a part of this executive summary.

The ATT project included three major components, each with three activities, or activity categories. The Components, including Technology Generation, Technology Transfer, and Development of Human Resources and Communications, were evaluated as units regardless of the institutional responsibility assignments for the various activities under each. Institutional Development and Inter-Institutional Cooperation objectives were evaluated as a multidisciplinary, multi-activity exercise.

A. TECHNOLOGY GENERATION

Despite the problems mentioned, INIA and its predecessor agencies have done a fairly good job. An important developoment has been the development and internalization of a methodology for research and extension. In spite of a tendency to try to spread available resources over too many programs, INIA does try to involve farmers in identifying research and extension needs, and new planning/programming procedures introduced by ATT during the last two years of the project should also help to gain better focus. INIA will inevitably have to continue some kinds of support for coastal research stations which have been turned over to private sector organizations, but will benefit from the drastic reduction in staff recently accomplished, and from the ability to control staff quality under contract laws treating INIA as a private sector institution. The new integrated research and technology transfer strategy developed by INIA shows great promise

for the delivery of new technology by INIA to the Technology Transfer system.

The research grants program administered by FUNDEAGRO was very successful in supporting research opportunities for research outside INIA, but suffered from such diversity in subject matter that the impact could not be focussed in a few priority research lines. The university research grants program administered by UNA was more focussed, but suffered from disbursement problems which interrupted and/or slowed research implementation. Both programs appear to have addressed important problems, but have not had time for validation of results, and have not yet shown much diffusion of finding.

Primary Recommendations

1. USAID/Peru and the GOP should work together to provide "bridge funding" between the end of the ATT project and the IDB project under preparation. Loss of key people contracted under the ATT project, and the interruption of on-going research, would reduce momentum developed over years of effort, and place important systems in INIA in jeapordy.

2. USAID/Peru should provide a small, high-level team to help INIA establish new, long-term research and extension strategies and priorities. The current priorities are becoming outdated, and current realities of needs broader than agronomic should be included, as well as a market-driven, comparative advantage based outlook on Peru's agricultural future. Farmer/agro-industry/private sector/university should also be included in the exercise, and the new National Directive Council should make this kind of collaboration a continuing high priority on its agenda.

3. USAID/Peru should support either Fundación Peru or FUNDEAGRO in assisting, probably with PL-480 financing, the private foundations/associations taking over research stations in the coastal zone. These organizations desperately need help in organizing themselves to be self-sufficient and to develop business plans, set research priorities, etc.

4. USAID/Peru should assist INIA, probably with a short-term assistance team, to improve its personnel management systems.

5. Future USAID/Peru assistance in the agricultural research, extension, education area should be channeled through a collaborative ADEX/FUNDEAGRO market-driven program of support in the export commodities of highest comparative advantage. Their role would be to bring together the various players needed for the production, post-harvest handling, processing, marketing, etc. of priority export commodities, and should be based on a strong market orientation.

6. The research grants program success should be presented to IDB

by FUNDEAGRO and UNA for possible continuation, with special care to focus the research in critical areas, and to keep it demand driven by careful priority identification.

B. TECHNOLOGY TRANSFER

The TTA project has supported the generation of a tremendous volume of material, much of it potentially useful to producers. A great variety of means have been used to disseminate material including field days and demonstrations, leaflets, bulletins, magazines, newspapers, radio, television, courses and seminars. In general, the quality of the information appears to be good. In general, input dealers, banks, cooperatives, producers associations and organizations, local universities and agro-industries were not used, and the problem solving applications of the imformation suffered in consequence. The usefulness of much of the information also suffered from the technology focus on agronomic themes, especially variety generation. Farmers contacted also indicated need for information relating to harvest/post-harvest technologies, use of fertilizers and pesticides, credit management, water and soil management, marketing, etc. Priority selection of receivers and subject matter are faulty, including those in the Rural Women's Program.

Of 55 Technology Transfer Specialistws trained, only three remain. The others were lost in the personnel reduction program in INIA. The farm records program of ONA has not worked well, but their cost of production program produces information that is very useful, and needs more diffusion. The seed program, working through eight Departmental Seed Committees (CODESE's), is off to a good start and providing valuable certification. They need to develop more focussed business plans to assure their economic survival, and need to be aware of changing priorities such as the possible movement of most of the rice production to the selva region.

Primary Recommendations

1. Develop/adapt a strategy for technology transfer using entities more naturally in position to handle it, such as producers organizations, cooperatives, seed and input dealers, etc. Some of the entities created and/or charged with transfer of technology had little natural access to it, and little natural contact with producers for transferring it.

2. The farm records program may be an idea whose time has not yet come, but the cost of production program should should be continued, and if possible expanded to include prices at the farm, village/wholesale, and retail levels. Farmers are not yet accustomed to paying for information, which was a factor in their failing to accept the farm records program, as it is a factor in the need to find more natural ways to transfer technology.

3. Continue to support and assist the CODESE's while helping them develop sustainability, monitoring them for progress. Monitor the seed processing plants in Arequipa and Tarapoto as possible models for others.

C. HUMAN RESOURCES, AGRICULTURAL MARKETING AND INFORMATION SYSTEMS

This component included improvement of the teaching program at The National Agrarian University at La Molina (UNALM), improvement of faculty and trainers at UNALM, improvement of the National Agricultural Library at UNALM, modes of technical information exchange used by all participating institutions, and both off-shore and in-country training programs.

UNALM participation in the off-shore training program was reduced by its late entry into active participation in the ATT project, which in turn reduced its opportunities to improve faculty through outside training. The university has made strong efforts to improve the graduation rates of its Masters students, and has programmed expanded practical and field oriented content into its curriculum which will improve the educational preparation when those improvements are implemented.

Participants from other universities in the off-shore training program who have returned are using what they learned to help rethink and restructure their organizations. They were mostly from the National University at Piura and the National University of the Altiplano at Puno.

The National Agricultural Library at UNALM has improved its capabilities during the project, especially with the addition of CD-ROM capability and the beginning of telecommunications capability to link with information sources both inside and outside Peru, and with users. Unfortunately or otherwise, the ATT project can take only limited credit for advances made.

Modes of technical information transfer vary widely, as pointed out in the technology transfer section. Excellent information has been prepared with ATT funding using the CTTA model of preparing simple, practical materials, especially in Puno, although examples of such information preparation were also received from several other locations. Such information is used for field days, handed out on visits to producers, and used as a basis for radio programs. Time limits prevented a good determination of the exact audiences for this information, and of its impact.

The full scholarship, off-shore training program selected and sent fewer participants than expected, but part of the savings were used to finance a partial scholarship program within Peru to assist graduate students in the completion of their degrees. In less than a year of that program, UNALM graduated more Masters students than

in the past ten years combined. Areas of study, although not following the project design exactly, still tended to show a bias toward agronomic subjects, both in-country and off-shore. Those returning from training have tended to return to where they originated, with some tendency for the higher level trained individuals to migrate to Lima.

Principal Recommendations

1. The off-shore Ph.D. and M.S. degree grant program should be considered completed, and no further action taken.

2. If funds are available, further grants are recommended for in-country M.S. programs, especially at Piura and Puno.

3. Continuation of the partial scholarship program at UNALM is recommended to assist more students lacking only thesis work to finish their degrees, and the program should be extended to regional universities with M.S. programs to help students in the same circumstances graduate.

4. A needs assessment should be performed to determine whether further investment in the National Agricultural Library should be made to assist it in getting "on line" with information search and access capabilities.

D. INSTITUTIONAL STRENGTHENING AND COOPERATION

Through the mere necessity of contact through the ATT project, the participating institutions have expanded their contacts and found some ways to cooperate, much of it on a personal basis. The formal cooperation foreseen through the leadership of FUNDEAGRO was largely prevented by placing the responsibility for administration of many of the ATT funds for all institutions, which exacerbated the existing inter-institution rivalries and mistrust. Cooperation at the field level is visible to the short-term visitor such as the evaluation team, and years of working together on the Project Coordinating Committee has even supported more tolerance and respect among officials at the national level. Complete agreement is not the goal, but a beginning has been made toward defining complementary roles and agreeing on directions and priorities. Much remains to be done, but if the Fujimori government can maintain relative stability, progress will continue.

Evaluators of the three specific components of the project, while sometimes tending to be more fascinated with the problems of the participating institutions, have all noted strengths which can provide a basis for continuing growth in the sector. Many of the specific recommendations in each of the component evaluations deal with correcting a weakness or continuing to build on strengths. In addition, the Future Directions section immediately following the current Executive Summary treats some ways of continuing to

strengthen the participation of various insitutions in the development of the agricultural sector and of Peru.

Specific Recommendations

1. Each institution will gain more institutional capability from funding extended directly to it with responsibility for activities, and cooperation among institutions will also be easier.

2. A Foundation such as FUNDEAGRO should have a Board of Directors composed of individuals selected for their personal knowledge and experience instead of institutional representatives. Institutional representatives tend to see the new organization as a competitor and to transplant thinking from their own agencies. Members selected for their skills and knowledge tend to see it as a new opportunity to accomplish some things other organizations cannot do, and they bring fresh thinking and ideas to their tasks. An advisory council made up of institutional representatives might not be a bad idea, but should act strictly as an advisory body, whose advice may be heeded or not at the discretion of the Board.

3. Recognizing the difficulties involved, the public and private institutions with interests in the agricultural sector must agree at least generally on a few priority directions for concentrated research, technology transfer, and education efforts; expand their view to include more complete systems of information needs; and define roles for each of the various players. Regardless of funding system or good will, cooperation among institutions of both the public and private sectors will occur only when they are all working toward similar goals, and meaningful information will be generated which produces development only when all the information needs of the complete system from producer decision to consumer purchase and use are considered. That, in turn, requires limiting the commodity foci severely at any one time.

II. FUTURE DIRECTIONS - RECOMMENDATIONS

TRANSFER OF TECHONOLOGY, EXTENSION, SECTOR DEVELOPMENT

THE BASE THAT HAS BEEN ESTABLISHED BY THE AGRICULTURAL TECHNOLOGY TRANSFORMATION PROJECT IS USEFUL. IT IS TIME HOWEVER TO MAKE SIGNIFICANT MODIFICATIONS THAT CAN IMPROVE THE EFFECTIVENESS AND EFFICIENCY OF MASS TRANSFER AND APPLICATION OF APPROPRIATE TECHNOLOGY THOUGHOUT THE SECTOR.

SUCCESSFUL GENERATION, VERIFICATION, COLLECTION, MANAGEMENT, INTERPRETATION, ANALYSIS, TRANSFER AND MASS APPLICATION OF TECHNOLOGY REQUIRES THE INVOLVEMENT OF MANY PEOPLE AND SERVICES/FUNCTIONS. EACH ACTIVITY/FUNCTION WITHIN THE TECHNOLOGY "CHAIN" REQUIRES A HIGH DEGREE OF TECHNICAL SKILLS. ONE OF THE MAJOR WEAKNESSES CURRENTLY IS THAT AGRICULTURAL AGENCIES OFTEN TRY TO DO MANY FUNCTIONS (EQ. RESEARCH, TECHNOLOGY TRANSFER, EXTENSION, ECT.), BUT END UP NOT DOING ANY OF THE FUNCTION ADEQUATILY WELL.

SPECIAL EFFORT SHOULD BE MADE TO DEFINE THE APPROPRIATE ROLE FOR EACH OF THE KEY AGRICULTURE/AGRO-INDUSTRY ORGANIZATIONS AND HELP THEM TO GAIN THE KNOWLEDGE AND SKILLS REQUIRED TO SUCCESSFULLY PROVIDE THEIR DESIGNATED FUNCTION IN THE TECHNOLOGY TRANSFER CHAIN.

THE FOLLOWING BRIEFLY PRESENTS SUGGESTED MODIFICATIONS AND AGENCIES ROLES FOR THE FUTURE.

SPECIFIC ROLES/INVOLVEMENT OF KEY PUBLIC AND PRIVATE ORGANIZATIONS IN THE TRANSFER OF TECHNOLOGY "CHAIN".

A. INTERNATIONAL SOURCES OF INFORMATION/DATA

B. MINISTRY AGRICULTURE

C. INIA

D. UNALM AND LOCAL/REGIONAL UNIVERSITIES IN PERU

E. NATIONAL AGRICULTURAL LIBRARY AND LOCAL UNIVERSITIES LIBRARIES

F. AGRICULTURAL SECTOR ANALYSIS, MONITORING AND STRATEGIES PLANING UNIT (ASAMSPU) PROPOSED.

G. FUNDEAGRO

H. PRIVATE FOUNDATIONS

I. ONA

J. PRODUCER COMMITTEES/LEADING PRODUCERS

K. AGRIBUSINESS, INPUTS DISTRIBUTORS, AGR. SUPPORT SERVICES

AGRO-INDUSTRIES PROCESSORS MARKETING FIRMS/SERVICES/EXPORTERS

L. ADEX

Discussion

A. INTERNATIONAL SOURCES OF INFORMATION/TECHNOLOGY/DATA

International sources of information/technology/data are critical in providing required technology in the Peruvian Agricultural sector. Increased emphasis should be placed on obtaining available information/technology data from international sources. The new thrust to link up with outside international sources should not only include Agronomic information from sources such as CIMMYT, CIAT, CATIE, IRRI, etc., But should include sources such as the post harvest center, Moscow Idaho, Private Agro-industries, Universities, National Agriculture Libraries, marketing information services, etc.

The principle link with foreign information sources within the Peruvian transfer of technology "chain" will probably be INIA-Ministry of Agriculture, UNALM, local Universities, National Agricultural Library and FUNDEAGRO. These key agricultural organization will use and should transfer the information technology obtained from international sources throughout the agriculture/agro-industrial/agribusiness sector and local Universities Libraries and information centers.

B. MINISTRY OF AGRICULTURE

The Ministry of Agriculture role in the transfer of technology "chain" is vital. The policies and regulations set forth by the GOP can have a strong influence on establishing an attractive investment environment. If the investment environment is attractive, producers/agri-business/agro-industries will invest, purchase inputs, improved seed, fertilizer, irrigation equipment, etc., and apply modern technology in the process.

The Ministry possibly can assist in making short term production credit and longer term investment credit (for establishing tree crop plantations, agro-industry processing plants, etc.), more available within the agricultural sector. Available, affordable credit is a great stimulant to the mass application of technology.

C. INIA

INIA's research role in the future should be limited to

conducting basic high priority research and basic Laboratory service. INIA has indicated that they will be working in the following locations in the future:

- ▲ HUARAL (Costa)
- ▲ BAÑOS DEL INCA (Sierra - Cajamarca)
- ▲ ANDENES (Sierra - Cusco)
- ▲ ILLPA (Sierra - Puno)
- ▲ SAN ROQUE (Selva - Iquitos)
  - DORADO
  - MUYUY
- ▲ EL PORVENIR (Selva - Tarapoto)
- ▲ PUCALLPA (Selva - Pucallpa)
- ▲ YURIMAGUAS * (Selva)

* Could be a specialized substation.

INIA will probably need to provide some assistance in the near future to the following research stations.

- ▲ SAN CAMILO (Costa)
- ▲ VISTA FLORIDA (Costa)

During the transition period INIA also possibly will need to provide some consulting services to the experiment stations that have been transfered to the private foundations.

INIA's function in the technology transfer chain should be:

1. Conduct basic research
2. Provide basic services (priority plant breeding, maintaining seed/germ plasm bank, priority laboratory services, etc.)
3. Conduct off station test to verify/validate research results.
4. Transfer the technology, research results recommendations, to; Private Foundations, Universities, Cooperatives, Agribusiness, Agro-industry, ADEX, FUNDEAGRO in the form of documents, courses, seminars, field days, radio, TV, newspaper, etc.

   Note: While INIA has a critical role in preparing developed technology for transfer, the mass dissemination and technology transfer should not be done by INIA.

D. UNIVERSIDAD NACIONAL AGRARIA LA MOLINA (UNALM) AND OTHER LOCAL/REGIONAL UNIVERSITIES IN PERU.

The universities faculties of agricultural, economy, business administration, industry, communication, etc., can have a major role in obtaining widespread diffusion of improved technology. The UNALM and the local Universities have faculties and upper level students that are eager to participate in the transfer of technology in their area of influence. In their Communities the faculties and students can assist in conducting on-farm field trials of technology (adaptive trials) on major and new crops production practices, conduct trial marketing technologies, assist in agro-industry technology development, assist agribusiness/inputs dealers, bankers, etc. with obtaining appropriate technology useful to their business and to their producers clients.

The faculties and students do not need to be paid. They only need support funds for supplies, materials, transportation, etc. supporting their work in the transfer of technology effort. Their involvement can be highly cost effective. The vice-rectors, deans and other university faculties members visited all agreed that an involvement of their faculties and upper level students would not only help producers, agribusiness, agro-industries, foundations, etc. in their communities, but would also help the students to have an opportunity to have practical experiences and to become more in touch with the agriculture sector problems and opportunities. The rector and deans also said the students and faculties involvement would strengthen the classroom studies.

In the process of involving UNALM and local Universities a high priority activity should be to also up grade the various Universities Libraries so they have the latest appropriate technologies available on-line and other methods of establishing and maintaining a dynamic technical reference information-data base appropriate to their agricultural sector development needs in the various Communities.

Selected universities from the following, possibly could form the core group of universities involvement in the mass application of technology effort.

UNIVERSIDAD NACIONAL AGRARIA DE LA SELVA - TINGO MARIA
UNIVERSIDAD NACIONAL AGRARIA LA MOLINA - UNALM

(TABLES)

UNIVERSIDAD NACIONAL DANIEL ALCIDES CARRION - PASCO
UNIVERSIDAD NACIONAL DE CAJAMARCA
UNIVERSIDAD NACIONAL DE LA AMAZONIA PERUANA - IQUITOS
UNIVERSIDAD NACIONAL DE PIURA
UNIVERSIDAD NACIONAL DE SAN MARTIN - TARAPOTO
UNIVERSIDAD NACIONAL DE TUMBES
UNIVERSIDAD NACIONAL DE UCAYALI - PUCALLPA
UNIVERSIDAD NACIONAL DEL ALTIPLANO - PUNO
UNIVERSIDAD NACIONAL DEL CENTRO - HUANCAYO

UNIVERSIDAD NACIONAL DEL SANTA - CHIMBOTE
UNIVERSIDAD NACIONAL HERMILIO VALDIZAN - HUANUCO
UNIVERSIDAD NACIONAL JORGE BASADRE - TACNA
UNIVERSIDAD NACIONAL PEDRO RUIZ GALLO - LAMBAYEQUE
UNIVERSIDAD NACIONAL SANTIAGO ANTUNEZ DE MAYOLO - HUARAZ
UNIVERSIDAD NACIONAL SAN AGUSTIN - AREQUIPA
UNIVERSIDAD NACIONAL SAN ANTONIO ABAD - CUSCO
UNIVERSIDAD NACIONAL SAN CRISTOBAL DE HUAMANGA - AYACUCHO
UNIVERSIDAD NACIONAL SAN LUIS GONZAGA - ICA

PRIVATE UNIVERSITIES WITH AGRONOMY PROGRAMS

UNIVERSIDAD ANDINA NESTOR CACERES VELASQUEZ - PUNO
UNIVERSIDAD PARTICULAR DE APURIMAC - APURIMAC
UNIVERSIDAD DE HUANUCO - HUANUCO
UNIVERSIDAD PARTICULAR UNION INCAICA - LIMA
UNIVERSIDAD CATOLICA DE AREQUIPA - AREQUIPA

A pilot effort involving 5 or 10 local Universities plus UNALM should be tried and should be expanded based on success.

Approximately 5 or 10 Universities faculties and upper level students/graduate students should be mobilized to assist in transfer of technology as soon as funds are available. University officials during visits indicated that their faculties and students in Agriculture, Nutrition, Economics, Business Administration and Accounting, Industrial Engineering, Biological Sciences, etc. would welcome the idea of participating in a transfer of technology effort. No salaries would need to be paid, only support cost; materials, equipment, transportation, etc.

The University officials estimated that at least 25 universities in the country would have an average of from 5 faculty member in each of the 5 or 6 departments or about 25 faculty members per University. That would mean about 25 Universities with average of 25 faculty member per University. This mean over 500 professors could be available to work on transfer of technology and possibly technology generation in economics, Marketing, etc.

The University leaders estimated that each professor would have about 5 appropriate upper level students that need practical hands on experience and would be anxious the work in Agriculture, Agro-industry, Agribusiness, Marketing, Nutrition, Communication, etc. That would mean at least 2,500 upper level students are available for working in technology transfer each year at only the cost of materials equipment supplies, transportation, etc. In the process of the Universities involvement the faculties would be up graded and using more modern technologies in their class instruction. The Universities Libraries would be up graded to meet the demand for technology/information in their specific Communities by the students and faculties involved.

The numbers are over whelming. However, it is recommended that a pilot effort be launched with at least 5 local Universities, plus UNALM and mobilizing about 5 professors in each University, and about 5 students each per professor.

Mobilizing the involvement of the universities will tap a capable knowledge base. Their involvement will establish a local technical "army" to work on problem and opportunities in their communities. They know their area, they know their people, they know their problem. The seem to be anxious to get into the development efforts.

The upper level students will bring young enthusiasm, new ideas, eagerness to try new things to the technology transfer system.

The UNALM probably should be the mobilizer and technical coordinator of the Universities involvement.

Definite targeted clientele should be specified to receive technology from the Universities involvement, such as; on farm field trials of specific crop, priority Agro-industries, farm store inputs dealers, Banks, marketing firms, youth and women's program, etc.

E. NATIONAL AGRICULTURE LIBRARY - LA MOLINA AND OTHER LOCAL UNIVERSITIES LIBRARIES

Having easy access to information/technology is a must in developing a successful system to obtain mass application of technology. Too often research results and other information about appropriate technology is known only by a few researches or a few other people ... it's kept in heads, their desk, office but it not made available to others. The National Agricultural Library, La Molina, and the other Local Universities can quite easily correct this problem and build an effective memory and recall system of information/technology.

They can improve the system of getting and sending information/technology from outside international sources and from key information/technology generating organizations within the country.

As Perú moves forward to modernize the Agricultural/Agroindustry sector, there will be major shifts in production areas (ej. rice being produced less on the coast and more in the selva); traditional crops will gradually give way to more intensive, high value, export potential crops. More emphasis will be placed on agro-industrial .... value added food/feed and fiber processing.

These changes will demand new, improved ways of obtaining, verifying/validating/adapting, transfering and using technology, information and data.

Technology, information, data are now all powerful in the competitive markets.

Research and other information technology gathering activities must be principally user (demand) driven, with careful priority selection if the needed information/technology is to be available fpr mass transfer and use within the sector.

The generation, collection, management, verification, interpretation, analysis and transfer of technology within the agricultural agro-industrial sector must be improved to raise it to a much higher plain. In the future the generation, collection and transfer of technology must be much more dynamic, with more systematic transfer linkages amoung the various areas of the country, and also with other world sources.

Successful production and marketing of an agricultural product must be thought of as a system, where many distinctive people and service must be involved, from the decission to plant the specific priority crop all the way though the system to the ultimate consumer of the product.

Information/technology must not be thought of as, a little bit here and a little bit there, but must be thought of as system of information/technology available to guide and assist the development of specific crops, businesses and industries.

The following is not intended to be all inclusive, but is presented to emphasize the diversity of information/technology that is needed by the many individuals, services, firms and organizations to meet the needs to guide decision making in production and marketing of export fresh or processed products.

Information, technology and methodology required for Marketing export fresh or processed products.

- PRE-PRODUCTION ACTIVITIES
  - Determining priority products for export that have competitive potential (fresh and processed).
  - Determining product quality and specification requirements within the targeted markets.
  - Targeting identifying specific markets
  - Promotion and establishing alliances/joint ventures partners (in country and in foreign market countries).
  - Developing business plans, marketing agreements, and contracts.
  - Arranging for financing/business plans
  - Scheduling production and delivery to meet market

demand.
- Arranging for requiered appropriate inputs, technical and other services and facilities for production, harvesting, packing and transporting.

- PRODUCTION

  - Prioritizing deciding what crops to produce (fresh and processed)
  - Identify the most appropriate production location for potential export crops.
  - Production organization (Individuals, Cooperativies/Groups.
  - Scheduling the production season to get optimum prices
  - Determining appropriate profitable level of technology - production systems.
  - Monitering yields, losses and quality control.
  - Evaluating cost and profitability.

- HARVESTING, PACKING AND HANDLING

  - Scheduling harvest
  - [illegible]ning and using proper containers and facilities
  - [illegible]ng, packing

- SHIPPING REQUIREMENTS, LABELING, REPORTING, INSPECTION AND QUALITY CONTROL

  - In Country

- TRANSPORTATION

  - In Country
  - To foreign market country
  - Shipping guide (days, temperature, humidity, etc. recommendations).

- ARRIVAL IN THE FOREING MARKET COUNTRY

  - Ports of entry regulation
  - Customs requirements
  - Clearing customs
  - Foreing market regulations, inspection and control
  - Foreign markets in country quality and price monitoring

- FINANCIAL/ECONOMIC ASPECTS

- Costs and profitability
- Competitiveness
- Contractual arrangements, equitable division of profits (fees, commission, fixed price's sales, change of ownership of product, etc.)
- Risk reduction
- Payments, letter of credit, currency exchange.
- Business analysis

- UNDERSTANDING OF THE EXPORT MARKETS

  - Understanding of the foreign market distribution system and the roles of each major function in the foreign system (brokers, distributors, retailers, etc.)
  - Study and monitor foreign market demands, quality requirements, timing, price fluctuation, etc.

F. AGRICULTURAL SECTOR, ANALYSIS, MONITORING AND STRATEGIC PLANNING (ASAMSPU) PROPOSED

A new unit is needed in the technology transfer system of the Agricultural sector to analyze, interpretate and use information/technology in support of commercializing specific crops/products production and marketing systems and developing agro/industries.

The new unit can bring the Agricultural sectors decision making, commercialization, agricultural industrialization and export technology to a new higher level than it is currently.

Due to the great diversity of production areas, crops people/cultures, etc. the technology transfer effort requires a programmatic, comprehensive "ground truth" approach to selecting priority crops in specific areas for commercialization, industrializing and or exporting. This requires the use of Market information/technology from outside sources, local, national resource eg. soil, water, climate, etc. along with local research results, economic data, policy/restrictions information farm level data, National Censos data, etc. about specific problems and opportunities in the specific areas.

The new proposed analytical unit is needed to properly bring together, interpretate, analyse and use appropriate technology/data/information to help develop specific crop/products complete production and marketing systems.

The proposed ASAMSPU unit should;

- - develop demand driven statical data bases for targeted

Areas and high priority crops.

- - Maintain a ready reference technical and agribusiness library/information center with appropriate linkages to incountry and foreign information/technology sources.

- - develop profiles of:
  - specific areas targeted for commercial production of industrialize and export crops
  - selected crops/products production and marketing system identifying major problem and opportunities

- - interpretate and analysis technology/information/data for use for:
  - Selecting priority crops
  - Selecting priority sites for organized commercial production
  - developing strategic plans for commercializing specific targeted crops
  - preparing specific crops or Agro industry, Agribusiness situation reports.
  - developing crop or Agro industry investment models.

The analysis, profiles, situation reports investment models done by the unit should be made available to appropriate public and private organizations within the agricultural sector.

The work of the unit will be highly useful to GOP in policy formulation and to banks in evaluatinf loan applications.

The proposed unit probably should be located in or near FUNDEAGRO, and the "New" FUNDEAGRO should be located near ADEX. The proposed units efforts could be highly useful to FUNDEAGRO in their work to assist private commercial agribusiness firms, foundations, agro industries, etc.

G. FUNDEAGRO

FUNDEAGRO should have a very critical role in future development of a diversified commercial agricultural/agro industry sector in Perú.

FUNDEAGRO needs to tighten its focus gain new capabilities to concentrate on packaging (describing) and providing marketable services supportive to private agriculture/agro industry and agribusiness development. In providing marketable services, FUNDEAGRO will play a major role in the transfer of technology, automatically and in a natural day to day, sustainable manner.

FUNDEAGROs marketable services should include, but not be limited to, providing the following services for a fee:

a. Continue to manage development assistance funds.

b. Manage projects.

c. Provide support services to projects, or proposed projects in the agriculture/agro-industrial sector.
   - Prepare proposals
   - review proposals
   - prepare investment models
   - prepare loan applications
   - review loan applications for banks

d. Develop business/agro industry plans and strategies for:
   - new commercial agriculture/agribusiness
   - restructuring/expanding existing businesses
   - developing marketing strategies
   - defining, packaging and pricing marketable services

e. Improving agribusiness operations
   - provide business management systems
   - develop strategies for reducing operational cost in agriculture/agro-industries

f. Consulting services
   - provide high level local and world sources consultants thoughout the agricultural sector.

g. Dynamic "hot sheet" newsletter
   - prepare, market and distribute a 2 to 4 page news letter every two weeks with current, imperative information/data for the modern agriculturist, banker, investors, both public and private. The news letter should have a business, investment opportunity, costs/prices, marketing, etc. focus.

FUNDEAGRO should establish a self monitoring system to assure that it provides top quality services, with unquestionable integrity and complete confidentiality. FUNDEAGRO should take equity for part of their service fees in the future, as investment venture capital in the agribusinesses that FUNDEAGRO is assisting.

FUNDEAGRO targeted clients should include, but not be limited to the following:

- INTERNATIONAL ORGANIZATIONS WORKING IN PERU
- NATIONAL ORGANIZATIONS PUBLIC AND PRIVATE
- BANKERS AND INVESTORS
- PRIVATE FOUNDATIONS
- AGRO INDUSTRIES PROCESSORS
- AGRICULTURAL INPUTS DEALERS
- AGRICULTURAL SERVICES FIRMS
- COOPERATIVES
- ASSOCIATIONS
- PRODUCERS ORGANIZATIONS/COMMITTEES

- COMMERCIAL PRODUCERS
- MARKETING FIRMS
- UNIVERSITIES

FUNDEAGRO will need considerable assistance before it can be expected to provide the above listed marketable services. It will need a high level, dynamic business oriented advisor. It should also obtain assistance such as that offered by organizations like ACDI, Technoserve, Score/Able, private accounting and business management firms.

FUNDEAGRO should be located near ADEX to assure day to day/hour by hour working relationship.

H. PRIVATE FOUNDATIONS

Private foundations can provide fundamental function in the technology transfer system. They can;

1. generate information/technology though their research programs.

2. transfer technology to their members or clients.

3. contribute the technology to the technical reference library system.

4. purchase, sell and distribute appropriate inputs such as seed, fertilizer, etc. and provide use recommendations to their clients. They are in direct day to day contact with local problems and opportunities, therefore they play a major role in knowing what new information technologies are needed.

I. ONA

ONA could have a role in the future technology transfer system. They possibly could provide organizatival assistance with some of the producer groups/Committees to help them to have a technical/business purpose. They could help the targeted Committees to possibly jointly buy and distribute recommended inputs, certified seed, etc. They could promote within the producer group the use of improved harvesting and post harvest handling practices. They could help some groups/Committee to arrange for joint transportation or other support services. They could possibly provide organizational contact assistance working with FUNDEAGRO to help some targeted producer Committe/groups to become Cooperative/Agribusinesses, eq. inputs dealers, farm supply stores, marketing firms.

ONA could continue to collect priority data at the farm/producer group level, such as cost of production, prices received at the farm level, transportation availability and cost, community, wholesale and supermarket product prices. This information/data should be made available to the GOP, international organizations, University Libraries and to the proposed New Agricultural Sector Analysis, Monitoring and Strategic Planning unit.

J. PRODUCER COMMITTEES/LEADING PRODUCERS

Producers play a major role in the application of technology, because they are users of technology.

There are over 500 producer group/Committes in Perú.Leading farmers and farmer group can assist in the technology chain as follows:

1. They can provide sites for a farm field trials and field days.

2. Farmer groups/Committees can within their group promote the use of improved technology.

3. Farmer group could jointly buy and distribute recommended inputs, eq. improved/Certified seed, etc.

4. Farmer groups could promote improved harvest practices and post harvest handling and could jointly purchase and distribute produce boxes and other approved/recommended materials/equipment, etc.

5. Leading farmers and farmer group are on the ground ... they know the problem, therefore their feed-back to those organization that are generating and obtaining information/technology is vital to making the technology transfer system demand driven. They are key players in determining priorities.

K. AGRIBUSINEESS, BANKERS, INPUTS DISTRIBUTION, AGRICULTURAL SUPPORT SERVICES, AGRO-INDUSTRIES PROCESSORS, AND MARKETING FIRMS

The future growth of the Agricultural sector in Perú depends largely on the ability to commercialize and industrialize the sector.

Agribusiness, bankers, inputs distribution, Agricultural support services, Agro-industries processors, and marketing firms all have an important role in the transfer of appropriate

technology.

The above group of business and firms are the best channel to obtain widespread application of appropriate technology. They are in day to day contact with producers. If the inputs dealer buys and sells approved improved seed they are transfering technology by selling better seed. If the marketing firms and Agro-industry pays more for quality product, they automatically are promoting the practice of improved harvest and post harvest technology. If the banker requires the use of improved technologies before he makes the loan, he is automatically supporting the use of improved technology.

These firms are the best link to the farmers. Every farmer deals with them on a regularly bases. The agribusiness firms can transfer technology to the Masses on a day to day, regular basis, as they go about there regular work. They are also a very important feed back system to determine the priority needs of future research and information generation to support commercial/Agro-industrial development.

L. ADEX

Although ADEX is not in the TTA Project it plays a major role in the technology transfer chain. It's day to day work with exporters is an important link between local exporters and foreign markets, and the technical elements of transportation, handling, etc. required to successfully get product from Perú to the targeted markets.

ADEX can feed back into the technology transfer system important information relative to foreign market potentials, requirements relative to product size, color, quality, seasonality, packaging and handling technologies required, etc.

As ADEX feed back the requirements and works with exporters, the exporters are going to feed back the requirements to the producers. This is going to promote the use of improved practices/technologies.

GENERAL RECOMMENDATIONS FOR THE FUTURE

1. Reduce Cost of Project Coordination.

2. Provide support funds directly to implementing agencies rather than the current pass though method.

3. Provide funds for <u>accomplishment/products</u>, not for activities.

4. Any remaining fund after August 31, should be used to;

   a. Continue with bridge funding for very high priority activities, such as the Seed Program, until a new project, or BID, or someone can pick them up.

   b. Restructure and strengthen FUNDEAGRO ..... Create as soon as possible a "New FUNDEAGRO", that is Commercial Agriculture, Agro-industry business development focussed. As soon as funds can be made available the following should be done;

      1. Create the proposed Agricultural Sector Analysis, Monitoring and Strategic planning Unit (ASAMSPU) in or near FUNDEAGRO and close to ADEX.

      2. Now that Agro-industry has been moved from INIA to UNALM (This probably means Agro-industry, Economics Commercial Agribusiness, Marketing, etc.) USAID if possible should assist the University to fill the current research/technology void in this areas.

5. Future efforts should be concentrated on a few Commercial/export promising products and agro-industries in specific production areas.

6. A new strategy should be adapted for technology transfer that mobilizes local Universities and UNALM, inputs dealers/farm supply stores, Foundations, Agro-industries, banks, farm groups, etc. to all become transfer of thechnology agents in their day today contact with their farm or business clients.

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The evaluation team acknowledges the full and enthusiastic support of all institutions involved in the Agricultural Technology Transformation (ATT) Project during the course of our information gathering and analysis period. Members of the Coordinating Committee shared information, arranged meetings with others in their organizations, provided transportation, arranged visits to outlying areas and accompanied team members on trips, answered endless questions and helped identify others to answer additional questions, and generally exhibited their intense interest in supporting a comprehensive and meaningful evaluation. Collectively and individually, the evaluation team members express their heartfelt thanks for both the assistance we received, and the attitude in which it was given.

Many employees and managers of the involved institutions were visited and interviewed, as well as producers and members of organizations not directly involved in the project. We also appreciate their time and assistance. In spite of the risk of failing to mention important individuals, we have attempted to list those who have helped us in Annex ___. The team thanks each person interviewed for their assistance in giving us, during a very short time in Peru, an understanding of the functioning of the Agricultural Technology Generation and Transfer (ATG&T) system in the country. We cannot emphasize enough how much we appreciate the interested and enthusiastic assistance given us by everyone from small farm producers to agency heads, Ministers and Vice-Ministers.

In addition, the evaluation team expresses special thanks to Ing. Rafael Espinoza Mosqueira, Ministry of Agriculture Project Manager, and Ing. César Morgan Alcalde, Vice-Minister of Regional Development in the Ministry of the Presidency, for their assistance in arranging office space and computer support in the Ministry of the Presidency where the evaluation team could work when they needed an office. Ing. Espinoza also helped us obtain the services of María Caballero, Administrative Assistant, in that office. The team also expresses its gratitude to Ms. Caballero for her assistance in the preparation of report drafts, interview notes, and other assistance in the completion of the evaluation. Her patience, efficiency and computer skills saved endless time for the team.

I. INTRODUCTION

A. Scope and Strategy of the Project

A multi-faceted strategy of blending public and private interests in the identification of research priorities, designing and performing research, transferring results to producers, training and educating more technical specialists, and strengthening the private and public institutions involved resulted in a project of broad and varied project scope. In the historical context, the fact that this project played a significant role in continuing a development strategy developed in collaboration with the Peruvian Government over two decades and supported not only by A.I.D., but by the World Bank and IDB, must be considered in evaluating both its design and its achievements. While some limits to the technological scope were attempted through identification of priority markets, products and technology requirements, the project addressed a range of institutional and functional issues which could not be limited without seriously impacting the achievement of project goals. Even the attempts to limit the range of markets, products and research programs suffered from difficulties beyond the ability of the project to control. The tremendous range of agricultural zones across Peru, each of which has specific priorities and technological needs and none of which were specifically excluded from Project attention, also contributed to the scope and complexity.

The specific project interventions to accomplish the strategy were selected to both take advantage of, and to attempt to combine, perceived strengths in various public and private institutions. The research mission of the (now) National Agricultural Research Institute (INIA) was to be consolidated (prioritized) and strengthened to assure the development of needed technologies and their flow to producers. The National Agrarian University at La Molina (UNALM) and various regional universities were to be strengthened academically to improve the availability of suitably qualified professional graduates to fill positions in both public and private institutions in the sector. Research and extension capabilities of the universities, particularly La Molina, were also seen as important links in the technology transfer system, but needing prioritization and coordination with programs of INIA. Membership ties of the National Agrarian Organization (ONA) to producer groups at the regional and local levels were seen as an important opportunity to involve both producers and private sector institutions in the definition of research priorities, and potential connections for the transfer of technology to large groups of producers with similar interests and problems. Finally, the Foundation for Agricultural Development (FUNDEAGRO) was formed to strengthen private sector involvement, coordinate and fund activities of both public and private participating institutions, and to guide the identification of priority agricultural enterprises and needed research.

The evaluation charge was to assess the effectiveness of the project in achieving the objectives of several interrelated aspects of project operations:

- prioritization of technology generation;
- a smooth transfer of new technologies to the producers needing it;
- interinstitutional collaboration in research prioritization, generation and transfer, including producer and private organization involvement;
- strengthened institutional capabilities in each participating institution to continue to carry out targeted functions, including general and financial management, planning, program coordination with other institutions, etc.;
- development of improved programs for the education and training of appropriate human resources to continue the prioritization and coordination of technology generation and transfer in Peru.

In addition, the evaluation includes the usual retrospective assessments of the appropriateness of project design and implementation, and an analysis of "lessons learned" in the ATT project that support identification of priority future activities and program planning by the Agency for International Development in Peru.

C. Evaluation Team Membership and Activities

This evaluation was undertaken by the Interamerican Programs Section, Office of International Cooperation and Development, United States Department of Agriculture under PASA Number 527-0282-p-00-3159-00. The Scope of Work and brief biographical materials regarding the team members are included with this report as Annex ____. Team members for the evaluation with their respective areas of emphasis were:

Project Design/Management/ Interinstitutional Cooperation/ Team Leader	Dr. Larry M. Boone
Research Prioritization/ Research Institution Strengthening/ Technology Generation	Mr. John O'Donnell
Public/Private Technology Transfer/	

Seed Program/Data & Analysis of Technology Transfer Needs — Mr. James Murphrey

Teaching Programs/Training Programs/ Library Development/Technical Information Communications — Dr. Charlotte Miller

The evaluation took place over several weeks between May 9 and June 15, 1993. Team member time in Peru varied, and each team member was given flexibility to travel as needed in Peru to achieve the required observation and analysis. Each member met with, or at least contacted, the Project Coordinating Committee early in his or her visit, and proceeded with the full cooperation of those individuals to visit institutions, research stations, technology enterprises, seed committees, universities, firms and individuals as needed. Logistics prevented visits by all team members as a group to most collaborating institutions, and that method was not considered advisable in any event. As mentioned earlier, a combined list of contacts of all team members appears as an annex to this report.

The North Carolina State University (NCSU) and Midamerica International Agricultural Consortium (MIAC) contract technical assistance team members had all departed Peru prior to the evaluation. However, prior to travelling to Peru, Dr. Miller visited North Carolina State University to discuss the operation of the technical assistance contract team of NCSU/MIAC, and shared her observations with the other team members. John O'Donnell and Larry Boone also had an opportunity In Lima to interview Dr. Dale Bandy, former Team Leader of the NCSU/MIAC team in Peru.

Dr. Gary Smith of USDA/OICD, originally scheduled to be the Team Leader before illness caused his replacement by Dr. Boone, had collected many documents pertaining to the design, implementation, prior evaluation, NCSU/MIAC contract team observations and other aspects of the operation of the ATT Project. Many of these were carried to Peru and supplemented by many more documents provided by the participating institutions. These documents were continually referred to during the period of in-country evaluation. The combined list of documents consulted appears as Annex ____.

The final four or five days in Peru afforded a rare opportunity for the team members to work together as a group. Those days were spent in final interviews, discussing the interactions among the respective responsibilities of the members, preparing the first draft of this report, and preparing and presenting briefings to USAID/Peru and the participating institutions of our observations, analyses, conclusions and recommendations. Dr. Boone spent a few extra days in Peru, and some additional days in Washington to assemble this report. Dr.

Miller and Mr. O'Donnell were also available for brief periods in Washington to confer and advise during that process. While the team appreciates the enthusiastic assistance of all involved in the project, as well as many more in Washington, contents of the final report remain the responsibility of the team members.

D. Counterparts and Government of Peru Support

The original plan for the evaluation included locally contracted counterparts as part of the evaluation team. Contracting difficulties delayed the employment of counterparts, and rather than delay the evaluation, the decision was made to proceed without those individuals.

Members of the Project Coordinating Committee effectively acted as counterparts in the logistic role of arranging meetings, accompanying team members on trips to the field, providing transportation, and generally facilitating our work. Team members exercised complete autonomy in deciding where we wanted to go and what we wanted to see, subject to advice regarding security. Support of the Government of Peru, and of all the involved institutions of the private sector, was absolute in terms of making it possible for the team members to observe what they requested and to interview whoever they wished.

II. PARTICIPATING INSTITUTIONS

1. FUNDEAGRO

FUNDEAGRO (Fundación para el Desarrollo del Agro--Agricultural Development Foundation) was created as a non-profit, private institution in 1988, and was intended to be a guiding force in the execution of the TTA project. Support included both public and private organizations, and the Foundation was to play a strong role in developing greater participation of the private sector in the development of the agricultural sector. The original Board of Directors included representation from three private sector institutions, including the National Agrarian Organization (ONA), the Exporters Association (ADEX), and the Engineering College of Peru (Col. Ing.); three public sector organizations including the Ministry of Agriculture (MINAG), the National Agricultural Research Institute (INIA) and the National Agrarian University at La Molina (UNALM); and one international organization, the International Potato Center (CIP). In 1992, the statutes were modified in an effort to increase private sector representation, and representatives of four additional private sector organizations were added. These include the Peruvian Institute for Enterprise Management (IPAE), the National Forestry Chamber (CNF), the National Industrial Society (SNI) and the Association of Banks (Asoc. Banca).

The Foundation operates as a NGO, and is certified as a PVO. It was selected to administer the majority of the donated funds A.I.D. provided for the TTA Project. The models offered by Fundación Chile, FUSADES in El Salvador, and FUNDAGRO in Ecuador were certainly in mind when FUNDEAGRO was created, but despite the mixed membership on the board, the outlook has been more public sector oriented than private sector. The entrepreneurial spirit necessary to put the organization on a solid economic footing has not yet appeared, although FUNDEAGRO has marketed some consulting services to outside entities, including the InterAmerican Development Bank, the Spanish Development Authority and IDRC-Canada, as well as the regional government of Ucayali in Peru.

2. INIA

A.I.D. has worked for nearly two decades to establish an agency of research and extension with approprite models of research and technology transfer for the circumstances found in Peru. The World Bank (IBRD) and the InterAmerican Development Bank (IDB) have also supported much of that work in support of the National Institute for Agricultural Research (INIA) and its predecessor agencies. Although reorganizations and governmental changes of priority have impacted the agency, the basic programs of research and extension developed with so much effort have been kept alive.

Since the ATT project was directed to the continued development and transfer of needed technology, INIA was obviously a key player among the institutions involved, although efforts were also directed to gaining more private sector participation, and in some activities, leadership. At the time of design of ATT, INIA's immediate predecessor agency operated 24 regional research and extension centers (research station numbers have varied widely and rapidly in recent years), on-farm trials and demonstrations, extension offices and related support services including soil testing. Plans called for relocating parts of the technology transfer functions into the private sector, but INIA remained the basic research agency for technology generation at the national level.

3. UNALM/FDA

The National Agrarian University at La Molina (UNALM) constitutes the traditional quality training institute in agriculture in Peru. Although economic and social circumstances over recent years have made the attraction and retention of top quality faculty difficult, and support for students at the masters level to finish thesis research almost impossible, the institution remains the leading source of agriculturally trained manpower in Peru. Its links with regional universities, many of whose

agricultural faculty members are graduates of La Molina, also placed it strategically for supporting the generation and transfer of technology. The related Fundación para el Desarrollo Agropecuaria (FDA) administers funds provided for the university by donors including A.I.D., the World Bank, IDB and others.

4. ONA

The National Agrarian Organization was, at the time of the design of ATT, the only broad-based farmers' organization of national scope, and remains so today. During design, ONA counted approximately 245 organizations of farmers, including commodity groups, water users associations, and special interest groups. Today, that number has ascended to 512 affiliated national, regional and local groups. These affiliations give it unique relationships with a wide variety of private sector, agriculturally related interest groups. Harnessing the capabilities of this organizational resource to contribute to the involvement and organization of private sector participation in the technology generation and transfer system motivated their inclusion in the project as a participating institution. ONA was specifically charged with helping to organize and implement a series of private technology transfer enterprises, assisting them in becoming self-supporting as soon as possible. In 1992, they were additionally placed in charge of administering a Rural Women's Program to gain participation of women producers and bring them into the technology generation and transfer communication system.

5. A.I.D.

The Agency for International Development and predecessor agencies have worked in Peru since the creation of U.S. International Assistance programs. Over the past two decades, A.I.D. has worked to guide agricultural technology generation and transfer into models appropriate for the circumstances of Peruvian agriculture. While the financial resources brought to the task by A.I.D. have often been dwarfed by those of the World Bank and IDB, A.I.D. has gained a position of conceptual leadership respected by other donors, including other bilateral sources. The ATT project was intended to continue support for the models developed, while modernizing with needed private sector involvement, consolidation of programs, and support for improving human resource development in the sector within Peru.

6. NCSU/MIAC

Both North Carolina State University and the MidAmerica International Agricultural Consortium, especially Iowa State

University, have long histories of work in support of the development of Peruvian agriculture. At the time of ATT design, NCSU was involved in the predecessor REE project, also concerned with research and technology transfer, and MIAC was implementing the APID project, concerned with agricultural policy development and analysis. Because of their knowledge of Peruvian agriculture, agencies, programs and circumstances, the participation of both institutions was continued as providers of the technical assistance team in support of ATT project implementation. That team was charged with strengthening linkages among individuals and organizations, both public and private, to integrate and coordinate the components of the project design. The goal was to generate a collaborative system of agricultural technology generation and transfer both involving and serving public and private interests and needs.

NCSU is a comprehensive university of 24,000 students located in Raleigh, North Carolina. It was established under the terms of the federal Morrill Act of 1862 (for land grant colleges) to promote higher education. It currently offers 75 masters and 48 doctoral degree programs. It has a strong history of research and extension in agricultural, forestry, engineering and veterinary medicine, among other fields. NCSU has been a leader in international development technical assistance programs, with a presence in Peru since the 1950's. Its work in Peru contributed substantially to the founding of the International Potato Center (CIP) in Peru, one of the foremost international agricultural research and training institutions worldwide. NCSU's work in the 1960's supported the establishment and strengthening of the Universidad Nacional Agraria, La Molina. From 1968 through 1980 NCSU was not institutionally present in Peru. However, its graduates and staff members continued to play important roles in Peru's agricultural development throughout that period. NCSU institutionally returned to Peru in 1980 and remained until 1992. NCSU has a large and active alumni organization in Peru.

7. MINAG

As the policy, guidance and compliance authority for public sector agriculture in Peru, the Ministry of Agriculture negotiated with A.I.D. the establishment of the project, and assigned oversight representatives to monitor and follow the project. The Ministry also participates prominently in decisions regarding the use of PL-480 generated counterpart funds.

III. INSTITUTIONAL ISSUES

A. PROJECT DESIGN

Retrospective evaluation of a project design is more a subjective art than an objective science. In the best of cases, learning during the project has already led to the incorporation of the changes indicated. In the ATT project, so many changes in the environment of Peruvian government institutions, along with security concerns and international financial changes, have rendered many of the assumptions underlying the original design obsolete. To say that the original design was "bad" or "wrong" in its major features is more an exercise in second-guessing the futuristic capabilities of the designers than a meaningful comment on project preparation.

There are, however, a few issues regarding major points of the design that are of some concern to the evaluation team.

While technology demand and technology supply issues were addressed in the project paper, the emphasis in the Log Frame was on technology supply. In the best examples of agricultural development in Latin America today, research and extension are oriented to demand driven enterprise selection and support. Recognizing that the ATT Project was intentionally designed to continue a model of development worked out over the past 15 or 20 years, one realizes that enterprise prioritization may have been based on market and production potentials as perceived in the 1970's and early 1980's, including the design of the REE predecessor project. ATT project designers expanded the six priority program elements of the REE project (rice, corn, potatoes, cereals, grain legumes and oil crops) to include Andean crops, tropical crops and livestock. The concern is that this expansion was more a matter of continuing support to existing research programs than a selection of potentially marketable commodities. This is borne out to some extent by the fact that several additional research programs received ATT fund support when the World Bank and IDB suspended activity in response to debt repayment difficulties.

Another element which was to help guide the prioritization and policy establishment of the project, as well as to resolve inter-institutional coordination problems, was the Project Advisory Council, consisting of the highest level managers of the participating Peruvian institutions and the A.I.D. Office of Agriculture. The Council never functioned, and was discontinued before the project ended. That left the coordination and decision making powers in the hands of the Project Coordinating Committee, which operated at a more operational level, and was less prepared to deal with limiting the number of programs supported, or to identify completely new lines of research and technology transfer effort. Again, the lack of emphasis in project working documents on demand driven research and technology transfer allowed those less prepared to consider such a thrust to continue with the more traditional supply driven planning. It is very difficult to say that the original Project Advisory Committee was a design flaw without knowing the justification the designers had for believing that it would work. When it failed, however, the "fall-back"

design was not adequate to carry out some of the critical policy decisions that should have guided more research effort into demand driven uses.

The design attempted to bring about interinstitutional cooperation by passing the majority of funds through one institution with the responsibility for funding activities in other institutions, and for monitoring their use of the resources. Donated funds were largely passed through FUNDEAGRO. Successful models of Foundation-led and supported private sector involvement in agricultural development were available in Chile (Fundación Chile), Ecuador (FUNDAGRO), El Salvador (FUSADES) and to some extent in Guatemala (Asociación Gremial). The difficulty was in burdening FUNDEAGRO with the financial management and monitoring functions which it neither desired nor was well prepared to handle. In a similar fashion, many of the PL-480 generated counterpart funds were passed through INIA, which also was given unwelcome responsibilities for financial management and monitoring. Neither institution was well prepared to monitor other agencies, and both lacked any particular authority to demand and receive liquidation (documentation of expenses) to justify the use of funds and to receive further advances. Resulting irregular flows of funds were a constant problem. Existing mistrust between public and private sector institutions, and among institutions especially in the public sector, were amplified by the need to depend on one another for funding.

The team recognizes that a major reason for using that pattern of funding was the shortage of monitoring manpower in A.I.D. Unfortunately, A.I.D. may yet have to assume the responsibility for getting liquidation on an institution by institution basis, so that final activities can be funded. Funding each responsible institution directly for its activities might well have saved manpower in the end.

B. PROJECT IMPLEMENTATION

Implementation has suffered from so many factors outside the control of A.I.D. or any of the participating institutions that it is difficult to say that a specific implementation decision was incorrect. A.I.D. project managers have tended to concentrate on the documentation requirements, which have certainly needed attention. There is less evidence that they worked closely with the institutions to influence technical implementation activities, although one of them initiated some new activities in 1991. The nine enterprise priorities and the related research and technological transfer programs that were selected by the project were not observed by INIA, at least early in the project, in the sense that several additional programs received ATT support funds. A.I.D. project managers apparently allowed the additional expense to help INIA keep programs alive that had been supported by the World Bank and IDB. This dilution of project resources undoubtedly

reduced advances in targeted programs, but a decision which balances specific project objectives against protecting gains made over two decades of interinstitutional work and support is not to be criticized lightly.

Failure of the Project Advisory Council left the Coordinating Committee without authority to enforce liquidation issues, and removed a potentially valuable project directing capability from the project. The project secretariat has documented the activities of the project, but there is little evidence of a strong coordinating or monitoring role, and in any event, they had less authority than the members of the Coordinating Committee to gain compliance with financial management requirements.

In terms of strengthening the role of the private sector in guiding agricultural development related to research and technology transfer, FUNDEAGRO and ONA bore responsibilities which offered great hope. The difficulties of FUNDEAGRO in being a new agency, mistrusted by the other institutions, and burdened with trying to fund and monitor activities across a broad spectrum of the agricultural sector must be granted. Still, they were in the best position of any of the institutions to focus on the broad view of Peru's agricultural development direction, to identify and support the development of priority enterprises, to identify and help obtain outside technical expertise and investment (still admittedly very difficult for Peru), and to help select demand driven research and technology transfer activities for export agriculture on that priority base. They seem to have been somewhat over concerned with being involved directly in technology transfer in some way rather than assisting the private sector in preparing to participate on a much broader basis.

ONA's role in establishing and supporting Technological Transfer Enterprises did not go well. One could argue that the sector was not yet ready for private involvement of that type. On the other hand, such enterprises would need the support of many of the agreements and research links, both domestic and international, which were called for in the Log Frame, but which do not appear to have been developed.

F. Present Relationship between UNALM and FUNDEAGRO

The present relationship between UNALM, especially the graduate school, and FUNDEAGRO is reported to be cooperative and highly functional in supporting the training programs of the project. Considering the very tense and troubled relationship which earlier existed, this situation constitutes a major improvement. However, it was not apparent that this relationship had in any way become a network of interdependent and collaborative institutions, as envisioned in the project paper. Problems in

funds flow and accountability through the university's foundation, FDA, continue to be reported by project management staff as of the writing of this paper.

G. Changes in the political and institutional contexts having affected the Project from the beginning and since the 1990 mid-term evaluation.

Many of the conditions considered assumptions in the log frame turned out not to be true and stable during the life of the project. The fact that the project continued to train participants and conduct institutional strengthening activities under these difficult circumstances is a credit to both AID project management, the AID training office, NCSU, the universities involved, and FUNDEAGRO. In fact, although the project's design was directed and strongly influenced by the "big government" model of previous administrations of the GOP, the project management staffs of the implementing institutions were able to adjust the program to somewhat accommodate the changing political/institutional environment. One such major environmental change was the elevation of the former rector of UNALM to the Peruvian presidency, bringing with him an agenda of slimming down government, reduction of regulation on the private sector, more rigorous tax collection efforts, liberalization of the land tenure system, changes in the agricultural input delivery system, and elimination, sale or privatization of many state owned monopolies in the agricultural and other sectors. Another major factor was the insurgent terrorism and random violence which undermined expectations of stable working conditions in all governmental institutions. The GOP practically eliminated the agricultural extension infrastructure in the public sector as a cost cutting and security measure. These conditions have drastically altered the economic climate in which agricultural research and extension are currently taking place. The project design, for instance, envisioned that the long term training would be primarily allocated to INIA and UNALM. Current conditions dictate that the government's ability to absorb more highly trained staff is extremely limited and that the kind of training needed should be directed at economically viable productive enterprises which will generate employment and income in the agricultural sector.

The project was envisioned as a means to continue to support Peru's efforts in Research, Extension, and Training for Agricultural Development at a time when relations between Peru and the donor community were strained due to a GOP failure to keep commitments made in prior international aid agreements. For this reason, emphasis was placed in the design on utilizing non-governmental institutions to channel aid funds. Now, relations are not as strained and AID should explore means of working appropriately with both private and public sector institutions. Specifically, the channeling of most project funds through FUNDEAGRO creates unnecessary inter-institutional tensions and diverts FUNDEAGRO from its primary mission because of excessive attention required by complex funds documentation and management

procedures.

Some of the more specific institutional concerns are discussed below:

1. The selection of inappropiate organizations to do technology transfer .....the use of un-natural artificial approaches to attempt to transfer technology.

2. Inappropriate flow of funds to support project activities.

ISSUE 1. The selection of inappropriate organizations to do technology transfer ..... The use of unnatural, artificial approaches to technology transfer.

Discussion

Although it probably seemed at the project design stage that ONA and FUNDEAGRO could be effective technology transfer organizations they have not been very effective. Their project activities in transfer technology have been very expensive.

Neither ONA nor FUNDEAGRO have natural day to day links to information/research results technologies. They are not involved in technology generation, and have little capability in technical information management and use. Neither has natural day to day technical working relationships with producers, research stations, inputs distributors (farm supply houses), agro-industries, or out of country (world) sources of information /data. Their involvement in technology transfer is "artificial". ONA is a producer organizer and producer representative organization. In other words, a producer lobby organization. FUNDEAGRO has various objetives functions and planned services. Except for the seed program FUNDEAGRO principally has developed into a money source organization, contributing little on a sustainable basis to the technology transfer needs.

Recomendations

Suggested roles for each Agency are discussed in the Future Direction section of this report.

ISSUE 2. Inappropriate coordination and flow of funds to support project activities.

Discussion

Project designers may have thought that the funding flow though FUNDEAGRO to the other participating organization would improve relationships, incourage coordination and corporation, etc., but it does nor seem to have worked that way. It seem to have developed in a way where all of the participation organization feel that they are not getting enough support funds. There is a feeling by some that FUNDEAGRO and the Secretariat are spending excessively. Instead of promoting good will, corporation and coordination, the funding flow thru system may have caused some ill - will, it may also have distracted FUNDEAGRO from it's planned role and establish a false image/purpose that it now has in the agriculture agroindustrial sector.

FUNDEAGRO may have been so busy managing/disbursing project funds that it failed to develop the marketable services that it was expected to, and needed to, develop.

The funding flow through practice has contributed to FUNDEAGRO being principally thought of as a place to get funds.

Recommendations

Reduce the high cost of project coordination. Eliminate the practice of flowing funds through FUNDEAGRO to be disbursed to other participating organizations. Make funds directly available to the participating organizations based on performance of high priority project support activities.

B. VIABILITY OF PRIVATE FOUNDATIONS

ISSUE 1. All of the private foundations; the CODESE, the Foundations at Experiment Stations transfered by INIA (for example Chira, Vista Florida, etc.), FONAGRO, Santa Rita Cooperative and FUNDEAGRO, all seem to lack the ability to attain financial sustainability.

Discussion

Within the foundations there seems to be a lack of urgency to restructure in a manner to become financialy sound businesses. There is a high

degree of dependency on obtaining funds from GOP, USAID, etc. The financial weakness of the foundations is a major problem in the current agricultural sector, and requires attention soon.

Recommendations

The best strategy for solving the problem seems to be:

1. Restructure and strengthen FUNDEAGRO sufficiently to define/package and price its services (see Future Directions FUNDEAGRO role in another part of their paper), to give it the capability to provide private sector business development assistance to the other foundations.

2. With the help of the "New" FUNDEAGRO, develop business plans for each of the foundations.

3. Continue support to the foundations on a declining bases, gradually reducing dependence on GOP internationsl donors, etc.

4. Monitor the progress being made by each foundation. If progress is not acceptable, discontinue the support.

C. LACK OF EMPHASIS IN PRIORITY SELECTION RELATIVE TO SUPPORTING TARGETED CROP PRODUCTION AND MARKETING SYSTEMS APPROACH.

Discussion

During the life of the project all of the participating organizations have had technology transfer activities. There have been many meetings, seminars, field days, TV and radio announcements. Many bulletins, leaflets, magazines, newspaper, supplements, etc. have been prepared, published and distributed. However, there seems to have been little or no cohesive, organized approach to selecting what was most important (high priority). Activities, of technology transfer, as well as published materials seemed to have been done in a random approach rather than concentrating on the technologies most needed to advance specific targeted crops production and marketing systems.

Strong emphasis have been placed in both the technology generation and technology transfer activities on varieties while little emphasis has been given to critical technologies in water management, saline control, harvesting, post harvest management, marketing, etc.

Recommendations

Priority specific crops and Agro-industries to be developed, should be identified. New work plans in all supporting agencies should be developed, so all know that they are working to develop complete production and marketing systems for the targeted crops and for specific Agro-industries

D. STRATEGY USED FOR TRANSFER OF TECHNOLOGY NOT APPROPRIATE FOR OBTAINNIG MASS APPLICATIONS OF TECHNOLOGY

Discussion

Technology transfer/application in the agricultural/agro-industry sector, should be designed in a way where researchers (techonology generation), change agents/extensionist, and producers (farmer, agro processor, etc.), are involved together in obtaining and applying appopriate technologies. They each have different roles, however they must work together to solve major problems. They should be involved closely enough that the researcher is seeking the answers that the farmer/producers/agro-industrialist need. They should all be working in daily collaboration on farm field trials, processing, trial marketing shippments, etc. to verify, validate technology so that all virtually come to the same conclusion at the same time relative to the validity of the technology. They should work closely to determine what other problems are highly important to address in the future.

It is highly important to involve and provide training to inputs dealers/distributors and agro-industries, bankers, Cooperatives, producers groups, etc. since they play a major role in obtaining Mass application of improved technology. Universities faculties and upper level students can be a major force in the transfer of technology.

If the inputs suppliers stock sell and provide recommendation for the correct use of the right seeed, fertilizer and other inputs, they can significatly contribute to obtaining Mass application of technology. This does not mean that they can do it all, but they can play a big role. There are many other technologies that must be delt with such as irrigation water management, other cultural practices, harvesting marketing, etc.

Although INIA's and UNALM's transfer of technology activities have been somewhat skippy, inconsistent and lacked systems approach they have had reasable success. INIA researchers, UNALM, National Agricultural Library along with local Universities faculties and senior level students, Private Foundations, inputs distributors, marketing Cooperatives/Associations appear to be the key

organizations best suited to establishing effective transfer of technology within the agriculture/agro industry sector.

Recommendation

1. Make major changes in the strategy to be used for the transfer of technology in the Agricultural sector.

2. See Future Direction section of this report for more detail recommendations.

IV. TECHNOLOGY GENERATION

There were three activities included in the Techonology Generation component of the Agricultural Technology Transformation Project:

a. Consolidation and Integration of INIPA Research Programs;

b. Strengthening INIPA Administration and Management

c. Expanding Research Opportunities

This section of the Evaluation will examine the two INIPA/INIAA/INIA activities together and then the third activity involving FUNDEAGRO and UNA, including a brief description of what happened over the course of the project, a comparison of the End of Project Status envisioned in the Project Paper and the situation encountered by the Evaluation team, and a discussion of the Evaluation Team's conclusions and recommendations.

A. Component 1, Activity a., Consolidation and Integration of INIPA Research Programs, and Activity b, Strengthening INIPA Administration and Management.

1. Background

These activities were intended to build upon the advances achieved under AID's predecesor project, Agricultural Research, Extension and Education (REE). Under REE, AID and GOP counterpart resources were focussed on five national commodity programs: rice, potatoes, corn, grain legumes and cereals. In the ATT project design, the number of national commodity programs was increased to nine, continuing the five programs started under REE and adding funding for support of programs in livestock, oil seed crops, tropical crops, and Andean crops. Funding was also provided for six national research support programs in germplasm services, computer services, laboratory services, agroeconomic services, integrated pest management, and soils and water research. Project activities were to be carried out in 23 research stations.

At the time that the ATT PP was being finalized in 1987, there was a major reorganization of the public sector research and extension system which broke the extension program away from INIPA and placed it in the Ministry of Agriculture. Thus all of the posititive progress which had been made in integrating research and extension under the REE project was lost. As a part of the 1987 reorganization, the Institute of Forestry and Fauna (INFOR) and the Institute of Agro-Industrial Development (INDAA) were joined with the research element of INIPA to form the National Institute of Agrarian and Agro-Industrial Research (INIAA).

During the project design process, the amount of AID funding was cut from an original target level of $60 million to a final approved PP level of $25 million. Thus as the program got underway, the number of research programs to be funded with project resources had been increased from five to 15 and the amount of money available had been cut by more than 50%. In addition, a number of ongoing research activities were added to the INIAA agenda with the accession of the INFOR and INDAA programs. To further complicate matters, the World Bank and IDB, which had been major funders of public sector research and extension, terminated their support to INIAA because of problems with the Garcia administration. The ATT project, which was basically the only major remaining source of external financing for INIAA's program, came under increasing pressure to fill the gap caused by these events and to maintain the momentum of ongoing programs. As a result, project resources were spread increasingly thinly across a large number of activities, with a decrease in the quality and number of research achievements. This situation continued through most of 1988 and 1989 as the entire country took a nose-dive with run-away inflation and a dramatic deterioration of the situation in the cities and the countryside caused by the Sendero Luminoso and the MRTA. AID and NCSU were aware of the deterioration of the research effort because of the dispersion of resources across too many activities but did not or could not do much about it. In 1989/1990 INIAA began to cut out resource flows to selected research stations and programs, principally because of security considerations.

Throughout this period, INIAA continued to hold annual planning meetings to establish targets and program funds for individual commodity and research support programs. Budgets were made upon the basis of these plans and the funds were then disbursed to the research stations. At this point, the system broke down as the research station directors had complete control over the funds for their stations and could distribute them as they wished without regard to national plans and priorities. Individual commodity programs went further into a slump and most programs were basically in a low-productivity holding pattern.

In December 1989, 17 research stations were transferred to the regional governments by the Garcia administration. 15 stations were retained by INIAA and INIAA continued to pay the salaries of personnel assigned to the regional government stations while the

regions were responsible for station operations and maintenance. Administrative havoc reigned and the regional government stations went into a decline which continued until the stations were returned to INIAA in January, 1993.

In July 1990, the Fujimori administration assumed power. INIAA was a bloated, disorderly mess. Shortly before leaving office, the Garcia administration appointed 1500 additional employees to INIAA, raising the number to 5700. As part of a government-wide campaign, the Ministry of Agriculture and the leadership of INIAA began a systematic campaign to reduce the number of employees in INIAA. Through a combination of dismissals and incentives for voluntary early retirement the payroll was reduced to 3850 in February of 1991, 1900 by the end of 1991, 1500 by the end of 1992 to a current level of 782 slots in June, 1993.

As this reduction in personnel was going on, the leadership of INIA began to cut back on the number of programs and research stations receiving assistance under the ATT Project. With the transfer of 17 stations to the regional governments in late 1989, the ATT project was supporting programs at 15 stations in 1991. This was reduced to 10 stations in 1991 and 1992. The number of programs receiving support has also been reduced from 21 in 1990 to 17 in 1992/93.

In 1992 the government initiated a program to transfer management of eight coastal research stations to private sector foundations or associations. The experience to date has been uneven, with some foundations/associations doing quite well in taking responsibility for management of the stations and others not doing well at all, with their contracts under review or withdrawn. Under the transfer agreements, the associations are given use of the stations for 10 years, subject to compliance with conditions contained in an agreement with INIA. INIA has agreed to continue financing the work of selected national research programs and a reduced number of INIA staff for a period of two years. The future disposition of these personnel will be decided at the end of two years with the hope that the foundation/association can assume payment of the salaries of most, if not all, of the INIA staff from revenues generated by the stations. The Executive Director of INIA described this move to privatize the coastal research stations as an "adventure" where all parties are learning as they go.

In a complementary move, the government has supported the formation of a new private sector organization called Fundacion Peru. Richard Sawyer, the former Director General of the International Potato Center is its President with directors elected from among the foundations/associations which are taking over the coastal research stations. It is the government's hope that Fundacion Peru can assist in this transition by finding and channeling domestic and external resources to the foundations/associations.

2. End Of Project Status

a. Condition expected: "INIPA will have established itself as a reliable and sustainable leader in the ATG&T system in Peru and the private sector and agricultural university participation will be well established and expanding on a self-sustaining basis."

Current Status: INIPA was disbanded in 1987, with research moving to INIAA and extension to the Ministry of Agriculture. Its successor organizations, INIAA and INIA have gone through some very tough times over the past five years. Many experienced researchers took advantage of incentives offered by the Fujimori government for early retirement but it appeared to the Evaluation Team that a substantial number of good personnel (including most of the technical staff contracted through ATT) had decided to remain with INIA and are doing good research despite the many problems they have had to face. While INIA is still clearly the leading agricultural research organization in the country, its problems (and the general problems of Peru) over the past several years have made it difficult for INIA to establish itself as either a "reliable" or "sustainable" leader in the AGT&T system in Peru. Three reorganizations in six years have caused dislocations and disruptions in ongoing programs, which have undermined its reliability. With respect to sustainability, INIA still relies heavily on external support, principally through ATT and PL 480. The recent moves to reduce staff have lowered INIA's funding requirements to a level which is closer to what the GOP may be able to afford over the short and medium term, although there will probably continue to be a significan short fall which will need to be filled by external sources such as the proposed IDB agricultural sector loan.

The Project has contributed to increased private sector and agricultural university participation in the AGT&T system through providing funding for programs such as the FUNDEAGRO research grants program, the UNA research program and the FUNDEAGRO Technology Transfer Enterprises and seed programs. However this participation is neither expanding nor on a self-sustaining basis, with the possible exception of a few of the departmental seed committees.

b. Condition expected: "Agri-businessmen, GOP leaders and the general public will value the ATG&T system contributions to their individual and collective economic and social well-being, and support sustained levels of public funding to maintain ATG&T system capabilities. Farmers will be active and vocal in seeking improved technologies that are more reliable and profitable than that which they now are using and they will be contributing significant resources to ATG&T activities."

Current status: There appears to be an appreciation of the value of agricultural research, but this does not seem to have translated into sufficient sustained public sector funding to fully support the AGT&t system. The farmers that the team encountered were interested in obtaining improved technologies that are more reliable and profitable but were not contributing significant resources to that end with the possible exception of some of the private research stations such as those in Canete and Chincha, but these stations were being supported by participating farmers even before the ATT project began.

c. Condition expected: "A national ATG&T system is producing and disseminating new and relevant technologies in a form and manner that responds to the needs of a wide range of farmers in Peru, and adoption rates are increasing."

Current status: INIA, as part of the national ATG&T system, is producing new and relevant technologies in a number of areas. Most appear to respond to farmer needs, including new varieties that are resistant to disease and pests and tolerant of drought, salinity and cold. Time and available information did not allow the team to judge whether adoption rates were increasing, although it appears that some of the technologies such as new rice, corn, bean and potato varieties have been used by a large number of farmers.

d. Condition expected: "INIPA is effectively planning, managing and evaluating Peru's agricultural research needs and priorities at both national and departmental levels, and sharing that information with other parties in the ATG&T system in a manner that results in the generation of increased and more relevant research outputs."

Current status: INIA's record in planning, managing and evaluating Peru's agricultural research needs and priorities has been uneven. Annual planning exercises were held over most of the course of the project but hard choices on priorities were not made as INIA spread its resources thinly over a large number of activities. There was limited sharing of information with other parties through publication and diffusion of publications and through informal, personal contacts.

e. Condition expected: "Improved legal and institutional structures are in place and functioning for more effective recruitment, placement and retention of adequately trained and experienced scientific and managerial personnel in INIPA."

Current status: INIA has made significant progress in reducing the number of people on its payroll, going from 5,700 people in 1990 to 782 slots in June 1993. In 1993, INIA personnel were moved from regulation as a public sector organization to regulation as a private sector organization. All personnel are now under one year contracts rather than civil

service appointments. All employees who stayed with INIA had to resign or retire from public service and then became contract employees of the organization. This provides an excellent opportunity for INIA to upgrade the quality of its staff by terminating contracts non- or low-performance employees and adding better qualified, more energetic contract employees.

Salaries remain a problem. The basic salary for professionals and technicians in INIA ranges from US$65/mo. for technicians and US$70/mo. for entry level professionals to $117/mo. for top level administrators. There are 14 monthly salaries paid with annual salaries ranging from $910 to $1638. There are efforts underway to supplement these base salaries with funds from an account called the Fondo de Asistencia y Estimulo (CAFAE). Various administrative maneuverings appear to be going on to use this fund for raising salary levels. This should be a positive stimulus for retention of INIA staff. If properly managed, along with improved performance evaluation and recruiting practices, it should contribute to building a stronger, better qualified and more highly motivated staff.

f. Condition expected: Long term institutional linkages have been established and are functioning between the Peruvian ATG&T system and a wide range of researchers and research institutions outside Peru."

Current status: The national programs in rice, corn, beans and potatoes have maintained contact with CIAT, CIMMYT and CIP through project sponsored training programs and through interaction with resident or visiting scientists from the three international centers. There are contacts with other researchers outside Peru but on an ad-hoc, personal basis.

g. Condition expected: Operational linkages are in place among public sector national and regional agricultural research and extension organizations, and the private sector and with agricultural educational institutions."

Current status: Official agreements have been made between INIA and the foundations/associations that are taking over selected coastal research stations and there is considerable interaction between the two groups at this time. The team was informed that there are other agreements between INIA and other public, private and educational organizations but that there is usually little formal interaction. There is a good deal of interaction between individual researchers but most of it is on an ad hoc, personal basis.

3. Conclusions

a. Despite all of the problems it encountered over the life of the project, INIA and its predecesor institutions ended up doing a fairly good job. A significant number of new varieties

and technologies were developed. But, perhaps most important, a methodology for carrying out research and extension was developed and internalized within the organization. This methodology tries to involve farmers in setting priorities, tries to concentrate resources on solving specific problems, emphasizes cooperation with external and internal research organizations and tries to get research results out to farmers in a way that they can use them. The team encountered a large number of researchers in the field who had internalized these principles and who showed great enthusiasm for their work despite low salaries, uneven support and waves of politicization of their organization over the years. AID and its contract technical assistance personnel can rightfully claim credit for helping to bring this about through the ATT project, which built upon the base established by the predecessor REE project. In many ways, INIA has reached the point where it can continue without a lot of external technical assistance although it continues to need external financing to augment the funds available from the public treasury and its own sources.

b. One area which does require continued attention is the tendency of INIA to try to do too many things, spreading resources too thinly so that programs are merely scratching the surface and are not getting sufficient funding to really come up with important research results. Now that there are greatly changed circumstances within the country (i.e., free importation of agricultural commodities, severe lack of credit, water availability and salinity problems, the dramatic reductions in INIA staff, etc.), it is extremely important that INIA engage in a new priority setting exercise that takes into account these new realities. The last major priority setting exercises were carried out in the early/mid 1980's and conditions have changed dramatically since then. INIA can not continue to try to work in a large number of programs but must decide on a limited number of research activities which require public sector funding, leaving other research for other organizations or to be done at another time.

c. INIA has tried to involve farmer/clients in determining research and extension needs. This process should be continued and enhanced. The methodology for involving clients in determining research needs should be continually promoted and supported within INIA. It should also reach out to other clients such as agro-industry processors and exporters and also to potential collaborators such as private sector firms and organizations and the national and regional universities. The annual planning exercises should be continued, but with much greater involvement of clients and collaborators, particularly at the local level. The establishment of the National Directive Council is an important step toward increased private sector and university participation in setting INIA's research agenda. The Council should take on the issue of how to increase involvement of clients and collaborators in INIA's planning process as one of its primary challenges.

d. The move to turn over management of selected coastal research stations to private sector foundations/associations is a bold move, but fraught with potential problems. The team saw examples of private sector organizations which seem to have a good idea of how they can generate resources and organize and fund research and extension programs such as the Fundacion Hualtaco in Piura, the group in charge of the Santa Rita station in Arequipa and the Associacion Pro-Ica in Ica. Others have encountered problems such as the organizations involved with San Camilo in Arequipa and Vista Florida in Chiclayo. These organizations require assistance in organizing themselves to collaborate with INIA and to generate funds to support research and extension programs.

e. The down-sizing of INIA is an important and positive accomplishment as is the transfer of INIA to regulation by laws governing private sector employment. INIA now has the ability to control the quality of its staff through objective performance evaluation and terminating the contracts of those employees who do not perform up to established standards. The ultimate size and composition of the INIA staff should be tied to the requirements established by a major priority setting exercise and to a realistic assessment of the prospects for long term public treasury support. Ultimately, INIA must gear its size to what the government can afford. One of the problems of the past has been the inflation of research and extension programs with borrowed funds and the inevitable down-sizing when external assistance terminates. There can and should be continued external assistance such as the proposed new IDB loan, but INIA should point towards a program level which can be funded largely through the public treasury and income generated by INIA's own activities. Establishing this sustainable program level should be an important agenda item for the Consejo Directivo of INIA.

f. The planning/programming changes introduced by the ATT project in 1991/92 are an important contribution to an efficient INIA. This system should be maintained and applied system wide within INIA at the earliest opportunity.

g. The integrated research and technology transfer strategy developed by INIA seems logical and a good use of all existing resources. Building upon the CTTA model, which has gained wide-spread acceptance in INIA, the new strategy emphasizes the need to diffuse technology through the use of intermediary "proveedores de assistencia tecnica" (PAT's) such as farmers' organizations, other non-governmental organizations and national and local universities. This puts the burden on INIA "transferistas" to prepare good training programs and supporting technical materials for the PAT's.

4. <u>Recommendations</u>

a. USAID/Peru and the GOP should work together to find a way to provide "bridge financing" to allow INIA to retain the

personnel who have been contracted under the ATT Project and to continue funding research support costs for ongoing, high priority research efforts until funding becomes available under the IDB Agricultural Sector Loan. If funding for such purposes were to be cut off on August 31, 1993, INIA stands to lose a large number of some of their best people. Research programs would stop in mid-stream for lack of operating support funds, losing the momentum of years of effort. According to GOP and IDB sources, a steady flow of funding under the new IDB loan will not be available until the middle to end of 1994. The bridge financing should be sufficient to cover critical costs until the end of CY 1994.

b. USAID/Peru should offer to provide funding for a small, high-level external technical assistance team to work with INIA on establishing a new, multi-year set of research and extension priorities. This would replace the basic priority structure established in the early/mid 1980's. A systematic methodology, such as that developed by George Norton of Virginia Tech, should be used. Priorities should be based on current realities including such factors as competition from imported commodities, credit requirements and availability, local, national, regional and international market needs and prospects, water availability and technology, prospects for research and extension programs which could be carried out by other organizations with assistance from the proposed IDB research/extension grants/loan fund. The prioritization should be based upon the comparative advantage of Peru's varied regions and how these fit in Peru's overall domestic supply and regional and international trade picture. The prioritization process should be a highly collaborative effort, involving INIA, leading producers and agro-industrial processors and exporters and potential collaborators from the private sector and university community. The process (which would be similar in length and level of involvement to the Agricultural Research, Extension and Education base-line study conducted in the late 1970's) should take three to four months to develop a research agenda which should be reviewed at regular intervals (every four to six months for the next two years) by members of the external technical assistance team to help assure that INIA is not succumbing to the temptation to stray from the established priorities. The IDB should also review the plan and incorporate it as an element of their agricultural sector loan agreement.

c. INIA should emphasize farmer/agro-industry and private sector/university collaborator participation in its priority setting exercise described above and also in its annual research planning exercise. The National Directive Council of INIA should make this kind of collaboration a high priority item on its agenda. The results of these efforts should feed into the development of the National System of Agricultural Research and Technology Transfer System proposed under the IDB Agricultural Sector Loan.

d. USAID/Peru should provide support for either Fundacion Peru or FUNDEAGRO to engage in a program of technical and financial (through PL-480) assistance to the private sector foundations/associations who are taking over management of selected coastal agricultural research stations from INIA. The private groups need help on organizing to generate income from commercial operation of parts of the research stations and on setting up high priority research and extension programs.

e. USAID/Peru should offer to fund a technical assistance team to work with INIA on reviewing and improving its performance evaluation and recruiting and new employee evaluation process. These systems must be improved if INIA is to be able to systematically upgrade the quality of its staff.

f. With the proposed new IDB project poised to pick up external financing for INIA and other organizations in the national agricultural technology generation and transfer system, future USAID assistance to agricultural research, extension and education should be through a collaborative ADEX/FUNDEAGRO program to support an integrated, market-based approach to expand exports of selected agricultural products. Under such a program ADEX/FUNDEAGRO would play a catalytic role to bring together the various actors involved in the production, post-harvest handling, processing, transport and marketing of selected commodities. This would include farmers, processors, exporters, bankers, research and extension programs both in the public and private sectors and the university community. The program would start from a strong market orientation, identifying specific markets and buyers, determining the needs of those markets in terms of quantity, quality, presentation and timing. This information should then be fed back down the processing and production chain to assure that those requirements will be met. ADEX should concentrate on identifying the markets and determining market requirements. FUNDEAGRO should work on the production end, assuring that those requirements are met including helping farmers organizations to organize to meet planting and harvest schedules, in controlling quality and in determining research and extension priorities and who should work on them. ADEX and FUNDEAGRO should work together to assure that financing, management and other constraints are identified and dealt with. The two organizations will not actually do the production, processing, financing, management etc. but will be a catalyst to bring people together to asssure that these elements are being addressed. The program should work in only three or four areas initially, to concentrate sufficient resources to have a major impact on boosting exports. Additional areas and products may be taken on as the program gathers experience. Some commodities and areas for consideration for involvement in such a program include mangos and limes in Piura, selected vegetables and grain legumes in Canete, Chincha, and Ica tropical fruits for juices, concentrates, canning in Chanchamayo. ADEX and FUNDEAGRO should work together to identify the three or four areas/commodities which show the greatest prospects for success and then move into an integrated program in each area.

B. Component 1, Activity c: Expanding Research Opportunities

1. Background

This activity was included in the project to increase the amount and quality of research that was being done in the private sector and the university community. The project designers stated that, "...because of the lack of research opportunities, university faculty members and their students tend to be isolated from the practical problems of Peruvian agriculture and ... that teaching content tends to be sterile and not responsive to Peruvian agricultural conditions." To address these problems, a research grants fund was established in FUNDEAGRO and funds were provided for a research program at the National Agrarian University.

The program in FUNDEAGRO became known as GREPI from the initials of the Grupo de Evaluacion de Propuestas de Investigacion which was set up by FUNDEAGRO to review incoming research proposals. The original GREPI was composed of four representatives selected from the scientific community, and one representative each from FUNDEAGRO, USAID/Peru, and NCSU. This compostion was changed in January 1991 to provide for representation from each organization participating in the ATT Project, i.e. INIAA, ONA, UNA and FUNDEAGRO as well as two representatives from the university community and one each from USAID/Peru and NCSU.

To get the program off the ground FUNDEAGRO organized five regional seminars in the different ecological zones of the country in 1988 and 1989. Researchers, producers and MINAG officials participated in the meetings to determine agricultural research priorities in each of the regions. These meetings were followed by a series of five workshops in research project preparation. The regional priority setting meetings and project preparation workshops served to inform potential participants of the existence of the program. The FUNDEAGRO GREPI staff, which consisted of a program director and two advisors, travelled extensively through the country, promoting the existence of the program. As a result, FUNDEAGRO received over 800 research proposals which were reviewed in 31 sessions of the GREPI. 205 projects were approved of which 172 received funding. As of the end of the first quarter of 1993, 112 projects had been completed and 60 were still in process. The last GREPI meetings were held in November/December, 1992 to allow completion of the projects before the project termination date of August 31, 1992.

Of the 172 funded projects, 133 projects were with universities including 71 with UNA staff, and 16 were with INIA staff, with the remaining 23 projects spread among private sector research stations and firms.

The start-up of the UNA research program was delayed two years because of disagreements between UNA leadership and the ATT Project. UNA actually started the program in early 1990. A seminar/workshop was held in early 1990 to establish research

priorities in the four areas approved for research in UNA, i.e., agricultural mechanization, irrigation, drainage and soil and water conservation and management, farm management, and marketing and transport economics. These areas were chosen for emphasis because they were considered important and because they were not being researched by INIA. Because of the late start and the delays in receiving funds, most of the UNA research prcjects are not yet finished. Projects have been approved as follows: ten projects in farm management and marketing and transport economics, eight projects in irrigation and drainage, and nine projects in agricultural mechanization.

2. End of Project Status

a. Condition Expected: "Mechanisms are identified, tested and replicated by private sector actors that increase activities of the private sector in identification, adaptation and dissemination of improved agricultural technologies, and private sector role is increasing both in absolute terms and proportionally to the public sector role."

Current Status: The FUNDEAGRO GREPI program and the UNA research grants program represent two mechanisms that increase private sector activities in the identification and adaptation of technologies that have been identified and tested under the TTA project. These particular mechanisms have been less successful in the dissemination of technologies. There is a good chance that this experience will be replicated when IDB introduces a fund to support private and public sector research and extension under its proposed new Agricultural Sector Loan.

3. Conclusions

a. The FUNDEAGRO research grants program was successful in reaching a wide range of researchers in the public and private sectors. In fact, this was one of its major weaknesses. The program recipients were so dispersed, both in subject matter and location, that it is difficult to see that the program had any significant impact. There were attempts to narrow the focus of the program through the regional workshops and then through restricting grants to activities dealing with agricultural products for export. These steps helped, but the program was still too broad. The recipients were generally enthusiastic about the program and asked that it be continued. It provided for a much larger number of faculty and students to engage in research than had been possible previously.

The research appeared to be well-structured, with advisory inputs from the GREPI. Unfortunately, there was not sufficient time nor funding allowed to validate the initial research findings. Also, there was very limited diffusion of the research results.

b. The UNA research grants program was more focussed, on the four priority areas detailed above. The funds were slow in

reaching UNA which caused disruptions and slower implementation of the research. UNA staff were supportive of the program although critical of the slowness of disbursements. The research appeared to be well structured and to address important problems. There was some feeling among the research directors that they should have made a greater effort to identify potential users and to involve them in the research.

c. The two programs represent an important innovation that should be continued. The national and local universities and private research organizations and firms represent important resources in a national agricultural technology generation and transfer system.

4. Recommendations:

a. The experience with both GREPI and the UNA research grants program should be written up by FUNDEAGRO and UNA and made available to the designers of the IDB research/extension grants/loans programs so that they can take advantage of the lessons learned under these two activities. Consideration should also be given to channeling a significant amount of the IDB fund through FUNDEAGRO and UNA so that the program can get off to a rapid start, using the personnel and experience gained under the earlier ATT funded programs.

b. Care should be taken under the IDB project to focus the research in critical areas, to look for complementarities and networking of research in those areas and to allow sufficient time and funds to validate research results and provide for their diffusion to potential users. An effort should be made to assure that the research is addressing important problems as perceived by producers and agro-industry, i.e., that it is demand rather than supply driven. One way to assure this is to require that the research be endorsed, or better yet, undertaken as a collaborative effort with the future users of the research results.

V. CURRENT STATUS OF AGRICULTURAL TECHNOLOGY TRANSFER AND EXTENSION

A. QUALITY, QUANTITY AND USE OF INFORMATION AND DATA SITUATION STATEMENT

The TTA Project has produced a tremendous volume of printed technology transfer materials; eg. leaflets, bulletins, magazines, reports, etc. The quality of the information/data/recommendation seems to be good.

Although the information generated by INIA and the materials produced have been useful, the priorities of transfer technology efforts, types of information available and methods of dissemination were significantly lacking. For too much emphasis has been placed on introduction of New Varieties of Crops, while

relatively little information/technology was transferred relative to managing irrigation water, addressing soil salinity problems, economic Analysis, safe use of chemicals, profitability, relationships/response to application of technology, marketing and post harvest products handling, \agro-industrial/processing, etc.

The Project has made significant contributions, but technology transfer has been random and lacking in focus on solving major high priority problems in a targeted Crops complete production and Marketing system.

During the evaluation in interviewing 40 producers in the Piura and La Libertad, 67% in Piura and 50% in La Libertad said they needed more information/technology for harvesting and post harvest handling/storage.

In Piura 41% said that lack of technology in using chemical was a major problem and 24% said it was a medium level problem.

In La Libertad 25% said lack of technology in the use of chemicals was a major problem while 50% said it was a medium level problem.

The cost of credit was listed as a major problem relative to use of technology, improved seed etc. by 83% of those interviewed in Piura and 63% in La Libertad.

In visits to wholesale village/community retail, and city supermarkets it is obvious that marketing; harvesting, post harvesting handling is a major problem thoughtout the country.

Implementing agencies within the project have used almost all means/media to transfer technology; on farm field trials/field days, leaflets, bulletins, magazines, newspaper, radio, TV, courses and seminaries, but their efforts have not reach many people in a problem solving manner.

The priorities and methods used for dissemination/transfer of technology were very in-adequate and very expensive for what was achieved. They did not make good use of Inputs dealers Banks, Cooperatives/Associations/Producers organizations, local Universities, Agro-industries.

The Rural Women's Project was active, but the methods use to transfer technology were unnatural, high cost and reached very few people. For example, the Centro de Divulgación de Tecnología CDT in Trujillo, held a training course for women in Trujillo. The TTA Project brought 38 rural women in rented vehicles, traveling 3 hours to arrive in Trujillo, to attend a course held in a rented building, taught by contracted "specialists".

This is an extremely costly, unnatural and non sustainable method of transferring technology.

The Rural Women's component of the Project, like much of the Project seem to lack priority selection. Much of the rural women TTA activities included jelly making, raising small animals (Cuyes, rabbits), bees, compost/earthworm production, etc. which probably should be included in a youth assistance program rather than a rural women's program. Much more technology would be transferred by including women on the boards of directors of the producers Committees, promoting and helping women to become active in farm business activities such as record keeping, accounting, management, marketing, etc.

Recommendations

1. Discontinue the support to the CDTs

2. Adapt a new and different strategy for obtaining Mass transfer of technology in the sector as described in the Transfer of Technology, Extension, Sector Development section of the Future Directions ..... Recommendation, part of this report.

B. TECHNOLOGY TRANSFER SPECIALIST AVAILABILITY SKILLS LEVEL, AND PRIVATE SECTOR INVOLVEMENT

During the project, many institutional and personal charge occurred Fifty Fve people received training to transfer technology within the CDT/ONA program. Only three of these specialist are remaining at the present theme and they are now working for INIA along with 30 other extension specialist in INIA.

Twenty two are based in INIA - Lima, one each in Piura, Chiclayo, Trujillo, Chincha, San Camilo and 6 in Sierra and the Selva. Only eight are working in technology transfer ..... the other 22 are doing research.

The rapid turn over of personnel is a major problem in the current project transfer of technology strategy. This has resulted in a shortage of technology transfer personnel and a low level of transfer of technology skills.

While working under an inadeaquare strategy the implementing agencies, INIA researchers, UNALM's faculty/senior level students, ONA, FUNDEAGRO specialist and at least two of the technology transfer firms have done a fair job of transfering the limited technology that has been generated to a limited number of indivuduals and organizations in the Agricultural sector.

With all of their efforts, they have been able to reach only a fraction of the technology transfer needs within the sector. The methods and strategies being used are not appropriate for obtaining **Mass** application.

Recommendation

Drastic changes are needed in the strategy for mobilizing transfer of technology specialist/agents.

A new strategy s needed to transfer technology in natural day to day way involving existing organizations such as Universities, Foundations, Inputs dealers, Agro-industry, Bankers, marketing firms, etc. See Future Direction Recommendation section of this paper.

The range of information available, for transfer must be broadened. Currently it's mostly Agronomic ..... it must be broadened to include water manegement, economics, cost of productions, safe/proper use of chemicals, harvesting, post harvest handling, marketing, Agribusiness, etc.

C. ONA FARM RECORDS AND ANALYSIS PROGRAM

In late 1989 and early 1990 ONA designed the forms for a farm records and analysis program. The plan was to provide a records and analysis service to farmers for a fee.

Between mid 1990 until August 1991 ONA staff and contracted personnel worked with approximately 200 farmers, collecting farm business data. Of the 200, only 140 were completed enough to make an adequate analysis.

Between August 1991 and March 1992 the data for the 140 sets of farm records were entered into the ONA computers for Analysis.

Between March 1992 and December 31, 1992 ONA technicians took about 30 of the analysis back to the farmers to discuss the Analysis and to try to get subscribers to the service.

ONA was not able to sell any of the farmers to subscribe to the service. There seem to be three main reasons for the lack of success.

1. The small farmers ONA was working with do not keep receipts, do not write things down, and have little appreciation for records and almost no understand of Analysis.

2. The system used by ONA was far to complicated to try to use with the farm "Clientele" group.

3. The time frame for doing the work was far too long .... collecting data 1990 - 1991 and not getting the results/analysis until mid to late 1992.

ONA's Crops Cost of Production program which begun in 1991, collects data now for 54 crops. The cost of production analysis could be describe as average cost of production of a crop in

specific areas. Each year the cost analysis are up-dated, evaluated to note changes.

These cost analysis are discussed with selected members of the appropriate production Committees.

Once per month this cost of production is used on radio program and in Newspaper articles. ONA does not have to pay for the Mass Media Coverage. The media provide their services free.

The Crop Cost of Production 2 pages analysis are for sell by ONA for $ 2 each. ONA sell about 100 per month.

Recommendation

The ONA Farm Records and Analysis program should be discontinued. It should be considered an "idea": that failed.

The ONA Crops Cost of Production work should continue and possibly should be expanded to include farm level prices, wholesale prices, Community/Village retail prices, as well as super market prices.

Simple analysis and summation of this data should be sent to major public and private agencies in the Agricultural sector and should continue to be used by Mass Media; Radio, TV, Newspaper.

D. SEED PROGRAM

The seed program assisted by FUNDEAGRO is one of the most successful components. The eight CODESE with the two seed processing plants seem to have gotten off to a good start and certainly are one of the best transfer of technology efforts in the Project. When producers purchase and plant improved/certified seed, technology has been transferred.

The CODESEs although off to a good start are not without problems. They need to significantly increase their volumes of seed Certification in order to become a self-sufficient, on going private enterprises. This may be difficult to do. Especially in areas where traditional crop production such as rice may gradually be moved to the selva and replaced by export crop eq. asparagus, fruits and other vegetables.

The following tables gives a resume of the activities at 7 of the 8 CODESE Locations, Tarapoto is not included .... data was not accessible.

(TABLES)

Recommendation

- Continue to provide assistance and support to allow the CODESEs time to prove their sustainability.

- Monitor each location to determine their individual ability to survive.

- Keep an open mind relative to possibly discontinuing support if a CODESE is not going to make it to self sufficienty. Also consider organizing additional CODESE's if needed in different locations.

- Closely monitor the seed processing plants operations in Arequipa and Tarapoto. If these become financially strong, possibly other location should be considered for seed processing plants.

- The CODESEs should make every effort to reduce cost of operations. For example: the CODESE in Piura should be moved to the Chira station. The Chiclayo CODESE should be moved to Vista Florida station. These moves should results in reducing cost, as well as should increase volume and effectiveness.

VI. HUMAN RESOURCES, AGRICULTURAL MARKETING, AND INFORMATION SYSTEMS

1. Evaluation of the ATT Project Activities

A. Improvement of the Teaching Program at the Universidad Nacional Agraria-La Molina (UNALM)

Unfortunately, UNALM, for political reasons, refused to work with the ATT project in the first few years. This affected its efforts in all the components of the project, especially its participation in the long term off shore training program. UNALM has made efforts to improve management of teaching programs for research and extension professionals principally by making heroic

efforts to ensure that graduate students complete Masters theses, by providing incentives to professors to continue to do research and by introducing practical and field oriented aspects into the curriculum, thereby increasing the relevance of its curriculum to Peru's agricultural development needs. In addition, the University has broadened its information networks with overseas and other in-country organizations involved with related research and associated training programs, particularly with the Food and Agricultural Organization of the United Nations.

B. Quality and Adequacy of Academic Staff and of Teachers and Trainers Produced under the ATT Project

B.1 UNALM

The late entry of UNALM as an institution into the project meant that the most of the foreign fellowships had already been granted to persons outside the university system. Only one person from the University received a fellowship, although several of those trained subsequently have been employed by the university. The partial scholarship program, on the other hand, has created a great spurt of effort at the end of the project to qualify students for higher level efforts in research and extension. This program has been extremely beneficial for the students involved in encouraging their individual and collective research efforts through the publication of theses. The numbers in this program are greater than all the graduate students produced in the last 20 years by the university.

B.2 Universidad Nacional de Piura

One of the foreign fellowship recipients (M.S.-level) came from this university and he had returned as a department head and active member of the graduate school program. The development of a new program of a Master of Science in Rural Development had been undertaken with 18 students of the first class completing their course work. Three of them had completed drafts of their theses. A new class of over twenty has been admitted for the 1993-1994 cycle.

B.3 Universidad Nacional del Altiplano (Puno)

Another of the foreign fellowship recipients (Ph.D-level) came from this university. He had begun the process of working with his colleagues in the university to rethink and restructure the curriculum and organization of the institution. He reported that 5 professors at Puno had Ph.D. degrees and 60 percent of the faculty had Master's degrees, a very high level of accomplishment. Five students had completed course work for the Master of Science degree program in Andean Crops. A new class of eleven has been admitted for the 1993-1994 cycle.

C. Present status of the UNALM library research, training, and extension materials, including periodicals and scientific journals.

The National Agricultural Library (NAL) seems to have been improved during the life of the project, particularly by the introduction of CD-ROM technology and by the introduction of telecommunications capabilities for international information interchange. UNALM officials told the author that most of the improvements in the library had been accomplished without the direct intervention of the ATT project. Unfortunately the holdings of the library are not very great. Nevertheless, the computerized bibliographic searching capability introduced by the CD-ROM technology has enhanced the quality of the research work done by researchers and students in terms of providing them with an up-to-date view of relatively current work being done by professional colleagues elsewhere. Factors currently limiting the use of the library's telecommunications capabilities included the lack of sufficient and clean dedicated telephone lines for networking purposes. Another factor limiting some students' use of the computerized literature searching capabilities is that students were unable to utilize citations from foreign language sources. Perhaps more emphasis should be placed in Graduate studies on learning foreign languages as a basis for conducting library and theoretical research on which to based field work and applied studies.

Representatives of UNALM suggested that some of the advances made in the information technology arena by UNALM were more a result of the efforts of the university with its own resources rather than a direct result of ATT project funding. For instance the multiuser VAX minicomputer, housed in the National Agricultural Library, was donated to the university by another donor. It was also suggested that periodicals destined for the library were either never ordered or never arrived.

D. Present network of inter-institutional publications and other modes of technical information exchange, including mass communication media, within the ATG&T system.

INIA has established a component to improve the modes of diffusion of technological information to scientific colleagues and the public. For example, in Puno, at the Illpa experiment station, the staff provided the team with copies of various publications funded under the ATT project including Field Day programs, a booklet on spring wheat recommendations for the Puno area, a series of 9 one page flyers on potato production, including land preparation, soil sampling, manure decomposition and storage practices, potato seed disinfection, planting recommendations, fertilization, insect control, disease control, and harvesting. In addition, more complex, technically detailed publications were also being produced such as scientific papers and bulletins, which describe work in progress, accomplishments and findings. Many of

the simpler publications had also been used as a basis for fifteen minute radio programs aimed at farm households in the highlands. Staff in Puno complained that materials sent to INIA in Lima were not always received or responded to adequately. They specifically explained that the competitive program to give incentives to scientists for accomplishments and publication of their findings seemed to favor scientists in Lima, even though the programs for Andean crops were specifically adapted to highland research stations, including Illpa. Although these publications and media exist, it is unclear exactly what audience has received them and what their impact has been. However, the establishment and spread of this method of outreach seems to have become entrenched as a way of doing business in INIA, and this change is an improvement in the linkage between technology generation and producers.

E. Effectiveness of local and off-shore training for MS and PhD candidates, including candidate selection criteria, post-training utilization of skills within the ATG&T system, and appropriateness of the training for INIA and the regional universities.

E.1 Level of Training

The graduate level M.S. and Ph.D. training activities on the whole support the activities of INIA and Peruvian universities by creating a cadre of specialized agricultural scientists. The project paper envisioned a total of 21 advanced degree off shore fellowships (equally divided between INIA and UNALM) as well as 16 off shore post-doctoral and sabbatic study fellowships. In fact, 21 off shore advanced degree fellowships were funded and no post-doctoral and sabbatic fellowships were funded under ATT. The proportion of Ph.D. degrees was lower and that of M.S. degrees was higher than originally anticipated.

Figure 1: Off-Shore Training: Level of Study

Type	Anticipated # (%) Project Paper		Actual #	(%)	Percent Expected
Ph.D	13	(62)	9	(43)	69
M.S.	8	(38)	12	(57)	150
Total	21	(100)	21	(100)	100

In terms of the in-country training program, 200 M.S. students were to be funded under the project. According to FUNDEAGRO records, 65 full scholarships were granted under ATT, 42 of them for studies at UNALM, 18 for studies at the Universidad Nacional de Piura and 5 for studies at the Universidad National del Altiplano.

Due to the low numbers of full scholarships, a study was undertaken at UNALM to determine why students were not completing

their Masters degrees. As a result, a new program of partial scholarships was proposed a year ago and it was initiated at UNALM. Under this program, students who had begun their Masters programs but had not completed their theses were identified. Their specific financial requirements for fully completing their degree requirements were specified, including any additional course work, thesis research costs, travel costs, stipends, editing, printing and binding costs, and final matriculation and graduation fees due to the university were calculated. In the first assessment, 149 students were identified as near enough to completion to allow them to graduate before the project completion date. Based on their financial requirements, the program was funded by AID through ATT. During the course of the program, 16 on them dropped out of the program. The funds reserved for those 16 were reprogrammed by UNALM allowing an additional 27 students to receive support under the program. Therefore, a total of 160 students have received support from the partial scholarship program under the ATT project. Of those, as of the end of May, 1993 according to the UNALM final report, 88 have actually received their M.S. degrees, and 33 have written and defended their theses but lack final editing, printing and binding, leaving 39 continuing to work on their degrees. The average cost per student was US $ 1137 (based on a total program cost of US$ 181,948 and 160 recipients), ranging from US$ 150 to approximately US$ 3000. On June 2, 1993, in an impressive ceremony attended by the Vice Minister of Agriculture, the Director of the USAID Mission to Peru and other dignitaries, most of these partial scholarship recipients graduates received their diplomas.

E.2 Appropriateness of Areas of Specialization of Trainees

When compared with the expectations presented in the project paper, the proportions of trainees selected in specific areas varied from the goals, regardless of whether the analysis was done on the Off-Shore Trainees or the In-Country Trainees.

Given the assessment by this evaluation team that a more comprehensive systems approach to the complete farm-to-market chain of events, the emphasis on scientific training in agronomic and production oriented areas in the project design may in fact not have been appropriate in all components, including training.

Figure 2: Off-Shore Training: Areas of Specialization

Area Specialization	Anticipated # Project Paper	(%)	Actual #	(%)	Percent Expected
Plant Sciences	11	(52)	6	(29)	55
Resource Management	2	(10)	5	(24)	250
Food Sciences	2	(10)	4	(19)	200
Animal Sciences	3	(14)	3	(14)	100
Economics	3	(14)	2	(10)	67
Other	0		1	(4)	++
Totals	21	(100)	21	(100)	100

Figure 3:
In-Country M.S. Full Scholarships: Areas of Specialization
(All Universities)

Area of Specialization	Anticipated # Project Paper	(%)	Actual #	(%)	Percent of Expected
Plant Sciences	30	(15)	18	(28)	60
Resource Management	38	(19)	12	(18)	32
Food Sciences	7	(3)	1	(2)	14
Animal Sciences	28	(14)	8	(12)	29
Economics	48	(24)	12	(18)	25
Other	49	(25)	14	(22)	29
Totals	200	(100)	65	(100)	33

Figure 4:
In-Country M.S. Partial Scholarships: Areas of Specialization
(First Group at UNALM)

Area of Specialization	Anticipated # Project Paper	(%)	Actual #	(%)	Percent of Expected
Plant Sciences	30	(15)	29	(18)	97
Resource Management	38	(19)	41	(26)	108
Food Sciences	7	(3)	25	(16)	357
Animal Sciences	28	(14)	10	(6)	36
Economics	48	(24)	15	(9)	31
Other	49	(25)	40	(25)	82
Totals	200	(100)	160	(100)	80

By combining the numbers for the full scholarship recipients with the partial scholarship recipients, the overall numerical goals of the project for numbers of persons trained were met. However, this is a bit deceptive, since the partial scholarship recipients had many fewer training months than the full scholarship recipients, and the overall impact of the project on each person was probably less. Nevertheless, the fact that the project encouraged and supported students in completing their thesis projects and receiving their diplomas gave an important message to the Peruvian university community: the quality and completeness of post graduate level research is important, makes a difference, and is recognized.

E.3 Current Employment of Off-Shore Trainees, Rate of Returning Students, and Brain Drain Issues

The following charts show that the majority of off shore trainees have returned to work in Peru and are primarily working in

the public sector agricultural research and state owned agricultural universities. In addition, the trainees appear to have returned to the locations from which they came, although there is a tendency for more of the highly trained individuals to come to Lima. (Most of the trainees were originally from Lima.) No tendency was demonstrated by the current employment data for trainees to leave Peru permanently due to their training.

Figure 5: Off Shore Trainees: Current Employment by Type

Source	Number	Percentage
Ministry of Agriculture and INIA	5	24
Peruvian Universities	6	29
Peruvian Private Sector (including CIP)	2	9
Sub-total (Returnees)	13	62
Still in School (Not yet Returned)	8	38
GRAND TOTAL	21	100

Figure 6:
Off Shore Trainees: Current Employment by Location

Category	Number	Percentage
Returnees		
in Lima	6	29
in selva locations	3	14
in sierra locations	2	9.5
in other coastal locations	2	9.5
Sub-Total	13	62
Not yet Returned	8	38
GRAND TOTAL	21	100

Of the trainees not yet returned, 7 of the 8 had established and communicated planned return dates within the next 6 to 7 months. Many of them had requested extensions of time in order to complete their courses of study.

2. Findings and Recommendations

A. Off-shore Fellowships

Findings: Recipients who have completed training are returning to Peru, to their institutions of origin. The author interviewed 5 of the 21 recipients, three in North Carolina, one in Piura and one in Puno. In addition, she obtained data from the AID

Mission's training office on the current employment of all returnees. Returnees seem to be attempting to put their training to work for the good of their institutions. Working conditions in Peruvian institutions are difficult and the families of trainees have difficulty adjusting to the austere conditions of the Peruvian economy and social environment after years in other countries. Research facilities and supplies are inadequate to continue with the same kinds of investigation they pursued during their studies abroad. However, those interviewed showed enthusiasm and hope concerning making appropriate contributions to Peru's development.

Recommendations: The ATT project's off shore Ph.D. and M.S. component is complete and no further activities should be undertaken.

B. In-Country Full Scholarships

Findings: The In-Country full scholarship program did not meet its goals. Many students who began these programs have not yet completed their degree programs. Nevertheless, it is important to recognize the contributions to practical, applied research made by in-country scholarship recipients and to encourage them to complete their research projects and contribute them to the body of knowledge to be used by others in Peru and elsewhere.

Recommendations: The kind of follow-up undertaken by Dr. José Estrada at UNALM with the Partial Scholarship program is needed for all in-country scholarship programs. Mid-project assessment may indeed provide AID and the implementing institutions with ideas for intervention in bottleneck areas and improvement in overall graduation rates and quality of thesis research products. Both Puno and Piura have admitted new classes of students to their graduate programs. Support for these students and universities is a very cost-effective way of encouraging research in areas supporting overall priorities of agricultural research and extension. If project funds remain, the author recommends that additional grants be made to the two regional universities to support students in their M.S. programs.

C. Partial Scholarships

Findings: The resounding success of the partial scholarship program is partly a phenomenon of opportunity, given the back-log of incomplete theses at UNALM. Additional students there have already been identified for a continuation of this program.

Recommendations: It is recommended that some additional UNALM students be supported by remaining ATT project funds. Furthermore, it is recommended that the partial scholarship program be extended to the programs at the regional universities having graduate programs, such as Puno and Piura, with the same kind to tight management and

follow-up, on a case-by-case basis to ensure student success.

D. Institutional Strengthening

Findings: The educational institutions supported under ATT received some funding of institutional strengthening activities. These included awards for high quality research, incentives for thesis advisers' research work, and other contributions. The institutions report that they are pleased with this support. However, the basic resource of the National Agricultural Library has not been supported as envisioned.

Recommendation: Since the NAL will serve as a basic tool for all Peruvian researchers in public ad private sectors alike, and can also be used to assist private sector institutions in accessing information needed to define comparative advantages and economic opportunities, a needs assessment for this resource must be done to ensure a sounder information basis for all agricultural sector activities.

E. Non-governmental Post-Secondary Teaching Institutions

Findings: There are a number of non-governmental post-secondary teaching institutions in Peru. Some of them are oriented toward areas which can contribute to the agricultural sector, either through collaboration with public-sector agricultural teaching institutions or through joint ventures with private sector agricultural service organizations. The Universidad de Piura is a private university with some strength in the area of business administration. Through the good offices of FUNDEAGRO, it has entered into discussions with the Universidad Nacional de Piura to attempt to define a shared activity in agro-industrial training. These discussions are in a preliminary stage, but they hold promise. The Universidad de Piura seems to have a good idea of how to analyze a market for training, assessing the potential market for short courses, night school programs for locally employed professionals, weekend programs, and more intensive day courses. The Instituto del Sur (in Arequipa) is another post-secondary institution, with a strong track record in business oriented training, which has demonstrated some interest in training for the agricultural sector. They have entered into discussions with the new managers/users of the Santa Rita experiment station on offering a multi-year agricultural technical training program at the station for persons directly involved in the agricultural production process. They prepared a rather extensive analysis of the sector and local economic conditions as a basis for the proposed joint venture. This idea also has promise, although it may require some additional attention to economic trends and opportunities, prior to defining a target training population. Valle Grande and ADEX are two other organizations offering targeted training in certain areas at present.

3. Issues

Funding of Trainees and Flow of Funds to Universities--Some additional attention may be required to make sure that funds intended for training programs are quickly and properly accounted for. Additional funding should not be provided unless the institutions handling the funds behave in a cooperative, forthcoming manner.

Selection and Targeting of Trainees--The author was unable to review the selection and targeting process for all the training programs. She was told that the long term off-shore training was advertized in newspapers for specific areas of specialization. Questions remain about how information about these programs have been and should be diffused. In addition, there is a concern that using "major fields" as a method for targeting training is a crude way to promote development.

Short Courses: Costs and Benefits--Short courses were offered by FUNDEAGRO and ONA as a part of the project. Also, participants were sent for short term training outside of Peru under the NCSU contract. The relationship between costs and benefits for these activities are not clear. FUNDEAGRO made concrete attempts to evaluate its short courses, and improved the evaluation process over time.

VII. SUMMARY OF PROJECT SUCCESSES

VIII. LESSONS LEARNED

Cicli Letter dated 6/24/93

Peru

Olmos-Motupe-Jequetepeque *Caja Rural* and Community - Based Enterprise Development Project

An Unsolicited Proposal Submitted to USAID/PERU

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June 1993

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CHAPTER V. PROJECT MANAGEMENT, MONITORING, AND EVALUATION

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EXECUTIVE SUMMARY #2.8

Agricultural Cooperative Development International (ACDI) and TechnoServe are pleased to present this unsolicited proposal to USAID/Peru for the Olmos-Motupe-Jequetepeque *Caja Rural* & Community-Based Enterprise Development Project. In order to implement this project we are requesting $3.5 million for technical assistance and $8 million in local currency to establish a Seed Capital Fund.

The project will be focused on three valleys-Olmos, Motupe and Jequetepeque-in the Departments of Lambayeque and La Libertad. These valleys have principally produced traditional crops such as maize and rice and mangoes and limes for export. Services to the agricultural sector can be characterized as follows:

-Commercial bank loans are not available to the small and medium size farmer. Even the few farmers that can obtain bank loans, receive their credits late and never for the full amount needed.

-Agricultural research, currently in the process of privatization, is very unreliable and continues to ignore export crops.

-Post-harvest assistance or value-adding processing infrastructure is either nonexistent or limited to traditional crops.

These three valleys, notwithstanding the above constraints, offer great agricultural export potential and competitive opportunities to establish farmer-owned processing facilities.

A. An Innovative, Two-Pronged Approach

To accomplish these objectives, ACDI and TechnoServe propose a two-pronged approach. ACDI will focus on working with a newly formed Lambayeque-La Libertad *Caja Rural*, developing in the process a model for financial intermediation in Peru's agricultural sector. In this way, the concept of a viable, profitable, self-sustaining, community based, socially responsible lender can be piloted and the operational difficulties worked out on a small scale. The project is designed to be replicable. If successful, the model can serve not only as a replacement for the now defunct Agricultural Bank of Peru but also as a new model for rural credit at the time that Peru is promoting *cajas* throughout the country as a community response to ineffective, public sector development institutions. Because of this emphasis on replicability, ACDI will also assist in the development of a rediscount facility to maintain the liquidity of the *cajas* and provide access to national capital markets.

This approach to rural credit is timely and innovative, a marked departure from past credit projects. The new *Caja Rural* will be guided by a markedly different philosophy. It will be community based, as contemplated in the new *Caja* law, instead of a centralized, bureaucratic and heavily subsidized rural credit bank. It will be capitalized and directed by local groups. Local lenders will work with their neighbors to develop viable, profitable projects. Local capital

will be at risk, thus local capitalists will have a vested financial interest in the outcome.

After an initial injection of revolving seed capital, limited start-up investments, and technical assistance, the system will be self-sustaining. It will in effect become a small scale commercial bank working in a rural setting, deriving its lendable capital from sold shares, a portfolio of rediscounted loans, savings mobilization and fee-based financial services. The *caja* will make both production and agribusiness loans only when such loans are demonstrably profitable and will offer a range of banking services, provided these services are profitable. The *caja* will be driven by a profit motivation but sensitive to local community concerns, distributing its activities across primary production as well as agribusiness lending and fee-based service. In this way, the *caja* will have a role beyond passive lending. It is best conceptualized as a small business incubator that links markets, producers and capital. It will identify promising opportunities and make information available to the community so that interested groups or individuals can build projects around these opportunities.

TechnoServe will focus on Community-based Enterprise Development, building the entrepreneurial, organizational and business management skills of small farmers. In this way they will be able to more fully and profitably participate in the economic development of the region, gaining sustained access to the agricultural markets and financial resources they need. Through its years of experience in Peru and countries around the world, TechnoServe has demonstrated that by increasing the viability of farmers' economic activities through improved management, rural communities can increase their standard of living and better weather difficult times.

By concentrating on the business viability of enterprises, the project will avoid the trap of assisting groups or activities that in the end are not sustainable. Organizing rural groups as business enterprises encourages producers to take a market-oriented view of their activities. To be successful they must think about the future, gather and analyze market and financial information, motivate people, and make strategic plans and decisions. These skills need to become more complex as the business grows and participates more fully in the market. Recognizing this, TechnoServe will field multi-disciplinary teams to provide intensive assistance to communities in the areas of diagnostic business studies, feasibility analysis, agricultural research and technology transfer, business management, strategic planning, agribusiness operations, and marketing. The teams will help 6 communities establish viable businesses, introduce at least three new commercially viable products, double their income, and raise their levels of employment. By transforming the economic activities of these communities into well-run businesses, the TechnoServe team will help to alleviate poverty by integrating farmers into Peru's mainstream economy.

B. An Impressive Combination of Forces

Just as the two components they are implementing complement each other, ACDI and TechnoServe bring an impressive combination of institutional experience to the Olmos-Motupe-Jequetepeque project. ACDI is a cooperative development organization that has been working to increase the incomes of farmers for the past 30 years. Through projects with a broad range of objectives— including institutional development, cooperative strengthening, rural credit, agribusiness development, agricultural research and technology transfer, and micro-enterprise development— ACDI has drawn on the experience and expertise of its membership of U.S. agricultural cooperatives to contribute to rural development in countries around the world.

Its membership includes the Farm Credit System of the United States. Applying the skills and know-how that this system has gained through its crises and evolution, ACDI has helped to develop and strengthen a number of rural credit institutions. Working in Costa Rica in the 1980's, ACDI helped create BANCOOP, which grew in its first decade to be the second largest private bank in the country, managing both a portfolio of solid businesses and a development arm dedicated to strengthening weaker agribusinesses. Currently, in Bolivia's Chapare region —similar to San Martin in terms of climate, isolation, and coca production— ACDI technical assistance has helped turn a government-run credit agency plagued with high delinquency and default rates, into the private Agrocapital Foundation, whose new loan portfolio is free of delinquency and whose credit volume is expected to pass $10 million by the end of this year. And in Eastern Europe, ACDI was brought into Albania and Poland to work with the World Bank in creating market-driven farm credit systems, following decades of a command economy.

ACDI has also been working in recent years in Peru. A model country under ACDI's APTLink project, a number of Peru's producers and processors of value-added, fruit and vegetable exports have been receiving market information and technical assistance from ACDI and its member agribusinesses, helping them to develop trade links with marketers in the United States. Most recently, an association of mango producers in Piura have initiated a commercial relationship with Calavo, one that may help them obtain not only a market in the U.S., but a hot water treatment facility in Peru, as well.

Founded in 1968, Technoserve's corporate mission is to improve the economic and social well-being of low-income people in developing countries through a process of enterprise development which increases jobs, productivity and income. TechnoServe accomplishes this by providing management, technical assistance and training to enterprises and institutions. Over the past 25 years, TechnoServe has assisted hundreds of enterprises and institutions to achieve self-sufficiency, resulting in benefits to thousands of poor farmers around the world. Along the way, TechnoServe has refined its methodology and strategy to more effectively meet the needs of its client population.

TechnoServe has worked in collaboration with the Agency for International Development since 1972 and has responsibly managed a series of A.I.D. grants and cooperative agreements in 15 countries totaling $45 million. Throughout this working relationship, TechnoServe has continuously emphasized its business-like approach in the delivery of its service programs. TechnoServe/Peru has been working in the country since 1982, assisting small enterprises throughout the country, most recently for communities in the valleys of Huaral, Cañete, Santa-Chimbote, Lares-Cuzco, Cajamarca, Chanchamayo, Jequetepeque and Chulucanas. Through this long and diverse experience, TechnoServe/Peru has developed the capabilities and facilities to successfully implement the Lambayeque-La Libertad Region Enterprise Development project. It has an experienced local management team of Peruvian professionals as well as the financial, administrative, and monitoring systems in place which can be immediately applied to the project. Furthermore, TechnoServe/Peru has developed institutional relations with the private, public and international sectors which will contribute to the successful implementation of the project.

CHAPTER I. BACKGROUND

A. The Region

ACDI and TechnoServe propose to implement the project in the Departments of Lambayeque and La Libertad, with an initial focus on the valleys of Olmos, Motupe and Jequetepeque. Peru has made major investments in irrigation in the Olmos and Jequetepeque valleys which have yet to demonstrate the economic justification with the gross value of agricultural production from the area. The principal reasons are the continued production of traditional low-value crops, lack of conversion to export and high-value products, and identification of crops with a comparative advantage in the domestic marketplace.

The infrastructure of the zone is quite adequate to permit development of high yielding, profitable crops for both the local and external markets. The region also offers a mix of farmers capable of adopting the latest technologies, small farmers that can add needed volume and scale to a strategic plan, and an entrepreneurial environment conducive to the implementation of export schemes that would justify the installation of profitable post-harvest and services and processing facilities.

The geographic characteristics of the three valleys plus their social stability have contributed to a very low incidence of terrorism. Additionally, technology transfer efforts to date have had very satisfactory results among medium size farmers. The combination of these factors offers ideal conditions to initiate sustainable credit and community-based enterprises built around profitable export crops and offering participation to the small farmer.

This project proposes to address the agricultural constraints affected by the economic conditions and social instability affecting Peru in general. Agriculture in the three valleys has been negatively impacted by:

- the lack of any formal credit structure to service the financial needs of the farmer, arising from the recent collapse of the Agricultural Bank of Peru (BAP). The bank was brought down by inefficient management and an insensitivity to market realities, best typified by the inappropriate interest rate policies it pursued in the face of galloping inflation. The region is thus deprived of both short term production credits as well as medium-term credit for infrastructure, machinery and other agricultural investments.

- a decreased profitability in traditional agriculture due to the elimination of subsidies and tariff protection, the lack of credit and technical assistance with the ensuing decline in productivity, as well as a deterioration in the physical infrastructure of the region. New non-traditional rural-based enterprises have yet to develop for the same reasons, but particularly in the Jequetepeque valley.

- of irrigation infrastructure in the Olmos and Motupe valleys where water is only available from wells and needs to be used in highly profitable crops under with a high level of technology.

B. Peruvian Agriculture, Economic Liberalization, and the *Caja Rural* Legislation

At the same time that agriculture in Lambayeque and La Libertad appears ready to begin the move towards export crops, it is clear that in the Peruvian setting a new model of agricultural credit is desperately needed. The demise of the BAP has left the rural sector essentially without formal credit mechanisms. The old model of a populist and statist credit policy cannot be sustained in the current economic (and political — witness the current Peruvian maxim — "mercado si, estado no") conditions of Peru. As yet, it is not clear how a new rural credit system should be structured, although legislation in recent years has provided for the establishment of a new institution, the *Caja Rural*.[1]

The legislation grants the new *Cajas* a remarkably broad scope of operations. The *Cajas* may have as members either individuals or organizations that are domiciled in the area of operations. While they are "non-profit" organizations, the distribution of excess capital is contemplated under certain circumstances. The contributions of members appear to act like proxies for shares and may be sold to others. The *Cajas* themselves can engage in almost any banking activity, as well as a range of other financial transactions including "engaging in operations with national financial institutions" (of which insurers would appear to form part), leasing of agricultural machinery, and fidelity bonding. In addition, the Superintendencia may authorize additional activities not explicitly contemplated in the legislation, apparently without requiring reform to the legislation.

Relatively few restrictions are imposed.[2] Project-based lending is allowed, and the *Cajas* are not restricted from retaining title to goods purchased with loans while giving the borrower the right to operate and use the material. This is by any measure a remarkably broad grant of operational autonomy, as broad as any financial institution is likely to need.

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[1] The authorizing legislation for the establishment and operation of Cajas Rurales is contained in Resolution S.B.S. No. 626-91, Lima, Oct. 15, 1991 published in *El Peruano*, 23 October 1991, p. 101038. The implementing decree of the *Superintendencia de Banca y Seguros* is Resolution S.B.S. No. 671-91 of 6 November 1991 published in *El Peruano*, 9 November 1991, p. 101581.

[2] Two more salient ones are that the *Caja* cannot receive time deposits until they have been in operation for one year, and that loans must be collateralized. The required collateral ranges from 65% to 100% of the loan amount. However, each *Caja* may determine what percentage of a loan is collateralized with "personal" guarantees, thus project-based lending is not impeded.

Given this fact, individuals establishing *Cajas* will need to be careful to ensure that the principles guiding the new credit system are markedly different from the BAP philosophy of subsidized credits extended by a state bureaucracy on the basis of political considerations more often than on the intrinsic merits of a project and moral solvency of the borrower. The traditional sources of funds for agricultural banking, the state and the international donor communities, do not have the resources to sustain the old model, and these institution's policies now emphasize building credit systems capable of self sustained growth because they make loans to viable, rural-based enterprises managed by entrepreneurs seeking to produce profit through efficient production.

Clearly, in Peru today, agricultural banking must be conducted on a business-like basis. It is widely agreed that subsidized credits are in the long term harmful to agricultural development and that credit must instead channeled to enterprises that can produce a positive return on loan capital for themselves and for the lender. At the same time, Peru is beginning the first steps toward economic liberalization and integration into the world economy. This integration will imply that Peru has to develop its agricultural assets and take advantage of the comparative advantage arising from the incredible variety of micro-climates to produce agricultural products, both to substitute imports, to feed a growing population, and as well as to export.

Within this context, there is a need to articulate a model to guide the development of a new agricultural credit system and to try the new model on a pilot basis. Piloting a new model offers the opportunity to create a social laboratory, to observe the development, and to learn as the project develops. It is a low risk, relatively low cost strategy of trying out an alternative structure and philosophy, expanding it if successful or modifying it to meet the difficulties that are inevitably encountered in development work as it is replicated in other regions of the country.

C. Project Rationale

In summary, the Lambayeque-La Libertad region is a priority area with the productive potential to become a pole of development which can retain its workforce, create new employment and generate exports for Peru. This potential, however, depends on the strengthening of a market-driven agribusiness sector with reliable access to credit. Given the success of TechnoServe in mobilizing communities, it is a crucial time to build on this and strengthen the regional economy through an agricultural base and its support services by:

- establishing a functioning system of sustainable, community-based enterprises in the Olmos-Motupe-Jequetepeque valleys in order to create employment and income for the population in the region, through participation in economically-sound, productive activities;

- strengthening local agribusinesses so that producers have access to the market and, in the case of farmer-owned businesses, participate in downstream activities like processing and marketing, activities that add value to their products;

- taking advantage of the recently created *Caja Rural* law to develop a project in the area that can assist the local population both to develop a community-based credit institution and to encourage, support, and promote the development of income and job generating investments in the agricultural sector; and

- drawing on the experience and needs of the Lambayeque-La Libertad *Caja Rural* to ensure that its success can be replicated by other *Cajas;*

CHAPTER II. A COMMUNITY-BASED DEVELOPMENT STRATEGY

A. Project Objectives

Given the problems, opportunities and needs identified in Chapter I, ACDI and TechnoServe propose a two-pronged approach:

- creating a replicable, community-based, financial institution in the region that can continue to finance viable development projects; and
- providing technical assistance to develop community-based enterprises that can provide employment, income, and lasting development in the Olmos-Motupe-Jequetepeque valleys.

ACDI, drawing on its recent experience in developing Agrocapital in Bolivia, its credit projects in many countries, and its institutional ties to the U.S. Farm Credit system, will focus on the first component. TechnoServe, applying the methodology it has developed over the last 25 years and applied successfully in ten years of work in Peru, will focus on the second. These two dimensions of the project complement each other and together will contribute to the realization of four basic objectives:

1. To develop at least six agribusinesses and community-based enterprises that can provide employment and income for a frontier region by integrating local people into the broader national and international markets.

2. To reduce economic dependency on traditional crops and increasing the productivity and profitability of non-traditional export agriculture in the region, introducing a minimum of three alternative crops on a commercial scale, using environmentally sound techniques in production and processing so as to promote rational economic development, and insuring access to markets and market information.

3. To develop and test a new model of community-based, locally managed, self-sustainable, rural financial institutions driven by a market mentality and a profit motivation that can meet the needs of the region inhabitants in developing market-responsive agricultural production and agricultural-based businesses.

4. To identify and strengthen a central rediscount facility that can service the nation's *Cajas* with a smooth functioning, loan rediscount mechanism.

In pursuit of these project objectives, ACDI and TechnoServe will employ the strategies described in the remainder of this chapter in implementing the project's two components.

B. Building an Effective *Caja Rural*

What is proposed is not the creation of a traditional agricultural development bank based upon a model essentially brought in from the outside, but instead a locally-owned financial institution. It will be built to sustain development, not only by supplying capital, but also by participating actively in the entrepreneurial process and drawing on the knowledge and energy of local people. This "banking on the frontier" must be sustainable, with the *Caja* possessing a significant degree of self-sufficiency and political, administrative and budgetary autonomy.

Owned by local investors, the *Caja* will extend loans to local people known to be capable of operating profitable businesses, once they are supplied with the capital and modicum of technical assistance needed to help launch the venture. It will engage in developing viable, self-sustaining, rural-based industries that provide both income and employment. These may be in farming, but are not restricted to primary production. They must be profitable, but also broad based community ownership instead of concentrating it in the few hands capable of presenting "bankable" projects to the new bank, or possessing kinship or other ties providing them with preferential access to credit. Indeed, the concept of "bankable" is expanded by the new *Caja* which will function not just as a passive lender, but will actively involve itself in the development process, supplying would-be borrowers with a wider range of services to assist in the establishment and operation of new businesses. This broader concept of community-based finance is discussed in some detail in the following sections.

This integrated view of economic and social development-based on the region's productive assets recognizes the primordial role of the agricultural sector, but acknowledges that the success of rural entrepreneurs is tied to the development of a local ability to access research and technology transfer services; credit; value-added processing; reliable market research and information and linkages to domestic markets. Successful development lending requires access not only to credit but to other inputs. The new *Caja* should take the broader view of its development banking mandate and incorporate these inputs into its activities.

A "bottom up" development of the Olmos-Motupe-Jequetepeque *Caja Rural* is designed to serve as a model of a locally-owned financial institution that can be replicated in other regions of Peru, once successfully piloted in Lambayeque-La Libertad. This new network of locally-owned financial institutions will contribute to the integration of peripheral areas and groups into the national economy, on terms more beneficial than those characterized in past economic relations between the center and periphery.

1. Five Key Factors for Successful Lending

Agricultural sector lending and finance can develop and can succeed in the presence of a fairly clear set of conditions. Development experience shows that when these conditions are absent, agriculture stagnates and externally generated resources are not successful in stimulating long term growth and development. Supplying credit absent these conditions is unlikely to provide sustainable development. Thus, the new *Caja Rural* will have a broader mandate than traditional agricultural banks. Its focus is not only the extension and recovery of credits, but instead promoting rural-based entrepreneurship and community development through its financial intermediation. To achieve this, the *Caja* will need to recognize and promote the following five success factors.

Market Information. Producers must have knowledge of what markets want, when they want it and what they will pay for it. It is more difficult to start at the other end and try to convince the market to buy what one has produced. Certainly there are great marketing successes in agribusiness (such as New Zealand orchardmen convincing the world that it needed a Chinese gooseberry), but most development arises when market information is relayed to the production level via a continuous channel of communication. This information must flow on a continual basis. Producers must know:

- seasonal demands and prices;
- the quality that is demanded — the shape, color, and taste (or other characteristics) that the market requires and rewards with price; and
- terms and conditions, e.g. most fruit, requires a specific type of packaging and is sold conditional on making "good arrival" with payment 30-60 days later.

Finally, producers must know the quantities that markets demand. Often development projects can produce a desired product, but in small and sporadic volumes insufficient to supply a market, whose operator turns to a more reliable source of production.

Appropriate technology. Second, producers must possess the skills to apply the technology and to produce for the market. Some production technologies are quite accessible; others are far more complex and sophisticated and require a far higher level of effort and knowledge on the part of producers. When the skill levels of producers are matched to the requirements of the technology, successful production results. It is the skill levels that have to be made congruent with the relatively inflexible requirements of a given production and local level producers must have access to a means of "skilling up" if they are to compete successfully in agricultural markets.

Physical infrastructure. Third, producers must have access to the physical infrastructure to produce, to process and to transport their product to market. The infrastructure may be quite

simple and easily satisfied — hybrid seed, chemical fertilizers, insecticides, harvest machinery, post-harvest storage and equipment to transport the product to market. It may be quite sophisticated in some types of production and realizable only by a cooperative venture comprised of a number of independent producers. Successful projects are those that adapt to the existing infrastructure, work within its constraints or have access to capital and technology to modify it to meet the needs of the production system.

Financial infrastructure. The key element of this infrastructure is credit, but credit alone is not sufficient, although formal credit in and of itself does not induce development. While sustainable credit is not a sufficient condition, it is obviously a necessary component of every productive agricultural sector. This is indeed the lesson learned from the history of agricultural development banks over the last decades. Credit must be coupled with other inputs in order to transform the agricultural sectors of the developing world.

The structure and institutional mission of the lender are also key elements. Development banks responding to national concerns and conducting operations with funds from the center have illustrated this clearly. Successful credit institutions are those directed by owners who have their own funds at risk, who know the local environment, and who evaluate loans with the prudence of an investor. Under these circumstances, a banker is far more likely to make an accurate appraisal of the ability of the project to prosper and of the borrower to service the loan. Successful banking requires not only adequate pricing of the product (the interest rate) but institutions structured to function as businesses run by prudent bankers.

The incentive structure built into a financial institution is crucial to its success. If banks are to succeed, loans must be made to viable projects by bankers who both know the region and the borrower, but more importantly, who function within an institution that has a financial interest in the outcome of the loan. When a bank survives and flourishes by risking capital in the expectation of a profit, success is most often achieved. Thus, while the *Caja Rural* does supply credit, it does so within the context of a business whose owners (shareholders) stand to make profits and losses to their equity capital based upon their institution's ability to discriminate between viable and loss making projects.

Profitability. The production one invests in must be profitable. This seems obvious, but in observed development projects, decision makers have not paid sufficient attention to marketing studies and the potential margins to be realized before starting production. For example, the Rice Growers Committee continues to promote this crop without taking into account changes in the policy framework of the country which have liberalized imports, lowered tariffs and abolished subsidized credit. Producers should be profit maximizers subject to risk considerations; lenders must be structured on the same basis and make a market-driven assessment of the profitability of a product or service before extending a loan or taking an equity participation. "Substitution" can be realized to the extent that the substitute will generate more cash income than the former crop or activity over an extended period of years. Agricultural

production has to be evaluated both on its return to capital and on the stability of that return across time. It has to be profitable to both the borrower and the lender across time for it to be sustainable over the long term.

These conditions certainly appear as the *sine qua non* for a successful community-based agricultural finance institution. That is, in those cases when these conditions can be met, agricultural development projects will have a reasonable expectation of generating a positive return on investment. The best opportunity of realizing them is within a structure in which both the borrower and the lender are driven by market considerations and operate within an environment that facilitates access to the non-financial inputs that make for successful entrepreneurship.

2. The Agribusiness Incubator: Linking Markets, Producers and Capital

In the discussion above, we have outlined the conditions under which successful lending occurs and the non-financial inputs requisite to its success. In this section the functions of the institution proposed will come into clearer focus. The structure of the new *Caja Rural* is rather different than the traditional development bank. Instead of establishing a small bank, staffing it with traditional development banking personnel and developing operational norms, quite a different structure and set of procedures are proposed to address development on the financial frontier.

The *Caja* will have a two-fold mission. First, as a business incubator, it will help identify, develop, and finance and, in some cases, take equity stakes in viable profitable projects. These projects may be in any field of activity associated with agricultural production, processing, marketing or in supplying services to agriculture. It will also seek out and may engage in related activities vital to agricultural development, such as leasing agricultural equipment or buying and renting out processing machinery. In all cases, the *Caja* will provide the assistance to ensure that a profitable venture has access to the needed market information, technical skills, physical and financial infrastructure.

The *Caja's* second line of service will be in production lending. The new *Caja* will make loans to primary producers to enable them to carry on their productive activities. These projects however will be financed only when they are viable — that is, they must be profitable both for the farmer and for the lender. While the return to capital may be less than would be realized in other types of lending activities, the maturity of the notes will be shorter and thus, will be useful to the *Caja* in obtaining a "match" for their time deposits.

To complete these dual roles as incubator and source of production credit, the *Caja* will need to mobilize capital resources from a number of sources and functions:

- sale of shares in the *Caja*;
- savings mobilization;
- financial services;
- sale of equity positions the *Caja* takes in viable projects;
- seed capital administered through a trust; and
- access to a central rediscount facility.

While each of these potential sources of capital are discussed in detail in Chapter III, it is important to stress here the critical importance of the *Caja Rural* risking its own capital when leveraging any outside investment in their institution. The exact leverage ratios are not critical at this stage, but perhaps by way of example, one could suppose that the local groups would be required to put up 10 percent of the risk capital in order to leverage the outside capital contemplated in the *Caja* law, whether through trust funds, donor agencies, or a rediscount facility in COFIDE. If they were successful in increasing the risk capital, either through operations or through new members' contributions, they could leverage additional funds. Furthermore, the *Caja Rural* should have a participation in each and every venture it finances. While its participation may be structured in any number of ways combining both loans and, in some cases, equity participation, it should not ever bank on someone's else's account.

C. Community-based-Enterprise Development

Working as a business incubator, the *Caja* will provide assistance and financing to producers and agribusinesses with viable projects. Some of these agribusinesses will already have operations in the Olmos-Motupe-Jequetepeque valleys. Other established businesses will be attracted to the region by the new opportunities they perceive. Both of these types of operations can benefit farmers by providing stable markets for their production. However, this project also envisions groups of farmers moving into agribusiness activities themselves. They may need to create new organizations in order to produce commercially-viable volumes, or to share in the value added by processing and marketing their products. The assistance required for developing these new organizations and their viable projects is not appropriately within the scope of the *Caja*. Therefore, the project's second component will provide intensive assistance at the grassroots level in order to develop sound community-based enterprises (CBEs).

Working with community groups, TechnoServe will identify, develop and strengthen the management of "bankable" projects. It will supply the technical assistance to primary producers in selected communities and guide them in a carefully tested business enterprise development methodology. In this way it will serve as a linkage between the community-based enterprise and the *Caja*, and will work with the *Caja*'s loan officers to insure the success of the CBE projects

it finances. At the end of the initial strategic planning phase, an intensive joint review with USAID is proposed, to finalize the design and to program a response to any of the issues that develop during this process.

Both first level organizations of agricultural producers and second level processing enterprises grouping the first level entities will be established using the methodology that TechnoServe has developed over 25 years of working with low-income farmers in Africa and Latin America. In summary, the project will provide training and technical assistance to small- and medium-scale agricultural businesses. Experience has shown that in order for these groups to operate as successful, profitable enterprises, improved production techniques must be accompanied by management assistance and strengthening.

1. CBE Advisory Teams: Integrated and Participative Assistance

CBEs will be developed with the use of multi-disciplinary teams of technical advisors, providing assistance in a highly participative and integrated fashion. The advisory teams will be headed by a project manager who will coordinate his colleagues' contributions into a comprehensive system of assistance. The team members will represent a variety of disciplines including business administration, accounting, agronomy, sociology, marketing and engineering.

Training will serve as an integral part of project support to community-based organizations and enterprises. The training will focus on subjects related to administration, production, marketing, and social services needed to improve the well-being of the project beneficiaries. Participants in training activities will include directors and managers, technical staff, administrative personnel, community cooperators, and paratechnicians.

A participatory approach to providing technical assistance will be emphasized. Team members will work intensively in the communities, and the recipients of assistance will be involved in all phases of project development. The advisory teams' standard intervention with a producer organization will take two to three years and will include the following five key steps:

1. Preliminary Investigation and Group Identification
2. Participatory Diagnostic
3. Short—and Long-term Planning
4. Implementation
5. Monitoring and Evaluation

To assure that assistance has a lasting impact, great importance will be given to the initial phase of "group identification", because the cohesiveness and commitment of the group selected is a critical factor in the eventual success of the enterprise. Once an advisory team has determined that the group is a viable candidate for receiving technical assistance, project staff work with the beneficiaries to carry out a diagnostic study to highlight weaknesses in the

organization that must be addressed in order to improve the production and long-term viability of the enterprise. Project advisors will then work with enterprise members to complete feasibility studies and carry out short- and long-term planning before project implementation can begin.

Agricultural research and technology transfer to organized groups is based on TechnoServe's methodology for the promotion and development of enterprises. As a first step, project staff and enterprise representatives will develop a production improvement plan for the group. If warranted, land will be allocated for demonstration plots and plant nurseries. To maximize the effectiveness and reach of the technical advisors, paratechnicians or *promotores* in the enterprise will be identified and given intensive training. These people, in turn, will be responsible for sharing information with the remaining enterprise members.

Specifically, the following four extension techniques will be used:

- **Participative activities**, where the field advisors carry out joint activities with the enterprise members. Paratechnicians and *promotores* from the organization will receive training in their specific areas of responsibility. This training can be conducted on site or it may take place at another similar enterprise, where the representatives can gain "hands-on" experience.

- **Training.** TechnoServe seeks to involve the greatest number of enterprise members in the production improvement activities, promoting the formation of leaders. Project advisors will transfer agricultural technology through assistance in the completion of day-to-day production tasks, both directly to the farmers and indirectly through trained promoters.

- **Work meetings.** Project advisors will request that enterprises approve their participation with non-voting rights in all of the business activities and decisions of the group. This will provide TechnoServe with some input and influence on the business decisions of the enterprise.

- **Control and Evaluation.** TechnoServe's project staff will maintain on-going supervision of the enterprise. Once the enterprise is up and running well on its own, the advisors will reduce the frequency of their visits, while maintaining periodic training activities in improved agricultural technologies. Quarterly visits will be conducted to insure continued good crop management, and identify any signs of trouble at an early stage.

2. Marketing Assistance

For the farmers of the Lambayeque-La Libertad region to progress and increase incomes and employment, they must position themselves within the marketing chain and incorporate marketing as a business function. This development project will assist the local farmers to

identify processing and marketing opportunities for their production. Project objectives will be achieved using a strategy that integrates production activities with the required marketing functions. Natural resources, infrastructure, services, legal and financial concerns, and environmental preservation and recuperation will all be looked at from a marketing perspective.

The CBE advisory teams fielded by TechnoServe, working in close coordination with the project advisors, will assist the Olmos-Motupe-Jequetepeque *Caja Rural*, as well as the USAID ADEX Project, in tracking information on regional and external markets. The teams will also help to research the documentation, available financing, and legal requirements necessary to participate in these markets. This will form the basis of a marketing information system to be institutionalized and which will have as a goal the publication of periodic marketing information bulletins.

CHAPTER III. PROJECT IMPLEMENTATION

A. The Strategic Planning Phase

The project will be initiated with an intensive strategic planning phase. In this phase, ACDI and TechnoServe will furnish a team for up to two months. This team will negotiate and program the activities of the project over the next three years. It is anticipated that the strategic planning phase will permit any refining of the basic concept of a community-based development organization as well as the identification of personnel for future staffing. In addition, substantive contacts with Peruvian authorities will enable the technical assistance team to program activities to meet the requirements of time and funds.

At the end of the initial strategic planning phase, a presentation will be made to USAID to finalize the design and to resolve any issues that develop during the planning process. Following this joint review, USAID can give its final concurrence to the plan that has evolved, the final technical assistance budget, the local currency budget, and the staffing requirements.

ACDI will be principally responsible for the banking, finance and administrative aspects of the project. The primary outputs of the planning period will be to:

- identify the prospective shareholders and leaders of the new *Caja*, and the amount of paid-in share capital they will invest in it;
- determine the staff requirements of the new *Caja*, its office and equipment needs, its arrangements for physical security of cash, as well as arrangements for clearing checks and other documents through commercial banks;
- formalize specific counterpart relationship with the Olmos-Motupe-Jequetepeque *Caja*;
- identify and visit leading agribusinesses in the region, assessing their operations, current suppliers and markets, market opportunities and future plans;
- meet with regulatory authorities in the Superintendency of Banks to determine the procedure for registration, as well as operation and reporting requirements;
- work with government authorities to determine the tax and reserve requirements, if any, of the new *Caja*, as the legislation is completely silent on this issue;
- in coordination with Technoserve, determine the approximate demand for loans for the different lines of business — production and agro-industries — that may be required from the *Caja* and develop a staffing plan that is responsive to the volume and types of loans that the *Caja* is likely to make;

- draw on these demand and cost estimates to develop a multi-year budget, cash flow projections, and break-even loan volume;

- develop a detailed business plan for the next year of the project, making any adjustments to line items of the budget based upon the strategic planning derived from this process and ensure the staffing plan is responsive to the needs of the project;

- negotiate with USAID the structure, conditions and process for disbursing of P.L. 480-generated funds, or other sources of local currency, in order to provide seed capital for the new *Caja*, in particular defining the performance measures that the *Caja* will need to meet— in terms of local capital raised, and recovery rate and internal rate of return on loans— in order to have access to seed capital and operating expenses;

- work with the appropriate GOP agencies and/ or Ministries of the Presidency and Agriculture to obtain their concurrence with the project and the administration of the seed capital trust fund, and to clarify their participation, oversight, or review functions, if any; and

- at the end of this phase, hire the local staff required for the *Caja* development component of the project.

TechnoServe efforts in this strategic planning phase will focus on the community-based enterprises. With a country director and experienced TechnoServe advisors already operating in Peru, activities could begin within days of signing a cooperative agreement. The primary outputs of this team's efforts in this phase will be to:

- conduct an inventory of potential CBE clients, including a diagnostic profile of each group's history and status;

- in conjunction with the ACDI team and other sources of market information, including ADEX, review current market studies and identify a short list of potential commodities in which the CBEs could be involved, noting the market opportunities, key constraints, principal basis of competition, and projected CBE role and required investment for each commodity;

- evaluate the six groups already identified by TechnoServe as potentially viable CBEs, interacting with those groups confirmed to be viable candidates in order to develop business plans and formal written assistance agreements that spell out the exact nature of the services to be provided by TechnoServe and the fee and other commitments assumed by the CBE in return;

- develop an operational plan for year one, prioritizing the communities that will participate and any specific areas of assistance required, making any adjustments to line items of the budget based upon the adjustments derived from this planning process, and ensuring the staffing plan is responsive to the needs of the project;

- identify and select candidates to fill the five long-term positions as outlined in the staffing section; and

- provide the newly hired staff members with both classroom orientation on TechnoServe project methodology, and — working side-by-side with a core team of experienced TechnoServe advisors, under the close supervision of the project director and project manager — on-the-job training though assistance activities with the first group of CBEs.

B. Assisting the *Caja Rural*

As elaborated in greater detail in Chapter V, ACDI will furnish the long-term services of four professional advisors—a Chief of Party, a senior agribusiness advisor, an agricultural credit technician, and a financial and credit management advisor — will reside in Chiclayo and work side-by-side with *Caja* staff members. In this way they can provide the most direct and intensive assistance to the *Caja* and oversee the project field staff. Periodic travel to Lima will be necessary to coordinate with USAID and GOP authorities providing a link with resources at the national level and helping to strengthen rediscount and support mechanisms that will be important in replicating successes of the pilot *Caja*.

We anticipate that the initial staff of the *Caja* will be small in size, with six or seven professionals: a general manager, deputy managers for credit and for financial management, and three or four loan officers, each covering specific communities that in time may open store-front branches. By working closely with this small staff, training its Board of Directors, and tapping into additional expertise as needed — TechnoServe advisors, Peruvian institutions and resources, and short-term consultants and trainers — the ACDI advisors will help the *Caja* become a sustainable financial institution by transferring the needed technical and management skills, helping to develop effective structures and procedures, and providing an important link between the Olmos-Motupe-Jequetepeque *Caja* and vital resources at the national level. This intensive technical assistance will focus on four central tasks:

- ensuring the mobilization and sound management of capital
- ensuring effective loan management
- channeling seed capital and
- strengthening a central rediscount facility

1. Effective Management of Loans

As a business incubator and effective lender, the *Caja* will need to carry out five specific functions in managing its loans. These five areas are:

- market information
- training and technology
- loan work-up
- loan evaluation
- operations and loan work-outs

In the case of production loans to farmers, community loan officers will carry out these functions mostly in the field, and on their own. The process will not be complex or drawn out, but market information, the need for and availability of technical assistance, and the farmer's ability to repay his or her loan will all factor into the loan evaluation. Similarly, problem loans will receive quick and effective monitoring and, if needed, work-out plans. In the case of agribusiness loans, these five functions will be more time-consuming, and more likely to involve *Caja* staff working together.

Given the *Caja*'s initial small size and the fact that these functions are interrelated, we will emphasize a task force approach, with *Caja* personnel moving from one functional group to another as their client's project develops, and with each group working with the relevant ACDI counterparts and accessing outside expertise as necessary. Indeed it is vital that the loan officers and managers are involved in each of the five function areas, in order to provide the projects with a sense of continuity, and the staff members with an understanding that the loan success is tied to the *Caja's* mastery of these five central functions. This last point can be made clearer by illustrating how the staff of the *Caja* will operate — working in groups and moving from one function to the next as required.

Market information. The first task force is the "information and markets" group. Its primary purpose is to accumulate and distribute the information on prices and quantities of product required by markets. The group — building on the market findings of the strategic planning phase and working closely with ACDI's agricultural credit and senior agribusiness advisors — will identify market opportunities during their information gathering, and present them in information packages that will be available to potential entrepreneurs looking for a profitable opportunity. They will also research ideas generated by potential borrowers. Over time, they will develop a data base covering a wide range of commodities.

From the outset the new *Caja Rural* needs to ensure that information from markets on opportunities can be relayed on a continual basis to producers. The *Caja* will serve as an information gathering and distribution point for its borrowers. In gathering information a sophisticated system is not needed; a representative in the market town and a telephone link are often sufficient. Published time series price data would be preferable. And the *Caja* will not

duplicate the efforts of other institutions, but rather plug into the market research of such groups as ADEX and collaborate closely with the project advisors working with CBEs. Compiling the prices paid throughout the year in nearby markets and making them available at the *Caja*'s central office can be the key ingredient in helping producers discover opportunities.

Interested potential borrowers can discuss this information with the *Caja*. When a promising project is identified, the borrower and task force will jointly carry out a pre-feasibility study to determine if a local producer can supply the product and earn an acceptable margin to pay his loan and show a profit. The pre-feasibility study will specify the infrastructure and training requirements. This may be as simple as a small packing shed and a truck to get produce to market, together with assistance in working with new varieties and chemical input regimes. If the initial pre-feasibility study shows a positive margin and the requisite infrastructure can be acquired, the study can then go on to the second group.

Training and technology. The second task force will focus on training and technology. Again, this group will work closely with the agribusiness and agricultural credit advisors, or the TechnoServe advisors when the client is a CBE. The primary purpose is to assess the technology needs of a given project and to work with the borrower either to ensure that he has adequate skills or access to any training and on-going advice needed to successfully operate the project. In the initial stages, the project advisors will play a dominant role in providing this service, taking advantage of such local institutions as ADEX, the Ministry of Agriculture's extension services, and USAID's Technology Transfer Project whenever feasible. Where necessary, the project will bring in outside assistance to carry out training. Over time, the local *Caja* staff will take over this activity of identifying and ensuring access to the skills needed to implement a viable project.

In working with a potential borrower to identify the necessary and appropriate technology for a new project, this group may also help to scale down a project, teaming a potential client up with other borrowers better able to carry out one or more of the functions originally envisioned by the client. For example, a farmer wishing to invest in a new crop and a new truck to move the crop to market may be informed that he could transport his product more cost-effectively by using a full-time truck operator; or the *Caja* may decide it is more efficient to finance a regional processor who can handle more volume of raw material than an on-farm processor can.

Loan work-ups. In this pre-finance stage, the *Caja*'s loan officers and managers, aided by external technical assistance, need the ability to help a client identify profitable options and the access to technical assistance that will help to refine his idea, cost out the project, and acquire the skills to produce the product. While ideas can certainly be put forward by the supplier of technical services, it is primarily the producers who need to conceive the new business that they want to launch and how they want to structure it. In the pre-finance stage, the "would-be" businessmen need access to a set of skills that is generally beyond the reach of rural people.

They also require assistance to help develop, refine and present their new business proposals to the new locally-owned financial institution.

Therefore, the third task force is the "project and loan work up" group. This group, with the assistance of the agricultural and financial management advisors, will work with the borrower to prepare the project and will do the financial analysis to determine the rate of return and the ability of the project to generate a positive cash flow to service the loan. It is here that the market information and recommendations of the training and technology group are combined with financial analysis, and structure for financing is defined. It is critical that the technical staff work directly on each project with the financial people to develop a project that is technically sound, adequately financed and profitable for the *Caja*. The technical personnel can assess the likely margins and the ability of the producer to operate successfully; the financial staff can do the hard numbers to determine if the projects meet the return to capital and profit goals of the *Caja*.

A project that has successfully completed this process is ready to go to the feasibility study stage. The producer must identify the specific buyers, and sources of the technology, the infrastructure and the financing required to make the project profitable. This goes beyond the pre-feasibility of identifying what is required; now the producer must identify concretely who will buy his or her product, and who will supply the requisite inputs and services. In some cases, projects can be made profitable with relatively little infrastructure and reasonably accessible technology. In other cases, the proposal must be rejected because the requisite input and services are not available or are not sufficiently reliable.

Projects that make sense on paper must be subjected and adjusted to the demanding realities of the rural environment if the enterprise is to produce a profit. In some cases, projects cannot proceed due to factors beyond the producer's control. In others, a modification of the loan proposal to include a simple piece of infrastructure may be required. For example, grain dryers may have to be backed up by a diesel generator due to unreliable electric supply. It is at the feasibility stage that the project goes through a simulated cycle of production to determine if investment in infrastructure and technology requirements can be met and can be financed so as to provide an adequate return to capital and a profit to the borrower after his debt service obligations.

Loan evaluation. The first three groups work directly with the borrower to lay the groundwork. Once they have prepared the technical and the financial aspects of the project, they will present a package to the "loan committee/venture capital" group. At this stage, depending on the size of a loan (small production loans may be evaluated in the field by loan officers, while large loans or joint ventures will involve the *Caja* Board of Directors), the management of the *Caja Rural* becomes involved in the final evaluation of the project. The technical and financial analysis is presented. Management must make the final decision on the project by evaluating the proposal on the basis of its viability, its return to capital, the free cash it will

generate to repay the loan, and the moral solvency of the borrower, and his or her ability to carry out the project.

This evaluation is crucial because much, if not most, of the lending will perforce be project-based, rather than collateral-based. As a general rule, rural people beginning new commercial activities cannot collateralize loans. The new *Caja Rural* will have the flexibility to respond to the variable needs with a wide range of financing options ranging from loans to equity participation. The *Caja* will also possess an ownership structure that can handle project-based lending. In this type of lending, the traditional ratios are of relatively little utility. Producers have ideas, but very small resource bases. A project must stand or fall on its merit, not only on the collateral of the borrower. And, it is local people with their own capital at risk who are most likely to demand an adequate evaluation of the project's feasibility. While project lending is crucial to agricultural development, it is the end of a decision process, not its beginning; how the available loanable funds are allocated among competing proposals is crucial to the success of the financial entity.

Operations and work outs. Once the loan and/or investment is made, the loan officer will take over the responsibility for the project. In some cases, the officer will merely monitor the loans; in others, where the *Caja* has an equity position, his or her role may be that of an active participant on the board of directors. An operations group will meet periodically to assess the entire portfolio, identify problems, schedule work outs and interventions and restructuring for problem loans.

The realities of banking and credit are such that some loans in any portfolio will experience problems. Some will inevitably fail due to borrower inability, or to external factors and events beyond the control of the borrower and the bank. Since these must be written off, the *Caja* will need to establish sufficient reserves to absorb such hits to capital. The bank management and agricultural credit advisors will assist the *Caja* in establishing these.

At the same time, many troubled loans — if identified in time and if the lender has the ability to intervene before they default — can be managed by a work-out. In fact, as a community-based institution, the *Caja* should be closer to the borrower and know the local environment better than a large or centralized bank. It should therefore be better able to identify delinquent loans and to intervene for a "work out" before the loan is lost. To do this, the project advisors will help the *Caja* to establish both the ability and the right to intervene in any loan that is not current. This implies not necessarily foreclosing or calling the loan, but instead going beyond traditional banking practices to develop a loan monitoring capacity, and a work out team with the authority to intervene, to become an equity partner or even to transfer the assets to another producer in order to save the loan.

2. Mobilizing Capital

One of the principal obstacles faced by any financial institution is bootstrapping their limited capital in order to gear up the scale of operations. This is particularly true on the frontier of finance. The danger is that once the organization has committed its seed capital, it has to suspend or slow dramatically its lending due to a capital constraint. The sources of reflows will be interest payments and any profits that arise from the joint ventures. The former of these however will be relatively small, while the latter probably will not be realized in the initial years. The question then arises as how to reliquify the institution. The ACDI team, through the supervision of the Chief of Party and the day-to-day assistance of the financial management advisor, will assist the relevant *Caja* employee — such as a Deputy Mansger for Financial Management — to establish the policies, procedures and controls to comply with government regulations and manage the following sources of capital:

- **Share capital sales.** The *Caja Rural* is a member organization and should work to attract new owner-borrowers who will supply additional capital. While it is a "non profit" institution, it is able under certain conditions to distribute excess capital. This distribution functions like a dividend and should function to increase the value of acquiring membership shares in the *Caja*. In addition, borrowers can be required to contribute a small amount of the loan to the capital of the share capital of the bank.

- **Savings mobilization,** which will play a critical role in the continued ability of the institution to lend. To attract deposits, the *Caja* will have to offer attractive and competitive interest rates on both demand and time deposits.

Financial Services. The *Caja Rural* is authorized under its law to offer a full range of banking and financial services. Fortunately, the *Caja* law permits a very wide range of financial activities and many of these can provide substantial fee incomes in return for services that rural dwellers need. These services are also a means of attracting additional clients, giving the *Caja* an opportunity to establish mutually profitable relationships. As experience has shown that single function institutions have difficulty in becoming viable, the new locally-owned *Caja* will offer a full range of banking services. These may include — if shown to be profitable — the origination of various types of commercial loans and mortgages that can be discounted in existing markets; leasing of equipment; and simple insurance services, such as selling life insurance to borrowers to pay their loans if they die. There may also be a role for the *Caja* in creating and maintaining a market for land.

As a lending institution, the Olmos-Motupe-Jequetepeque *Caja Rural* is interested in a positive return on its assets, but it also is piloting a locally-owned model for financing development. In order to spread the benefits of the new activities, the *Caja* could market some of its equity participation in the projects it financed. There are numerous possibilities, some of which occur in the informal market, but have never been exploited by formal institutions. In the initial stages, it would be difficult to sell these securities in the open market (as those markets are weak and in the distant capital, Lima). However, people are often prepared to invest some of their funds in a local enterprise that they can see is beginning to yield profits at a faster rate than one can earn from time deposits. The *Caja* would in effect run a small share shop where local people could come in and purchase a small equity stake in a business that they could see would be profitable.

Thus, the *Caja Rural* not only works as a lender and an equity partner, it also serves as a vehicle for community development and economic democracy by spreading the investment in profitable local enterprises through the sale of shares to the community.

3. Managing the Seed Capital Fund

In addition to providing technical assistance and on-the-job training to establish the *Caja* as an effective lender and mobilizer of capital, ACDI proposes the development of a Seed Capital Fund of $8 million in local currency, which could stimulate the mobilization of local resources and jump-start the operation of the Lambayeque-La Libertad *Caja Rural* and, over time, other *Cajas* as well. ACDI will monitor the administrator of the Fund, likely a second story bank or similar institution agreed to by USAID and the Government of Peru.

In jump starting the pilot *Caja*, the Seed Capital Fund can contribute both to administration and capitalization in its early years. While the administrative costs, rate of loan disbursement and the consequent cash flow are equally difficult to estimate at this time, we are currently estimating local currency costs at about $900,000 over the first three years, assuming the staffing structure detailed in the following chapter. By the Fund lending money to the *Caja* to cover these costs in its opening years, the *Caja* can plow its financial margins back into the loanable capital, thus showing a higher rate of return and increasing the amount of funds the *Caja* will have available for lending. Administrative costs will be covered by loans from the Fund according to established conditions:

- on a sliding scale, e.g. 100 percent in the first year, 75 percent in the second, and 40 percent in the third; and
- subject to the Caja's compliance with yet to be established practices, procedures and controls.

Similarly, disbursements of lendable funds to the *Caja* would not be automatic; instead ACDI proposes to develop performance measures based upon the amount of local capital raised, and the return to capital of the *Caja*. The disbursements would most likely occur in an accelerating form. That is, initial disbursements would be relatively small while later disbursements would be considerably larger, growing with the *Caja's* success in attracting local capital.

These injections of capital will serve a number of key purposes. By pegging disbursements to *Caja* performance and success at raising its own capital, it will help to leverage additional capital. It will also provide capital in the early years, when the *Caja* has limited sources of funds. As we have pointed out above, the *Caja* law does not permit taking deposits in the first year. This extra capital can bolster the *Caja's* ability to make loans; nothing is more frustrating for a new lending organization than to have to close its doors to new and viable borrowers because of a lack of lending resources.[3] The capital will also help the *Caja* to accelerate the establishment of needed reserves, and to leverage outside resources from other sources, such as rediscounts and lines of credit from COFIDE or others. With effective monitoring of the Fund's administration by ACDI, the resources can prove an effective incentive for *Caja* management to develop the policies, procedures, standards and discipline required of a sustainable financial institution. Finally, the interest that the Fund earns on its loans to the Olmos-Motupe-Jequetepeque *Caja* can be assigned to a national organization that could continue to promote effective *Cajas Rurales* after this project is completed. In this way, the model developed in this pilot project can be replicated.

4. Replicability of the Model: A Central Rediscount Facility

Even with its sources of revenue and seed capital, the lending activities of the *Caja* will almost inevitably slow down after the early years. The initial capital is quite small and there are not abundant opportunities to increase it through the usual channels used by banks. While additional capital stock will be sold to the owner-borrowers, increasing the volume of lending necessarily implies some means of converting the loan and investment portfolios into cash for further lending. Once the available capital is lent or ventured, the *Caja* will have available only the interest income and profit on its investments for further lending. One cannot imagine even in a developed economy such as the U.S., a rural credit system that did not have a central discount mechanism or means of maintaining its liquidity.

To develop as dynamic financial institutions, Peru's new *Cajas* will need a means of rediscounting loans. This will become increasingly necessary as the model of the *Caja Rural*

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[3] While a solid estimate of demand is one of the objectives of the project's design phase, demand for credit is expected to be significant. The 6 CBE's alone - averaging 150 members, each with a loan of $3000 - could require $2.7 million. Add to this amount the viable production loans for farmers not living in the 6 CBE communities, and agribusiness loans.

is replicated in more regions. For this reason, one of functions of the Chief of Party will be to develop or identify and strengthen viable rediscount mechanisms. Several possibilities exist. First, the Central Bank could maintain a rediscount window for some portion of the *Caja*'s portfolio, say 80 percent, with the remaining 20 percent retained by the *Caja Rural*. These rediscounted loans would reliquify the *Caja* and enable it to continue lending. The Central Bank could either hold the loans or could allow (perhaps even require) commercial banks to purchase them on favorable terms to use as part of the legal reserve of the bank.

Another idea worth exploring with the GOP would be to have a development bank purchase the loans or the shares of businesses the *Caja* has financed, then combine these loans and shares with those purchased from similar institutions in other parts of the country and sell them in secondary markets with a government guarantee of some portion of principle and interest, together with perhaps a favorable treatment of capital gains and losses for tax purposes. This would enable local institutions to access national capital markets. The development bank, if successful in making a secondary market, in turn could access international sources of capital to finance its activities.

The opportunities and examples are too numerous to enumerate here. The critical point is that the Olmos-Motupe-Jequetepeque *Caja Rural* should be seen as the seed of a larger movement away from traditional forms of supplying credit to rural markets and toward a new definition and operational structure for a local level financial organization that harnesses the ideas, capital, and energy of rural dwellers to meet the financing needs of rural capital markets and to develop into a self sustaining movement by financing enterprises that can produce efficiently and profitably.[4]

While the *Cajas Rurales* have an important role to play in and of themselves, they, in turn, should be part of a larger policy initiative to develop a new set of sectoral policies to promote productivity by increasing the capital and technology of the Peruvian agricultural sector. As

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[4] See, for example, Carlos Amat y Leon Ch., et. al., Policy Restrictions in Assignig Credit Allocations to the Agricultural Sector., Farm Management Services, S.A., Lima, Nov. 1992 under contract for USAID/PERU for a description of the present situation and the consequent need to develop a new, more self-reliant model of development which does not rely upon the Peruvian government or the largess of foreign donors. In particular, he emphasizes the investment and entrepreneurial process in agricultural modernization.

"A production increase depends directly (emphasis added) on investment....Investments are stimulated and promoted by the firm's profit margin...." (P. 7.) "[However] the greatest challenge is to form sound, stable, reliable and predictable agricultural organizations. It is absolutely essential for organizations within the private sector to redesign new credit and loan systems. In order to boost the agricultural sector, not only are more liquid assets required [but also] better farmers' organizations. p.16. Agricultural development implies that farmers must develop into entrepreneurs capable of generating stable long-term profits and become efficient and competitive...." p. 17.

such, their importance should be viewed in the policy context of moving Peru away from the populist, statist economy of the past toward a new economic stability based on the importance of agricultural businesses as a means of creating agricultural production, income, and employment. This fact leads us to the importance of complementing ACDI's efforts with the work of the TechnoServe team in developing CBEs.

C. Developing Community-Based Enterprises

The geographic area for this project are the Valleys of Olmos, Motupe and Jequetepeque, and the Technoserve advisors will focus their CBE development activities on these valleys. These regions, and the number of direct beneficiaries they estimate they will reach in each region, are illustrated in the following table:

Valley	Agriculture Area (Has)	Direct Beneficiaries
Olmos	9,000	200
Motupe	4,000	100
Jequetepeque	35,000	4,000
Total	48,000	4,300

To date there is limited export activity in the Motupe valley with the principal products being mango, lime, passion fruit, and in lesser quantity, paprika. The Jequetepeque valley is just now trying to promote export crops with initial efforts in beans. Given this status, TechnoServe will work during the initial months identifying markets that offer comparative advantages leading to economically viable, self-sustaining activities. Also at the start of operations, TechnoServe will determine where, when and under what conditions can products, for the domestic market as well as export, be sold and under what forms of organization, financing, processing and other commercial conditions.

First year operations in the Jequetepeque valley will concentrate on annual crops given the lower level of technology currently in use in the zone. TechnoServe will identify crops with demand in the local and national market and initiate production of export crops in which complement those of the Motupe valley. Efforts will be made to gradually substitute the planting of rice, which presents disincentives in the use of water and the intensive use of land. Rice also cannot be planted as a second crop when the water levels are low in the dam. Thus the agricultural potential of the valley is severely constrained by the present policies by the salinity of the soil which is reducing the available crop lands. Add to the foregoing the absence of credit and the open market policies permitting rice imports and the profitability of rice growing is in serious jeopardy.

These improvements will be carried out by organizing a minimum of four farmer groups as well-managed enterprises, with a goal of rapid, visible results in income and employment generation. This will lay the foundation for future, medium-term enterprise activities that represent a real alternative to production. These activities will be based on market conditions as determined during the first several months of the project and as updated and adjusted over

the life of the project. The enterprise development will be accomplished through TechnoServe's methodology of integrated, participative assistance. As described in detail in Chapter II, the assistance will include diagnostic and planning activities, agricultural research and technology transfer, training, management assistance, monitoring and evaluation.

At the end of three years of assistance, with the support of the credit component of this project, the enterprise development component expects to:

1. Create and/or strengthen a minimum of 6 profitable, sustainable enterprises, including both first and second level, with identified markets for their production. This goal will be accomplished through direct assistance and with the support of organizations that can replicate the pilot projects developed by TechnoServe.

2. Create a business management capability within the target population by training 30 beneficiaries in the following areas of enterprise development:

   —Organization
   —Administration
   —Technology support services
   —Financial management
   —Marketing management

3. Introduce, on a commercial scale, a minimum of three export crops with markets defined in detailed pre-investment studies. The objective is not to concentrate efforts on only one product since this could be risky, nor overwhelm the farmers with too many alternatives.

4. Provide technical training in crop management, harvesting, post-harvest management, collection, storage and packaging for the selected alternative crops and the traditional crops to be maintained and promoted, such as rice.

5. Define and implement post-harvest services, storage, processing, packaging and transportation for the selected alternative crops.

6. Increase the gross value of the agricultural production of the region, the per capita income of the target population, and employment levels.

7. Implement a marketing research and information system with a goal of distributing an informational marketing bulletin with the following information:

   - Prices
   - Production
   - Directories of buyers
   - Link with crop research

- External market demand
- Export routes, costs and procedures

8. Complete a minimum of three regional seminars on marketing of export products.

CHAPTER IV. STAFFING

A. ACDI's Technical Assistance Team

While the exact staffing requirements may be adjusted in light of the initial strategic planning phase of this project, we anticipate the ACDI team to include the following:

Chief of Party/Senior Agricultural Credit Expert. This person will be responsible for the overall management of the project. He or she will have substantial experience in agricultural credit, agricultural finance, agricultural banking, and agricultural development. Residing in Chiclayo, he/she will be responsible for the coordination of the ACDI efforts with those of Technoserve, as well as maintaining the working relationship with USAID, the various entities of the GOP and with the *Caja* management. Building on this role as liaison, the Chief of Party will take the lead on developing a rediscount mechanism that the *Caja* can access, on monitoring the administration of the Seed Capital Fund— including designing the criteria on which disbursements from the Fund will be based— and taking primary responsibility for the development of standards and manuals to be used by the *Caja*. He or she will supervise local level staff, and closely monitor on-going operations of the *Caja*. The Chief of Party will be a Peruvian of broad financial and credit management experience, able to inject an appreciation for project-based lending.

A Senior Agribusiness Specialist will provide support to ACDI team and the *Caja Rural* in the areas of market information, competitive analysis, evaluation of agribusiness activities seeking financing, and liaison with agribusinesses inside Peru and internationally in order to plug local agribusinesses into market opportunities. He or she will work closely with businesses in the area that are not receiving assistance from Technoserve, helping them to translate ideas and proposals into working, bankable ventures. The Agribusiness advisor will also coordinate with the TechnoServe team, providing assistance as required. He or she will be a resource for the Agricultural Credit Technician, the *Caja's* loan officers, and potential businesses, assisting them with initial loan work-up, estimation of rates of return, development training or technical assistance plans, and general supervision of on-going productive activities of agribusiness borrowers. This person will be a Peruvian residing in Chiclayo.

An Agricultural Credit Technician will work closely with the *Caja*'s task forces as clients move from being potential borrowers seeking assistance with pre-feasibility studies, to borrowers requiring oversight and technical assistance or, in some cases, work-out plans. The technician will assist the loan officers and management in putting in place effective procedures, controls, and methods for evaluating the viability of potential projects, and for monitoring loans. A native Peruvian, the technician will reside in Chiclayo.

A Financial Management Advisor will work closely with the *Caja*'s equivalent of a Deputy Manager for Financial Management, helping him or her to develop operations that will mobilize investments and resources within the *Caja*, as well as policies and procedures to manage the

resources effectively. Emphasis will be placed on viable financial services and effective capitalization programs. This advisor will also work closely with the Senior Advisors to ensure that the Seed Capital Fund and rediscount process are being used effectively inside the *Caja*. Also a native Peruvian, this advisor will be the fourth team member residing in Chiclayo.

Three additional local hires will include an Administrative Assistant who will manage the office, communications and project logistics. A secretary will also support the advisory team assisting the pilot *Caja*, while a messenger will round out the office staff.

B. TechnoServe Technical Assistance Team

TechnoServe already has two advisor teams in the Olmos-Motupe-Jequetepeque area. The project organizational chart (Attachment 4) provides a clear diagram of the proposed additional team required to fully implement this project.

The TechnoServe Country Director, Alberto Perez, a native Peruvian based in Lima, will have overall responsibility for the project in his capacity as Project Director. It is anticipated that he will spend 50 percent of his time on this project with the rest of his time dedicated to managing the balance of TechnoServe's activities in Peru. Alberto is a ten year TechnoServe veteran, well versed in enterprise development. As Project Director, Alberto will be responsible for coordinating directly with the ACDI Chief of Party on all major project strategic and operational matters as well as directing and monitoring the efforts of the Project Manager and his/her team.

The TechnoServe Project Manager, a Peruvian national who will reside in Chiclayo, will be responsible for the day-to-day management of the project's CBE component. He/she will directly supervise two to three project team leaders who in turn oversee the work of the advisory teams. The Project Manager will be responsible for developing the annual work plans and for coordinating field activities with ACDI and *Caja Rural* Staff.

The technical advisor team will consist of the following:

Title	Year 1	Year 2	Year 3
Agronomist	1	1	1
Public Accountant	1	1	1
Agricultural Economist	1	1	1
Business Promoter - Sociologist	1	1	1
Total:	4	4	4

The Agricultural Economist, a Peruvian national, will be responsible for developing and maintaining appropriate data bases. He or she will perform all required economic analysis related to the marketing of agricultural commodities and inputs, land utilization and tenure. He or she will serve as a liaison for the technical team with public and private entities, farmer organizations, and individuals involved in the marketing of agricultural inputs and products.

The Business Promoter, a Peruvian national, will be responsible for developing and implementing initiatives that improve the management capabilities of the CBEs, and encourage the entrepreneurial spirit of the farmer organizations and their members. He or she will assist the long-term technical team in logistical support, and be the team's primary liaison with the CBE members.

The Agronomist, a Peruvian national, will be responsible for the identification of promising crops and providing training and specific recommendations to improve post-harvest techniques. He/she will provide detailed analysis of CBE needs, and assistance in implementing agro-processing operations. He/she will work in coordination with the ACDI Senior Agribusiness Advisor and with ADEX personnel in the selection of appropriate agricultural export activities.

The Public Accountant, a Peruvian national, will be responsible for the overall accounting, payroll and reporting system of the CBEs. He or she will provide technical assistance to CBE members, train them in accounting procedures and assist them in preparing annual budgets and financial reports. The accountant will serve as the technical team's liaison with the TechnoServe administrative staff involved in collecting and processing financial data for monitoring and analysis purposes.

The long-term technical team will be complemented by short-term specialists as required. The short-term consultants would provide specialized services in areas such as specific, non-traditional crops, post-harvest management and potential agro-processing activities. Some of the short-term technical assistance will be provided by Farmer-to-Farmer volunteers at no salary or consultant fee cost to the project.

The following chart illustrates the anticipated level of effort for the short-term technical assistance:

Consultant	Year 1	Year 2	Year 3
- Agro industry export	4 pm	4 pm	4 pm
- Post harvesting specialist	6 pm	6 pm	6 pm
TOTAL:	10 pm	10 pm	10 pm

In addition, the project will require a 6 months agro-specialist at a technical level. The agro specialists will follow-up closely the progress of the export crops and will collaborate with TechnoServe's professional staff to train paratechnicians within the CBEs.

C. Olmos-Motupe-Jequetepeque *Caja Rural: Illustrative Staffing*

From the outset, the staffing of the *Caja* will be kept to modest proportions. It is estimated that establishing a viable lending operation will require three office based professional staffers and three or four field loan officers. Additional support staff will provide logistical support for these professionals. Initially, legal, auditing, and the MIS design and maintenance will be contracted out, providing adequately skilled professionals are available. It is anticipate that the staffing pattern for the *Caja* will be as follows:

The General Manager will be in charge of the overall operation of the *Caja* and will be responsible to the board for the results of the *Caja*.

A Deputy Manager for Credit will be in charge of the day to day operation of the *Caja*. His/her responsibilities will include oversight of the operations of the *Caja*, the organization of the loan approval process and working closely with the loan officers to develop projects to be presented to the loan committee. He/she will manage the personnel of the *Caja*, establish the operational procedures and will be the initial contact point for borrowers as well as conducting with Technoserve and the community loan officers any work outs that are required.

A Deputy Manager for Financial Management will oversee operations on the resource generation side of the bank: capitalization, financial services, time deposits, loan rediscounting, and special funds. such as resources from the Seed Capital Fund.

Three or four Community Loan Officers will work directly with borrowers, each acquiring a portfolio of loans which they will be responsible for supervising and managing. They will work closely with Technoserve as well as individual and group borrowers. It is anticipated initially that two of the community loan officers will work with existing or emerging agri-businesses, while the third will work with primary producers. These loan officers will be responsible for identifying borrowers, working with them to develop "bankable" projects, and presenting the projects first to the deputy manager and then to the loan committee. After the loan is made, they will supervise the loans, identify problems as they emerge, inform the *Caja* and develop solutions to the emerging problems. In the cases where the *Caja* acquires an equity interest, the loan officers might be assigned to represent the *Caja* at the board meetings of the company and will report back to the Deputy Manager.

Support Staff will consist of an office manager/accountant, secretary/cashier-teller and a messenger. The office manager will have support functions such as travel and vehicle maintenance of the community loan officers, as well as carrying out all the routine functions of office management. He/she will also be responsible for the administrative arrangements to contract auditors, lawyers and systems analysts for the small MIS system. In addition, he/she will arrange for physical security of cash and its transfer, the maintenance of current loan records and other duties assigned by the general manager.

CHAPTER V. PROJECT MANAGEMENT, MONITORING, AND EVALUATION

A. ACDI-TechnoServe Consortium

ACDI will be the lead organization in this Consortium, signing a Cooperative Agreement with USAID/Peru and a sub-agreement with TechnoServe, fielding a Chief of Party, and representing the Project with USAID officials. Outside of this administrative leadership, we view the relationship between the two firms as a complementary pairing of equals. ACDI will take the lead on the credit component of the project, with TechnoServe implementing the CBE component. Each firm has the expertise and experience required to implement its component, and with close coordination and constant communication, these two components will contribute to the realization of the project's financial, agricultural, commercial, and institutional objectives.

ACDI looks to the Consortium as an interactive piece of the project. Through regular informal contact and periodic meetings, the members of the Consortium will draw on their complementary experiences and shared vision to identify and encourage project strengths, and to make specific recommendations for improvement. The Consortium will serve as a collaborative and proactive resource for its Chief of Party and the project staff, providing policy guidance, monitoring and timely feedback.

ACDI's Daniel Chaij, Vice President for Latin America and the Caribbean and Robert Fries, Project Officer for LAC, work as a Project Coordinating team, and will ensure that all of the project's U.S.-based support needs are met. The Departments of Finance and Training, as well as headquarters personnel dealing with personnel, recruitment, logistics and procurement, also provide essential project support. ACDI's Project Coordinators will ensure that support is well programmed, and that action is taken in a timely manner.

Appropriate head office support will be provided for all long- and short-term personnel and subcontractors. As a non-profit organization with three decades of project management experience with A.I.D. on large and small projects, ACDI has the financial resources to implement this project. ACDI has proven its ability to manage the finances of USAID contracts and grants through Federal Reserve Letters of Credit. We will manage the overall finances of the project and report to USAID as required. If additional financial reports are required, ACDI's computerized accounting system can quickly generate them.

The CBE component of the project will be managed in accordance with established TechnoServe project management policies. These policies are described in the internal manual titled "Policy Guidelines for TechnoServe Management."

As discussed in the staffing section, the overall responsibility for oversight of the CBE component rests with the Country Director. At the Home Office level, program management and support is the responsibility of the Regional Director for South America who in turn reports to the Vice President/Latin America Division. The Home Office based Latin America Division

management team provides a wide range of services to the field operations. These include monitoring and evaluation of all facets of field operations; procurement services; coordination of training activities including services from the organization's support divisions; business plan development and strategic planning; translation of key documents; institutional relations with international organizations and other types of logistical and management support.

The Finance and Administration Division incorporates the Financial Services, Human Resources and MIS departments. They provide services in such areas as accounting, financial management, auditing, financial reporting, payroll and benefits administration, expatriate compensation, personnel management, data base management and project monitoring systems. Staff from these departments travel frequently to the foreign locations to provide training and technical assistance.

Project coordination will take place at three levels. First, the Country Director will be responsible for coordinating all activities with the ACDI Chief of Party, and with USAID staff as required. Second, the Norwalk-based Regional Director will be responsible for coordinating all project activities with the Lima-based Country Director to insure Home Office awareness and concurrence of major project activities. Third, the Regional Director will be responsible for maintaining contact and coordinating activities as needed with the ACDI Home Office project management team.

B. Institutional Coordination

In addition to the collaboration between ACDI and TechnoServe, the Project will promote joint activities with the different institutions operating in the region, thereby building an installed capacity for project monitoring and replication and taking advantage of the effort, experience and confidence already established by these institutions. We recognize that coordination is vital with organizations working in the areas of:

1. Valley-level strategy and integration of project activities
2. Applied agricultural research
3. Socio-community development
4. Production and agro-industrial infrastructure
5. Agricultural diversification and extension
6. Enterprise organization
7. Marketing
8. Financing

In the Project region, 8 non-governmental organizations (NGOs) and institutions have already been identified, including the Association of Exporters (ADEX). We have also indicated our interest to collaborate with AID's projects in support of ADEX's services and agricultural research and technology transfer, as well as institutions who can provide financial resources, especially a loan rediscount mechanism.

ACDI and TechnoServe have already held discussions with the ADEX, the Ministry of the Presidency--INADE-Special Irrigation Projects, with NGOs based in the region and with the principal producer organizations located in the three valleys. All of these entities have expressed support for the proposed project concept. The project has also been discussed at the highest levels within the Ministry of Agriculture, with similar success.

C. Evaluation and Reporting Requirements

ACDI will submit quarterly project reports to USAID on developments and key indicators for both the *Caja* and CBE components of this project. ACDI will also submit quarterly financial reports, showing budgeted and actual expenditures by line item.

ACDI proposes to have this project evaluated by independent consultants during the early part of the third year of operation. The evaluation will assess the success of each of the project components at realizing the stated objectives. For illustrative purposes, we outline the following areas that may be considered by the evaluators:

1. Portfolio Analysis

- Number of loans approved and disbursed
- Total portfolio and average loan size
- Distribution of loans by loan terms, production vs. investment, individual vs. organization, men vs. women, etc.
- Delinquency and default rates

2. Institutional Analysis

- *Caja* profitability, capitalization level, membership growth, loan portfolio growth and quality, share of market, management and board capacity, and compliance with established policies and procedures
- Number of CBEs, and their membership size, profitability, degree of qualified self-management, operating efficiency, market security, and share of respective markets
- Efficiency, scale and reach of loan rediscounting mechanism

3. Socio-Economic Analysis

- Number, value and quality of new agri-business investments
- Productivity and profitability of non-traditional and traditional agricultural products
- Effect on income of project participants
- Effect on employment levels in participating communities
- Export and domestic earnings from crops

Attachment 1

Proposed Budget

AGRICULTURAL COOPERATIVE DEVELOPMENT INTERNATIONAL (ACDI)
PERU: OLMOS – MOTUPE – JEQUETEPEQUE CAJA RURAL
AND COMMUNITY BASED ENTERPRISE DEVELOPMENT PROJECT
SUMMARY BUDGET

LINE ITEMS		YEAR I	YEAR II	YEAR III	TOTAL
1. SALARIES		189,000	186,200	195,510	570,710
2. PAYROLL ADDED COSTS		101,007	101,380	106,449	308,835
3. TRAVEL & PER DIEM		45,285	37,270	39,084	121,639
4. CONSULTANTS		74,558	46,978	49,327	170,863
5. COMMODITIES		89,000	300	300	89,600
6. OTHER DIRECT COSTS		16,000	16,800	17,640	50,440
7. TOTAL DIRECT COSTS		514,849	388,928	408,310	1,312,087
8. INDIRECT COST @	36.6%	188,435	142,348	149,441	480,224
9. TOTAL ACDI COSTS		703,284	531,276	557,751	1,792,310
10. SUBGRANT – TECHNOSERVE		610,611	538,762	565,700	1,715,073
11. TOTAL ESTIMATED COSTS		1,313,895	1,070,038	1,123,451	3,507,383

SEE:
ATTACHMENT 3. Adjusted Budgets submitted by ACDI
ATTACHMENT 4. Revised Summary Budgets

AGRICULTURAL COOPERATIVE DEVELOPMENT INTERNATIONAL (ACDI)
PERU: OLMOS – MOTUPE – JEQUETEPEQUE CAJA RURAL
AND COMMUNITY BASED ENTERPRISE DEVELOPMENT PROJECT
DETAIL BUDGET

LINE ITEMS			YEAR I	YEAR II	YEAR III	TOTAL
1. SALARIES			189,000	186,200	195,510	570,710
Local			171,500	180,075	189,079	540,654
Chief of Party		60,000	60,000	63,000	66,150	
Agribusiness Specialist @ base salary		50,000	50,000	52,500	55,125	
Credit Analyst @ base salary of--		18,000	18,000	18,900	19,845	
Agribus. Loan Analyst @ base salary		22,000	22,000	23,100	24,255	
Admin Assistant @ base salary of--		10,000	10,000	10,500	11,025	
Secretary @ base salary --		8,000	8,000	8,400	8,820	
Messenger @ base salary --		3,500	3,500	3,675	3,859	
H.Q. Technical and Logistics Support			17,500	6,125	6,431	30,056
Base Salary: $70,000 (composite salary of D. Chaij and R. Fries)						
3 PM in Year I						
1 PM in Years II and III						
2. PAYROLL ADDED COSTS			101,007	101,380	106,449	308,835
Local Staff			94,325	99,041	103,993	297,360
Fringe Benefits @	55.0% of salaries		94,325	99,041	103,993	
ACDI H.Q. Staff						
Holiday, Leave, Benefit	38.18% of H.Q. support		6,682	2,339	2,455	11,475
3 TRAVEL AND PER DIEM			45,285	37,270	39,084	121,639
A. TRAVEL			12,875	12,200	12,760	37,835
5% increase per year						
International Travel			1,000	1,000	1,000	3,000
Annual planning and coordination trip to ACDI HQ		1,000 per trip				
In-country air travel @		500 per month	6,000	6,300	6,615	18,915
ACDI supervisory travel to Lima, from Washington, D.C., yearly,			5,000	4,200	4,410	13,610
5 adult RT in year I @		1,000 per trip				
4 adult round-trips in years II, III						
(Combined with other travel as possible)						
Miscellaneous travel costs @ per traveller per international trip		175 per trip	875	700	735	2,310
B. PER DIEM			32,410	25,070	26,324	83,804
COP annual planning trip			1,750	875	919	

to ACDI HQ Year I : 14 days Years II & III : 7 days						
Travel to Lima 4 days/month			6,000	6,300	6,615	
Regional travel 500 days per Year (meals) 100 days per Year		20 per day 35 per day	13,500	14,175	14,884	
ACDI Supervisory travel Year I : 90 days Years II & III : 30 days			11,160	3,720	3,906	
						42,559
4. CONSULTANTS			74,558	46,978	49,327	170,863
Consulting fees 5 weeks average assignment length, 6 days per week @		300 per day,	45,000	28,350	29,768	103,118
5 assignments year I 3 assignments year II and III						
DBA @ 2.79% of consulting fees			1,256	791	831	2,877
Medex @		17 per month per consultant	102	71	75	248
Consultant travel @ 5% increase per year		1,000 per assignment	5,000	3,150	3,308	11,458
Per diem for in-country work, 35 days/assignmt		124 per day	21,700	13,671	14,355	49,726
Miscellaneous - Communications, taxis, physicals, visas, report preparation, copies, etc.		300 per consulting assignment	1,500	945	992	3,437
5.			89,000	300	300	89,600
Project Vehicles - 1 4-WD Wagons @		18,000 each	18,000	0	0	18,000
2 Pickup trucks @		14,000 each	28,000	0	0	28,000
Shipping of vehicles @		2,500 each	7,500	0	0	
Computer Equipment 7 Personal Computers @		3,000	21,000	0	0	21,000
Equipment - Math co-processor, Surge Protector, Software, etc. printer			3,500	300	300	4,100
Fax, Copier and office furniture			9,500	0	0	9,500
2 Phone lines		1,500	1,500	0	0	1,500
6. OTHER DIRECT COSTS			16,000	16,800	17,640	50,440
Communication between field and Washington Telephone, telex, fax, courier, post, etc. $600 per month		5% increase per year	7,200	7,560	7,938	22,698

Office Rent – 400 per month	4,800	5,040	5,292	15,132
General miscellaneous costs: copies, supplies temporary services, taxis, books, journals, etc. and Legal Advisor	4,000	4,200	4,410	12,610
7. TOTAL ACDI DIRECT COSTS	514,849	388,928	408,310	1,312,087
8. INDIRECT COST @ 36.6%	188,435	142,348	149,441	480,224
9. TOTAL ACDI BUDGET	703,284	531,276	557,751	1,792,310
10. SUBGRANTS – TECHNOSERVE	610,611	538,762	565,700	1,715,073
11. TOTAL ESTIMATED BUDGET	1,313,895	1,070,038	1,123,451	3,507,383

Attachment 2

Project Log Frame

AGRICULTURAL COOPERATIVE DEVELOPMENT INTERNATIONAL
TECHNOSERVE, INC.
OLMOS/MOTUPE/JEQUETEPEQUE VALLEYS (O/M/J) *CAJA RURAL*
&
COMMUNITY-BASED ENTERPRISE DEVELOPMENT PROJECT
LOGICAL FRAMEWORK

GOAL	INDICATORS	VERIFICATION	ASSUMPTIONS
1. Develop a sustainable, community-based credit institution in the O/M/J valleys, and draw on the experience to ensure a reliable and effective system of rural credit develops in Peru. 2. Generate new sources of rural employment, rational economic development and viable, sustainable sources of income for the agricultural producers in the O/M/J Valleys, by introducing profitable, non-traditional crops with export and/or agro-processing potential and establishing viable systems to get these products to market.	1a. Viable O/M/J Valleys *Caja Rural* delivering credit effectively to agribusinesses, community-based enterprises, and producers, while mobilizing local resources. b. Established mechanism effectively rediscounting *Caja* system's loans. 2a. Viable, sustainable, farmer-owned enterprises making effective use of local natural and human resources. b. Three non-traditional crops introduced and established. c. 50% increase in income levels; 20% in employment in communities with CBEs. d. Viable, sustainable marketing channels for farmer's production in place and functioning.	1. *Caja Rural* Data Base and CBEs' MIS Field Data Base (FDB) system. 2. AID Quarterly operating reports. 3. Project Monitoring and Evaluation Reports. 4. End of Project Evaluation.	1. Regional stability permitting credit and enterprise development. 2. Continued government promotion of *Caja* system & market-driven community-based development. 3. Sufficient credit resources to meet demand, and adequate infrastructure to support development of marketing systems.

PURPOSE	INDICATORS	VERIFICATION	ASSUMPTIONS
1. To develop and test a new model of community-based, locally-owned and managed, self-sustainable, rural financial institution driven by a market mentality and a profit motivation that can meet the needs of the OR&T inhabitants in developing market-responsive agricultural production and agricultural-based businesses. 2. To identify and strengthen a central rediscount facility that can service the pilot's *Cajas* with a smooth functioning, loan rediscount mechanism. 3. Develop self-managed, profitable, community-based enterprises and assist institutions servicing these enterprises. 4. Mobilize technical and financial resources to increase agricultural productivity. 5. Position local producers within the regional marketing chain. 6. Promote and assist in the development of second level agro-processing community enterprises.	1. Existence of a viable pilot *Caja* with resources and skills to manage and operate independently. 2. Existence of a functioning rediscount mechanism serving the pilot *Cajas*. 3. 6 community based enterprises assisted with 5,000 direct beneficiaries. 4. 2 second level agro-processing enterprises established. 5. 1 marketing entity established and/or strengthened.	1. *Caja Rural* Data Base and CEIs' MIS Field Data Base (FDB) system. 2. AID Quarterly operating reports. 3. Project Monitoring and Evaluation Reports. 4. End of project evaluation.	1. GOP interest and support in rediscount mechanism. 2. Pool of potential, viable agricultural enterprises to select from. 3. Adequate agricultural resources for production, including land, credit, inputs and technology.

OUTPUTS	INDICATORS	VERIFICATION	ASSUMPTIONS
1. Sustainable *Cajas* in O/M/I, and effective rediscount mechanism and trade association at the national level. 2. Effective delivery of credit to meet demand of O/M/I's agricultural sector. 3. Planning of at least 7 non-CBE, agribusiness ventures. 4. 6 economically viable, environmentally sustainable, community-based enterprises with sound administration, planning, organization, financial management, production and marketing systems. 5. Introduction of a minimum of 3 new crops on a commercial scale. 6. Development of local, regional and international marketing channels for non-traditional crops. 7. Regional credit demand, market, and agribusiness feasibility studies completed. 8. Increased standard of living in O/M/I Valley region.	1. *Cajas* with sufficient capital to leverage resources for demanded credit; profitable financial services; positive cash flow after operations. 2. Rediscount mechanism tied into all existing *Cajas*. 3. Credit portfolio of at least $20 million, subject to demand study in project start-up phase; with market rates of interest, and delinquency/default rate less than loss reserves and 6% of portfolio. 4. 7 new or expanded, profitable agribusiness operations sourcing product from region's farmers, current in debt to the *Caja*. 5. 3 non-traditional crops introduced, post-harvest services and infra-structure implemented, and commercial scale operations profitable at the farm, processing and marketing levels. 6. Increase in rural family income (50% among direct CBE beneficiaries), increase in rural employment of 20% in participating communities, increased profitability of traditional production. 7. 5,000 people directly benefitted by project's CBE activities.	1. *Caja Rural* Data Base and CBEs' MIS Field Data Base (FDB) system. 2. Counterpart agreements. 3. Project agreements. 4. Feasibility studies. 5. Project business plans, financial reports. 6. Cost effectiveness studies. 7. Final project evaluation.	1. Appropriate counterparts to receive training and technical assistance. 2. Acceptance of TechnoServe technical enterprise development approach by local community. 3. Development model of *Caja Rural* can be successfully demonstrated in O/M/I area.

INPUTS	INDICATORS	VERIFICATION	ASSUMPTIONS
1. PERSONNEL: •ACDI Chief of Party, 1 senior advisor, two field technicians residing in Chiclayo. •TechnoServe Country Director serving as overall director of CEE component, overseeing project manager and 5 person, multi-disciplinary team of advisors. • 58 person-months of short-term technical consultants. •ACDI and TechnoServe institutional support and backstopping from respective Latin America and Finance & Administration divisions. 2. NON-PERSONNEL as elaborated in budget: •vehicles and office furniture/ equipment •Travel and transportation within project region, to/from Lima central office and to regional and US locations for overall project management and coordination. •Office and other direct costs to support project needs. 3. Local currency Seed Capital Fund monitored by ACDI team to maximize impact. 4. Intensive technical assistance in areas of credit demand analysis, organizational development, market studies, feasibility studies, production, post harvest handling, processing, marketing, financial management, credit operations, loan rediscounting. 5. Market information systems for both Cajs and CEEs.	1. Budget outlays for personnel and non-personnel costs as proposed in the attached budget. 2. Monitoring visits by Project Director to project regions and by Latin America headquarters staff to Lima and project region. 3. On-site presence of advisor technical team providing services to CEE clients. 4. Monthly coordination meetings in Chiclayo. 5. Fully equipped offices in Chiclayo. 6. Existence of enterprise management documents, including: - Feasibility studies - Business plans - Accounting systems 7. Training programs implemented in production, harvesting and post-harvest crop management, with 30 parataxicians trained in TechnoServe enterprise development methodology. 8. Pre-investment studies for 3 new non-traditional products completed. 9. Market information publications	1. Annual project plans and budgets. 2. Quarterly financial reports. 3. Final project financial report. 4. End of project evaluation. 5. Local-time timesheets, vouchers and other supporting documentation. 6. Internal audit program.	1. Project is approved and funded as requested. 2. Available pool of qualified professionals to select from in the project region. 3. Availability of local currency for Seed Capital Fund.

Attachment 3

Adjusted Budgets submitted by ACDI

DETAIL BUDGET		YEAR I	YEAR II	YEAR III	TOTAL GRANT	COUNTER-PART	GRAND TOTAL
1.	SALARIES	$168,167	$170,450	$118,335	$456,952	$72,888	$529,839
	Local	$156,500	$164,325	$111,904	$432,729	$60,638	$493,366
	Chief of Party base salary of: $50,000 (75–25% split in Yr. 3)	50,000	52,500	41,344		13,781	
	Agribus. Specialist base salary of: $45,000 (50–50% split in Yr. 3)	45,000	47,250	24,806		24,806	
	Credit Analyst base salary of: $18,000 (50–50% split in Yr. 3)	18,000	18,900	9,923		9,923	
	Agribus. Loan Analyst base salary of: $22,000 (50–50% split in Yr. 3)	22,000	23,100	12,128		12,128	
	Admin Assistant base salary of: $10,000	10,000	10,500	11,025			
	Secretary base salary of: $8,000	8,000	8,400	8,820			
	Messenger base salary of: $3,500	3,500	3,675	3,859			
	H.Q. Technical and Logistics Support	$11,667	$6,125	$6,431	$24,223	$12,250	$36,473
	Composite Salary of Chief & Prior: $70,000						
	2 PM in Year I						
	1 PM in Years II and III						
	2 PM in-kind over life of project						
2.	PAYROLL ADDED COSTS	$90,529	$92,717	$64,003	$247,249	$38,028	$285,277
	Local Staff	86,075	90,379	61,547	238,001	33,351	
	Fringe Benefits @ 55.0% of salaries						
	ACDI H.Q. Staff						
	Holiday, Leave, Benefits @ 38.18% of H.Q. support	4,454	2,339	2,455	9,248	4,677	
3	TRAVEL AND PER DIEM	$41,600	$33,699	$30,207	$105,506	$5,127	$110,632
	A. TRAVEL	$11,100	$10,360	$10,869	$32,329	$0	$32,329
	5% increase per year						
	International Travel	1,000	1,000	1,000	3,000		
	Annual planning and coordination trip to ACDI HQ $1,000 per trip						
	In-country air travel @ $450 per month	5,400	5,670	5,954	17,024		
	ACDI supervisory travel to Lima, from Washington, D.C., yearly,	4,000	3,150	3,308	10,458		
	4 adult RT in year I @						
	3 adult round-trips in years II, III						
	(Combined w/ other travel as possible) $1,000 per trip						
	Miscellaneous travel costs @ 175 per trip per traveller per international trip	700	560	588	1,848		

	B. PER DIEM		$30,588	$23,319	$19,338	$73,177	$5,127	$78,303
	COP annual planning trip to ACDI HQ Year I : 23 days @ $125 per day Years II & III : 7 days		2,875	875	919			
	Travel to Lima 4 days/month @ $125/day		6,000	6,300	6,615			
	Regional travel 450 days per Year (meals) 75 days per Year	$20 per day $35 per day	11,625	12,206	7,690		5,127	
	ACDI Supervisory travel Year I : 80 days Years II & III : 30 days		10,000	3,938	4,134			
						31,521		
4.	CONSULTANTS		45,408	28,600	30,030	104,038		
	Fees – Average Assignment will be 6 days per week @ 5 assignments year I 3 assignments year II and III 2 in-kind assignments over LOP	3 weeks $290 per day.	$26,180	$16,443	$17,265	$59,888	$11,689 $10,962	$71,497
	DBA @	5.90% of consulting fees	1,540	970	1,019	3,529	690	
	Modest @	$17 per month per consultant	68	36	37	141	37	
	Consultant travel @ 5% increase per year	$1,000 per assignment	5,000	3,150	3,308	11,458		
	Per diem for in-country work, 28 days/assignment @	$112 per day	11,200	7,056	7,409	25,665		
	Miscellaneous – Communications, taxis, physicals, visas, report preparation, copies, etc. @	$300 per consultancy	1,500	945	992	3,437	942	

			YEAR I	YEAR II	YEAR III	TOTAL GRANT	COUNTER-PART	GRAND TOTAL
5.	COMMODITIES		$66,500	$300	$0	$66,800	$14,300	$81,108
	Project Vehicles: 1 4—WD Wagon @	$18,000 each	18,000	0	0	18,000		
	2 Pickup trucks @	$14,000 each	14,000	0	0	14,000	14,000	
	Shipping of vehicles @	$2,500 each	5,000	0	0			
	Computer Equipment							
	5 Personal Computers @	$3,000 each	15,000	0	0	15,000		
	Equipment — Math co—processor, Surge Protector, Software, etc. printer		3,500	300	0	3,800	300	
	Fax, Copier and office furniture		9,500	0	0	9,500		
	2 Phone lines @	$750 each	1,500	0	0	1,500		
6.	OTHER DIRECT COSTS		$14,089	$14,784	$15,523	$44,387	~~$27,000~~	$71,387
	Communication between field and Washington Monthly phone, mail, fax, courier, etc. 5% increase per year	$440	5,280	5,544	5,821	16,645		
	Office Rent	$400 per month	4,800	5,040	5,292	15,132		
	Vehicle Maintenance — 3 @ 3000/yr.						~~27,000~~	
	General miscellaneous costs: copies, supplies temporary services, taxis, books, journals, etc. and Legal Advisor		4,000	4,200	4,410	12,610		
7.	TOTAL ACDI DIRECT COSTS		$426,284	$340,550	$258,098	$1,024,931	$157,342	$1,182,273
8.	INDIRECT COST @	36.6%	$156,020	$124,641	$94,464	$375,125	$57,587	$432,712
9.	TOTAL ACDI BUDGET		$582,304	$465,191	$352,561	$1,400,056	$214,929	$1,614,985
10.	SUBGRANTS — TECHNOSERVE		$487,425	$445,185	$467,444	$1,400,054		$1,400,054
11.	TOTAL BUDGET		$1,069,729	$910,376	$820,005	$2,800,110	$214,929	$3,015,039

TECHNOSERVE, INC. PROJECT BUDGET
Peru: Olmos – Motupe – Jequetepeque Valleys Enterprise Development Project
All amounts in $US – 5% Annual Inflation Factor

	Year One	Year Two	Year Three	TOTAL
01. SALARIES & BENEFITS				
PROFESSIONALS				
PROJECT DIRECTOR @ 25% TIME	9,600	10,080	10,584	30,264
PROJECT MANAGER @ 100% TIME	33,600	35,280	37,044	105,924
AGRONOMISTS – 1	20,400	21,420	22,491	64,311
AGRO–PROCESSING SPECIALIST – OUT	0	0	0	0
AGRICULTURAL ECONOMIST	20,400	21,420	22,491	64,311
ACCOUNTANT	15,600	16,380	17,199	49,179
BUSINESS PROMOTER/SOCIOLOGIST	15,600	16,380	17,199	49,179
ADMINISTRATIVE SUPPORT				
OFFICE MANAGER @ 30% TIME DEVOTED	5,400	5,670	5,954	17,024
BOOKEEPER @ 0% TIME DEVOTED – OUT	0	0	0	0
SECRETARY @ 30% TIME DEVOTED	1,800	1,890	1,985	5,675
MESSENGER @ 0 % TIME DEVOTED – OUT	0	0	0	0
TOTAL SALARIES:	$122,400	$128,520	$134,946	$385,866
FRINGE BENEFITS: INCLUDE AGUINALDO,THRIFT, PENSION,SOC.SEC., HEALTH INS.,ETC.	85,680	89,964	94,462	270,106
TOTAL 01 COSTS	$208,080	$218,484	$229,408	$655,972
02. OFFICE EXPENSES				
SUPPLIES AND OTHER SERVICES–$250 MONTH	3,000	3,150	3,308	9,458
MAIL,TELEPHONE,COURIER,FAX– $250 MONTH	3,000	3,150	3,308	9,458
TOTAL 02 COSTS	$6,000	$6,300	$6,615	$18,915
03. INTERNATIONAL TRAVEL				
1 ANNUAL TRIP FOR 2 STAFF: PERU TO NORWALK	1,600	1,680	1,764	5,044
PER DIEM: $100 PER DAY FOR 5 DAYS FOR 2 STAFF	1,000	1,050	1,103	3,153
1 ANNUAL TRIP FOR 2, LA REGIONAL MTG.	800	840	882	2,522
PERDIEM: $100 PER DAY FOR 5 DAYS FOR 2 STAFF	1,000	1,050	1,103	3,153
TOTAL 03 COSTS	$4,400	$4,620	$4,851	$13,871
04. LOCAL TRAVEL				
65 TRIPS YR1 & 70 TRIPS IN YRS 2&3 @ $110	7,150	8,085	8,489	23,724
LODGING: $35 x 750 DAYS YR1, 800 YRS 2 &3	26,250	27,930	29,327	83,507
PER DIEM: $20 x 1000 DAYS YR1, 1200 YRS 2&3	20,000	24,000	25,200	69,200
TOTAL 04 COSTS	$53,400	$60,015	$63,016	$176,431

05. EQUIPMENT				
2 FOUR WHEEL DRIVE VEHICLES	36,000	0	0	36,000
2 COMPUTER WORKSTATIONS	11,000	0	0	11,000
OFFICE FURNITURE	2,500	0	0	2,500
TOTAL 05 COSTS	$49,500	$0	$0	$49,500
06. OUTSIDE SERVICES				
SHORT TERM CONSULTANTS $3000/MO., 6 MO./YR.	18,000	18,900	19,845	56,745
SHORT TERM CONSULTANTS $1000/MO., 4 MO./YR.	4,000	4,200	4,410	12,610
TOTAL 06 COSTS	$22,000	$23,100	$24,255	$69,355
07. VEHICLE OPERATIONS				
$10 DAY @ 288 DAYS A YEAR FOR 2 VEHICLES	5,760	6,048	6,350	18,158
VEHICLE REPAIRS: (15% OF OPERATIONS)	864	907	953	2,724
TOTAL 07 COSTS	$6,624	$6,955	$7,303	$20,882
08. OTHER COSTS				
OTHER MISCELLANOUS COSTS	1,450	1,523	1,599	4,571
TOTAL 08 COSTS	$1,450	$1,523	$1,599	$4,571
TOTAL FIELD PROGRAM COST	$351,454	$320,997	$337,047	$1,009,497
L.A. DIVISION OVERHEAD	$47,095	$43,014	$45,164	$135,273
G & A OVERHEAD	$88,876	$81,174	$85,233	$255,284
TOTAL COST	$487,425	$445,185	$467,444	$1,400,054

Attachment 4

Revised Summary Budgets

REVISED BUDGET

1. For activities to be carried out directly by ACDI:

Item	Year I	Year II	Year III	Total Grant	Counterpart	Grand Total
1. Salaries	168,167	170,450	118,335	456,952	72,888	529,840
2. Payroll added costs	90,529	92,717	64,003	247,249	38,028	285,277
3. Travel & per diem	41,600	33,699	30,207	105,506	5,127	110,633
4. Consultants	45,408	28,600	30,030	104,038	11,689	115,727
5. Commodities	66,500	300	0	66,800	14,300	81,100
6. Other direct costs	14,080	14,784	15,481	44,345	12,000	56,345
7. Total ACDI direct costs	426,284	340,550	258,056	1,024,890	154,032	1,178,922
8. Indirect cost: 36.6%	156,020	124,641	94,449	375,110	56,376	431,486
9. Total ACDI budget	582,304	465,191	352,505	1,400,000	210,407	1,610,408
10. Subgrant TechnoServe	487,425	445,185	467,390	1,400,000	202,611	1,602,611
Total	1,069,729	910,376	819,895	2,800,000	413,018	3,213,019

REVISED BUDGET

2. For Activities Through the TechnoServe Subgrant:

Item	Year I	Year II	Year III	Total Grant	Counterpart	Grand Total
1. Salaries+benefits	208,080	218,484	229,408	655,972	94,300	750,272
2. Office expenses	6,000	6,300	6,615	18,915	0	18,915
3. International travel	4,400	4,620	4,851	13,871	0	13,871
4. Local travel	53,400	60,015	63,016	176,431	51,800	228,231
5. Equipment	49,500	0	0	49,500	0	49,500
6. Outside services	22,000	23,100	24,255	69,355	0	69,355
7. Vehicle operation	6,624	6,955	7,303	20,882	0	20,882
8. Other costs	1,450	1,523	1,560	4,533	0	4,533
9. Total field program cost	351,454	320,997	337,008	1,009,459	146,100	1,155,559
10. Latin american Division Overhead	47,095	43,014	45,159	135,268	19,577	154,845
11. General and Administrative Overhead	88,876	81,174	85,223	255,273	36,934	292,207
Total	487,425	445,185	467,390	1,400,000	202,611	1,602,611

INITIAL ENVIRONMENTAL EXAMINATION
USAID/PERU

PROJECT LOCATION:	Peru
PROJECT TITLE:	Export, Trade and Development (ETD) Amendment No. 2
PROJECT NUMBER:	527-0349
PACD:	March 31, 1998
LOP FUNDING INCREASE:	$8 million (added to authorized $19.5 million)
FUNDING SOURCE:	USAID/PERU (ESF, DA, PL 480 LC)
IMPLEMENTING AGENCIES:	ADEX, ACDI/TechnoServe, and a local NGO/Foundation to be selected
IEE PREPARED BY:	Carlos Ayala, Mission Environmental Officer
RECOMMENDED THRESHOLD DECISION:	Negative determination is recommended because it is anticipated that the Project activities will not have a major effect on the environment. No pesticide or other input or activities which are detrimental to the environment will be funded, with foreign exchange or local currency, without prior preparation of an Environmental Assessment and consulting with the Environmental Officer of Mission, Regional Office, and LAC Bureau. Categorical Exclusion is recommended for training, institutional building, technical studies, and technical assistance components, and other classes of actions described in Section 216.2, paragraphs c(2)(i) and c(2)(iii) "Categorical Exclusions" of 22 CFR Environmental Procedures Part 216.

Carlos Ayala
Environmental Officer

Date 9/8/93

Donald Boyd
A/Director

Date 9/9/93

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Classes of actions described in Section 216.2, paragraphs c(2)(i) and c(2)(iii) "Categorical Exclusions" of 22 CFR Environmental Procedures Part 216:

"Section 216.2 c(2)(i)
Education, technical assistance, or training programs except to the extent such programs include activities directly affecting the environment (such as construction of facilities, etc.);"

"Section 216.2 c(2)(iii)
Analyses, studies, academic or research workshops and meetings."

Environmental Review and Recommendation

REVIEW

Planned New Project Activities
The Project Amendment adds an Agricultural Productivity Improvement Component (APIC) to the ETD Project to improve the productivity and competitiveness of farmers engaged in the production of exportable agricultural products. The APIC includes three activities:

(1) Production Technologies (private sector support through seed certification, and technology transfer);

(2) Production of Business Development Financing (establish a financial institution and export-oriented enterprises through NGOs; establish a lines-of-credit mechanism using GOP local currency generated from PL 480 Program);

(3) Human Resources Development (support university agronomy professors to do research related to exportable agricultural products and complete their specialized studies in Peru, in addition to training for farmers and persons engaged in agro-processing and agri-business activities).

It is expected that any activity of the APIC which involves integrated pest management or the purchase of agricultural chemicals will not involve the use of chemical pesticides or other input which may have a negative environmental impact. An Environmental Assessment (EA) will be necessary to justify their feasibility in consultation with and approval of the MEO, REA and LAC/DR/E Officer.

Prior Project Environmental Reviews and Planned Actions
Before this Project Amendment, an Initial Environmental Examination was prepared (March 15, 1990), and the Bureau's Environmental Threshold Decision (April 19, 1990) indicated a Positive Determination. An Environmental Assessment was carried out (October 1990) with the following findings:

(1) Agricultural export enterprises receiving technical assistance under the Project will use some pesticides in the production process to increase their yields.

(2) Laboratories in Peru are not adequately equipped for pesticide residue analysis needed to comply with U.S. tolerances on the crops intended for exports. Furthermore, laboratory personnel are not sufficiently trained or experienced in pesticide residue analysis.

Additionally, an EA Addendum on non-pesticide potential environmental adverse impacts (December 1990, reviewed January 1991) identified the following two different environmental problem sets:

(1) Existing environmental conditions in areas that could make Project assisted investments less productive (progressive soil salinization, uncontrolled growth of marginal urban areas, deforestation, irrigation water with soluble salts and inorganic residues, deficient air quality, sand or dune movement, water soil erosion and flood caused by climatic phenomena)

(2) Potential environmental problems derived from intensive, technified agricultural production systems (soil fertility deterioration associated with monoculture, intensive use of inorganic fertilizers, intensive soil cultivation, intensive use of water).

The recommended mitigative actions and measures to reduce environmental threats of pesticide use and to advance the use of non-chemical alternatives included:

(1) Use of pesticides registered in Peru and falling under the U.S. EPA's "general use" category.

(2) Provision of training to farmers on the correct use of pesticides and non-chemical alternatives as part of an integrated pest management system.

(3) Improvement of equipment and technical expertise of chemical laboratories performing pesticide residue analysis in Peru.

(4) Recommendation that lending institutions do not approve loans from the credit line for the purchase of pesticides not approved by the U.S. EPA.

(5) Purchase and maintenance of protecting devices and clothing for all pesticide use on Project-related crops.

(6) Development of a crop rotation program with selected plant species.

(7) Use of organic fertilizers.

(8) Analysis of soil and water quality before the crop is established in areas where soil salinization is a common occurrence.

Taking into account the preceding mitigative recommendations, the following actions were planned to be taken during Project implementation:

(1) Technical assistance provided to specific firm(s) in export crop production would also include information and recommendations on minimizing pesticide use, carrying out soil/water analyses prior to crop production, developing crop rotation programs, and on utilization of approved EPA registered products and monitoring use.

(2) Additional training would also be provided to upgrade the technical expertise of chemical laboratories in Peru.

(3) Specific workshops would be financed to provide general information on pesticide information, utilization, and residue (quality control) analyses.

(4) Agreements for local currency credit funds would indicate that these would not be used to purchase pesticides, that residue analyses must be performed for exported agricultural products, and that protective equipment was elegible for financing.

(5) A full-time Environmental Specialist or a variety of short-term TA and specialized courses and training would be funded under the Project.

RECOMMENDATION FOR THIS AMENDMENT
Based on the preceding review, it is recommended that a follow-up analysis of the above planned actions be performed within six months of the signing of the Amendment in order to determine the compliance with and effectiveness of the recommended environmental mitigative actions.

Clearance:
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JBoyer,A/DD JB

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U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

LAC-IEE-93-47

ENVIRONMENTAL THRESHOLD DECISION

Project Location	:	Peru
Project Title	:	Export, Trade and Development Amendment No. 2
Project Number	:	527-0349
Funding	:	$ 27.5 millions ($ 8.0 millions this amendment)
Life of Project	:	5 years
IEE Prepared by	:	Carlos Ayala, USAID/Peru Mission Environmental Officer

Recommended Threshold Decision: Categorical Exclusion/ Negative Determination

Bureau Threshold Decision : Concur with Mission Recommendations

Comments : Categorical Exclusion is issued, as stated in attached IEE, for training, institution building, technical studies, and technical assistance components as described in 22 CFR 216.2 (c)(2)(i) and (iii).

Conditional Negative Determination is issued for other project components, as these are not expected to have a significant negative effect on the environment. This Negative Determination is contingent to the incorporation into the Project Agreement Conditions Precedent stipulating that project funds will not be used to: (a) Support timber extraction or significant deforestation, including the procurement or use of equipment that could be used in deforestation activities; (b)

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Procurement or use of pesticides; (c) that this project shall have no negative effect on endangered species or critical habitats; and (d) that the follow-up analyses to the 1990 EA be conducted as recommended by the IEE.

LAC/DR/E strongly agrees with Mission on the advisability of conducting a follow-up analysis on the effectiveness of mitigation measures implemented as the result of the 1990 "Environmental Assessment and Analysis of Pesticide Use in the Investment and Export Promotion Project (527-0349)". LAC/DR/E also strongly endorses the Mission recommendation for conducting this Environmental Review within six months of signing the Amendment, and congratulates Mission for its proactive actions to ensure full compliance with environmental monitoring provisions as required by 22 CFR 216.

Date 9/21/93

Jeffrey J. Brokaw
Acting Chief Environmental Officer
Bureau for Latin America
and the Caribbean

Copy to : Donald Boyd A/Director
USAID/Peru

Copy to : Carlos Ayala, MEO
USAID/Peru

Copy to : Howard Clark, REA
USAID/Ecuador

Copy to : John Schneider, LAC/SAM

Copy to : IEE File