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

ECUADOR

PROJECT PAPER

RURAL TECHNOLOGY TRANSFER SYSTEM
(Amendment)

AID/LAC/P-269 (Amendment)
P-055
P-055/1

Loan Number:518-T-041
Project Number:518-0032

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AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE: C (A = Add, C = Change, D = Delete)

Amendment Number: 2

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3. PROJECT NUMBER: 518-0032

4. BUREAU/OFFICE: LAC 05

5. PROJECT TITLE (maximum 40 characters): Rural Technology Transfer System

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM 09 DD 30 YY 88

7. ESTIMATED DATE OF OBLIGATION (Under 'B.' below, enter 1, 2, 3, or 4)

A. Initial FY 80 B. Quarter 4 C. Final FY 87

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

A. FUNDING SOURCE	FIRST FY 1980 B. FX	C. L/C	D. Total	LIFE OF PROJECT E. FX	F. L/C	G. Total
AID Appropriated Total						
(Grant)	(385)	(15)	(400)	(4,750)	(550)	(5,300)
(Loan)	(-)	(-)	(-)	(2,500)	(100)	(2,600)
Other U.S. 1.						
Other U.S. 2.						
Host Country		685	685			
Other Donor(s)						
TOTALS	385	700	1,085	7,250	650	7,900

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) ARDN	284	968	968	3,700	2,600	-	-	5,300	2,600
(2)									
(3)									
(4)									
TOTALS									

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each): 050 012 978

11. SECONDARY PURPOSE CODE:

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

A. Code	XII						
B. Amount	7,900						

13. PROJECT PURPOSE (maximum 480 characters)

1. Establish a rural technology transfer system which can identify and address key rural development constraints by mobilizing technical resources, especially those of the U.S. Title XII institutions.
2. Strengthen rural sector institutions so that they will be able to serve the sector effectively.
3. Develop technologies appropriate to the needs of small farmers and the agricultural sector in general.

14. SCHEDULED EVALUATIONS

Interim MM 12 YY 86 MM YY Final MM 09 YY 88

15. SOURCE/ORIGIN OF GOODS AND SERVICES

Grant: [X] 000 Loan: [X] 941 [ ] Local [ ] Other (Specify)

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

A revision of the Project strategy is proposed, to place greater emphasis on the use of private sector mechanisms for developing and disseminating appropriate technologies to the agricultural sector. Additional resources will, also be assigned to training of researchers technicians, and producers. Finally, project implementation responsibility is being shifted from the National Science and Technology Council to the Ministry of Agriculture, to overcome institutional problems which had adversely affected the Project. No additional funding is proposed.

17. APPROVED BY

Signature: [signature]

Title: Director USAID/Ecuador

Date Signed: MM 10 DD 29 YY 85

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

MM 12 DD 04 YY 85

AID 1330-4 (8-79)

RURAL TECHNOLOGY TRANSFER SYSTEM
PROJECT 518-0032
PROJECT PAPER SUPPLEMENT

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BULK (A) Team Report on Redesign of RTTS Project.

SUMMARY AND RECOMMENDATION

A. Recommendation

It is recommended that the Director of the A.I.D. Mission to Ecuador approve this Project Paper Supplement and amend the Project Authorization for the Rural Technology Transfer System Project (518-0032). This amendment will: (a) revise the strategy to strengthen achievement of the Project objectives; (b) revise the Conditions Precedent and Covenants in line with the new strategy; and (c) extend the PACD by one year, to September 30, 1988. No increase in the authorized life-of-Project funding level is entailed by the amendment.

B. Project Summary

The Rural Technology Transfer System Project was authorized on July 31, 1980 for five years with life-of-Project funding of $5.3 million Grant. The Project purpose is to:

1. Strengthen rural institutions so that they are able to serve the sector effectively;

2. Develop and disseminate technologies appropriate to the needs of small farmers and the agricultural sector in general; and

3. Promote and support the establishment of a Rural Technology Transfer System (RTTS): a management, administrative, and financial system which can address problems related to the institutional, technological, and other constraints of the sector on a continuing basis.

Responsibility for coordinating Project implementation was originally placed in the GOE's National Science and Technology Council (CONACYT). CONACYT was to develop the capacity to identify key technological constraints to rural and agricultural development, encourage Ecuadorean institutions to design activities (subprojects) to address those constraints, and help the institutions mobilize financial and other resources to implement the activities. A key element of the Project strategy was the establishment of linkages between the Ecuadorean agricultural sector and the Title XII university system to support the process of technology transfer and institutional strengthening in the sector. The University of Florida was competitively selected to provide resident advisors to CONACYT and to serve as a mechanism for channeling Title XII resources to the subprojects and other RTTS activities.

By early 1982, the Project appeared well on the way to success. On this basis, A.I.D. authorized a $5.0 million Loan Add-on. However, serious problems began to affect implementation of the Project shortly after approval of the Loan Add-on. Disbursements and new funding commitments fell off

dramatically. Project evaluations conducted in 1983 and 1984 concluded that these problems were rooted in CONACYT's inappropriateness as the implementing agency.

The new GOE administration which came to power in August 1984 concurred in this analysis and formally transferred implementing authority to the Ministry of Agriculture (MAG). It also requested that the Project strategy be revised to coincide more closely with the administration's emphasis on using private sector mechanisms to stimulate development of the agricultural sector. The initial redesign was completed in December 1984 with the help of an expatriate advisors. In March 1985, AID/W concurred with the concept of the redesign and authorized the Mission to proceed with the development of a set of new subprojects. The new subprojects were in their final stage of preparation in September.

The Project purpose remains unchanged. However, the amended Project will adopt a somewhat different strategy for more effectively achieving the purpose. This strategy will be accomplished through four main components:

New Subprojects. Whereas the subprojects previously approved by CONACYT were all implemented by public sector research, education, and extension institutions, the new subprojects will be implemented by private sector producer associations in selected commodity areas. Through training, technical assistance, and a limited amount of commodity support, the associations will strengthen their capacity to: identify technological constraints facing their producer members with special attention to small and medium producers; transfer appropriate technological solutions to producers; articulate the interests of their members to the GOE, especially as regards research priorities; and finance member services on a self-sustaining basis. It is expected that four new subprojects will be approved and implemented.

Previous Subprojects. The portfolio of previous subprojects has been evaluated. Four of these subprojects have been completed, four were discontinued, and four will continue with modifications.

Training. The amended Project also gives greater emphasis to training, both under the new subprojects and to the sector in general. For this purpose, an explicit Training Component is established. An estimated 38 and 117 persons will receive long and short term training, respectively, under this component.

Small Subprojects. This component has been retained to provide a modest amount of funds for activities of limited scope which are supportive of the overall Project objectives. The remaining funds will be focused on the needs of producer associations.

The Title XII system will continue to play a key role in supporting Project implementation, through resident advisors in the MAG and technical services provided to the various new subprojects.

In conjunction with the redesign, the Mission deobligated $2.4 million of the Loan funds. This was justified in light of the actual Loan funding needs identified in the redesign process and the availability of PL-480 local currency to partially substitute for the Loan funds.

C. Summary Financial Plan

The total estimated Project cost is $14,940,000 of which A.I.D. is providing $5,300,000 Grant and $2,600,000 Loan (53 percent). The counterpart contribution consists of the equivalent of $6,506,500 (43.5 percent) from the GOE and $533,500 (3.5 percent) from private producer associations. The summary financial plan is as follows (in thousands of dollars):

		A.I.D. GRANT	A.I.D. LOAN	GOE	PRODUCER ASSOC.
A.	Core Technical Assistance and Related Support	1,540.7	1,088.0	1,365.0	-
B.	Previous Subprojects	1,741.1	395.2	3,694.9	-
C.	New Subprojects	2,018.2	285.8	1,146.6	533.5
D.	Small Subprojects	-	200.0	-	-
E.	Training	-	685.0	-	-
	TOTAL	5,300.0	2,600.0	6,506.5	533.5

I. BACKGROUND

A. Original Project Purpose and Design

The Rural Technology Transfer System Project was authorized on July 31, 1980 and signed on August 27, 1980. This five year, $5.3 million grant funded Project was a key component of the A.I.D. program undertaken to support the development goals of the new civilian government which took office in August 1979.

The Project purpose is three-fold:

(a) To strengthen rural institutions so that they are able to serve the sector effectively.

(b) To develop and disseminate technologies appropriate to the needs of small farmers and the agricultural sector in general.

(c) To promote and support the establishment of a Rural Technology Transfer System (RTTS): a management, administrative, and financial system which can address problems related to the institutional, technological, and other constraints of the sector on a continuing basis.

The core of the RTTS, as originally conceived and implemented, consists of a Government of Ecuador agency whose functions include:

(a) identifying problems and determining rural development priorities in the areas of research, diffusion of appropriate technologies, institutional strengthening, and human resource training.

(b) identifying appropriate sources of technical expertise in the U.S. and other Latin American countries and channeling this expertise to Ecuadorean rural development institutions;

(c) identifying, mobilizing, and financing sources of short and long term technical training, both within the country and without, required by rural development institutions; and

(d) coordinating and providing top level support for institutional strengthening and long and short term research activities aimed at finding solutions to priority agricultural and rural development bottlenecks.

The GOE and A.I.D. considered several possible institutional homes for this core mechanism. They eventually selected the National Science and Technology Council (CONACYT), which was formally created by the GOE shortly after the signing of the Project Grant Agreement. CONACYT, an entity of the National Planning Council (CONADE), was given the mandate of formulating a

national science and technology policy, facilitating international technology transfer to Ecuador, and promoting research, development, and dissemination of technology with special emphasis on the problems of the Ecuadorean rural sector. CONACYT's bureaucratic position and functions seemed to ensure that the RTTS activities would receive high level support and would be part of a coordinated attack on the technological constraints facing the rural sector.

The other main component of the RTTS design was the subproject portfolio. The subprojects were to be the primary mechanism for achieving technological change by strengthening the capacity of rural development institutions to carry out research, extension, and educational activities. The role of CONACYT was to encourage and assist these participating institutions to develop proposals for subprojects which address specific rural development constraints. CONACYT would evaluate these proposals in light of GOE science and technology policy and channel financial and technical resources to those which were selected. The original Project Paper anticipated that the participating institutions would be predominantly from the public sector.

The Project design assigned a key role to the U.S. Title XII university system for achieving the institutional strengthening and technology transfer objectives. Early in Project implementation, A.I.D. entered into a core contract with the University of Florida which was competitively selected to serve as the lead Title XII university. Florida provided long term advisors to the RTTS personnel in CONACYT to strengthen their capacity to select, develop, finance, and monitor subprojects that are consistent with Ecuador's rural development priorities. The core contract also provides for a task order mechanism by which Florida can draw up the technical assistance and training expertise of other Title XII universities to support the implementation of the subprojects.

By early 1982, the RTTS Project appeared well on its way to success. Three major subprojects with RTTS funding requirements of over $2.5 million had been developed, evaluated, and approved by CONACYT and were under implementation. Eighteen additional subproject proposals were before CONACYT. Virtually all of the ongoing and proposed subprojects were sponsored by public sector institutions, including the Ministry of Agriculture (MAG), the National Agricultural Research Institute (INIAP), the Agrarian Reform Institute (IERAC), the Census and Statistics Institute (INEC), and various public universities and polytechnical schools. The demand for RTTS funding which was initially estimated at $4.3 million had burgeoned to more than $16 million.

Based on this strong response, A.I.D. went forward with the design of a $5.0 million Loan Add-on. The Project Paper Amendment and Authorization Amendment were approved by the Mission in June 1982, and the Project Loan Agreement signed on July 19, 1982. The expanded Project provided for:

(a) Increased and more specialized technical assistance plus commodities (vehicles and office equipment) to strengthen CONACYT's capacity to manage the RTTS. It was also anticipated that the CONACYT professional staff directly responsible for the RTTS would be increased from two to eight persons.

(b) An 80 percent increase in funding for subprojects to help meet the unexpectedly strong demand.

(c) Two small funds to finance activities which complement the principal subprojects: a fund for private sector research and development of processing and marketing technologies to help market small farmer production, and a fund for "small subprojects" (short courses, seminars, studies, short term technical assistance, etc.) which address specific research, education, or extension needs.

The revised Project budget was as follows:

		($000)			
		A.I.D.			
Component		Grant	Loan	Counterpart	Total
A.	Institutional Strengthening of CONACYT	1,712	288	1,365	3,365
B.	Special Funds	-	500	-	500
C.	Subprojects	3,588	4,212	11,958	19,758
	TOTAL	5,300	5,000	13,323	23,623

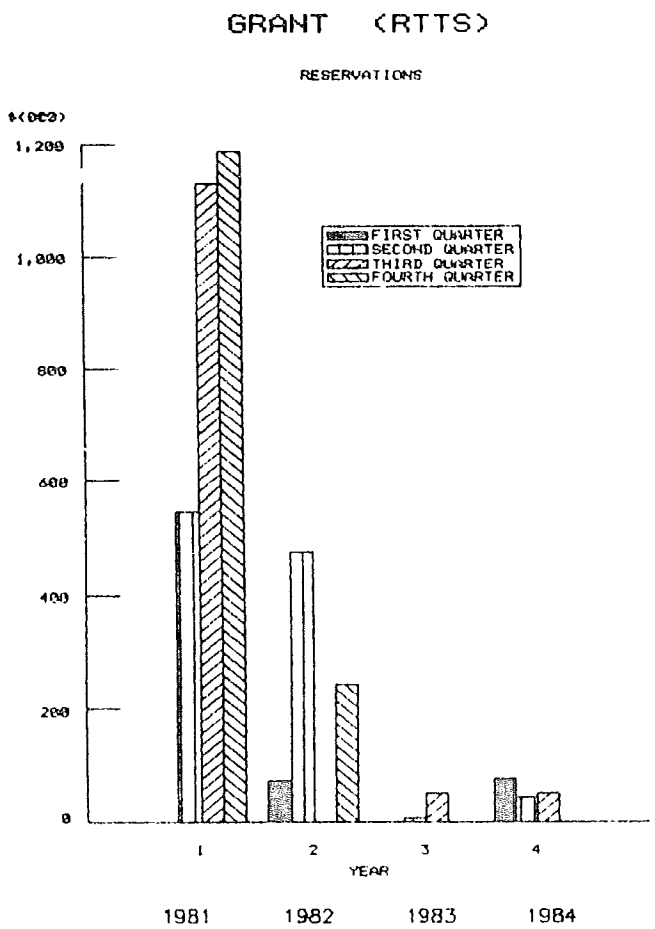
The PACD under the Project Loan Agreement was extended by two years to September 30, 1987.

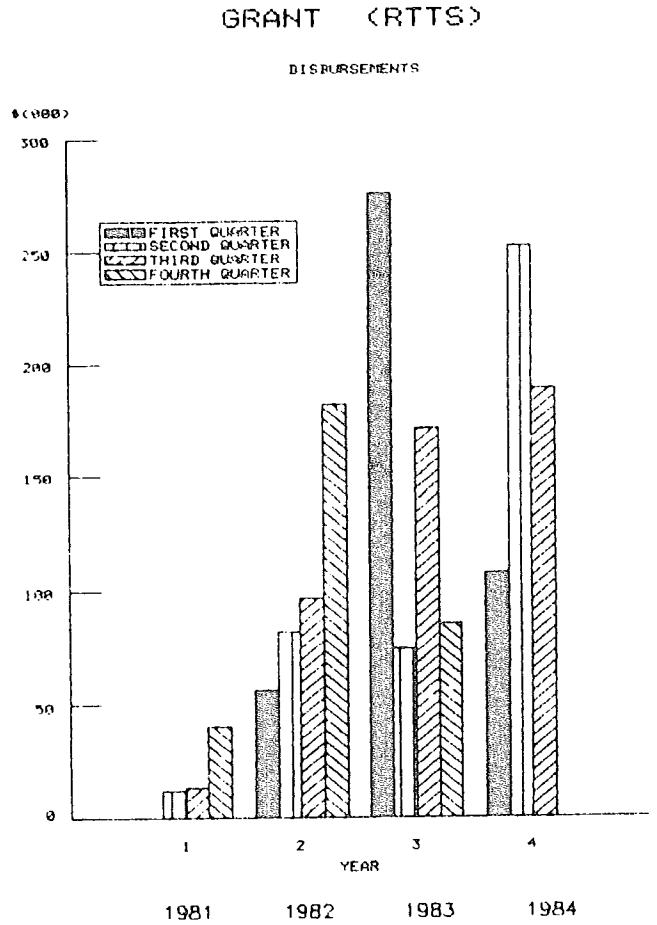
B. Project Problems and Status

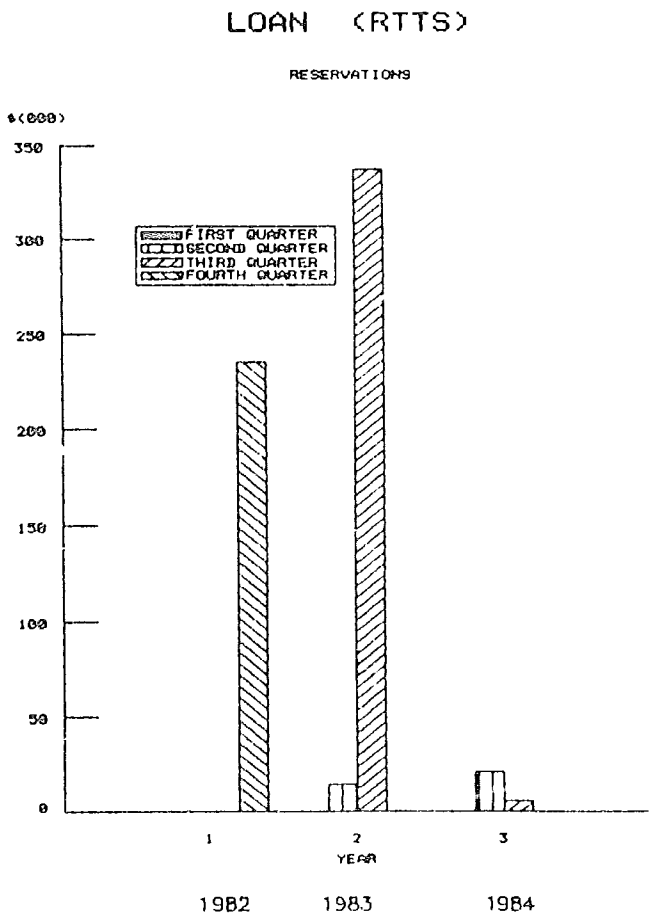
Serious problems affecting the implementation of the RTTS Project began to appear shortly after approval of the Loan Add-on. This is readily evident from the pattern of disbursements and earmarks shown in Figure I-1. Grant disbursements rose steadily through the first two years of implementation, then fell off starting in the quarter following signature of the Loan Add-on. The pattern of earmarks (reservations), which largely reflect new subproject approvals, is even more significant and revealing. Earmarking of funds peaked at about $1.2 million in the fourth quarter of FY-81, then dropped sharply. During the last two years prior to initiation of the redesign, quarterly earmarks of Grant funds never exceeded $100,000. Loan funds have been virtually untouched. As of December 31, 1984, two-and-a half years after the Loan Add-on, less than one percent of the Loan had been disbursed and only about 12 percent had been earmarked.

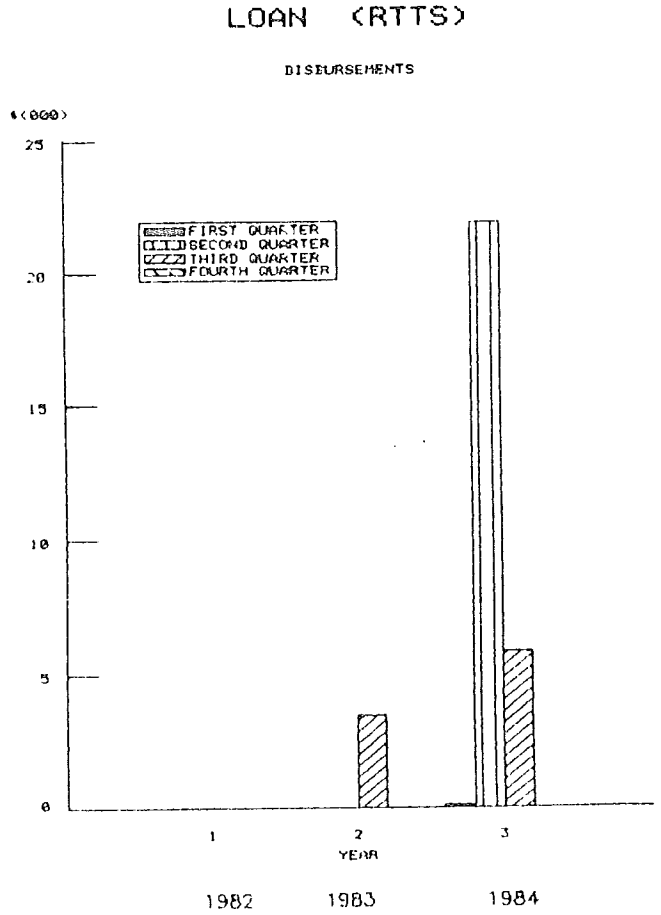
FIGURE I-1

RTTS PROJECT FINANCIAL TRENDS









Other indicators of the deterioration of Project implementation are readily cited. In March 1983, at the time of the first Project evaluation, 12 subprojects had been approved by CONACYT. After that, CONACYT approved no further subprojects. Only two "small subprojects", with total Loan funding of $40,000, had been approved at that time. The Condition Precedent to disbursement for the Loan funded private sector research and development fund was never met. Finally, the number of RTTS professional staff in CONACYT never approached the target stipulated in a Covenant in the Loan Agreement. The status of the RTTS Project versus the Logframe output indicators, as of December 31, 1984, is summarized in Table I-1.

TABLE I-1

RTTS PROJECT: STATUS OF OUTPUTS
(As of December 31, 1984)

OUTPUT	INDICATOR	STATUS
Staff on board and trained	8	5
Subprojects developed and approved	8	12
"Small subprojects" approved and funded	10	3*
Private Sector R&D activities approved and funded	6	0
Funds disbursed for subprojects, "small subprojects", and private sector R&D activities	$8,300,000	$980,000
Subprojects implemented and completed	8	2

* Includes one small subproject approved in December 1984, subsequent to the transfer of implementing responsibilities from CONACYT to MAG.

The problems affecting Project implementation were identified in the first evaluation and further analyzed in the second evaluation conducted in July 1984. The evaluation findings focused on the ineffectiveness of CONACYT as the central implementing agency for the RTTS. Several points were cited:

(a) CONACYT's perception of the role and importance of Title XII assistance in the RTTS was at great variance with the Project design. CONACYT felt that the emphasis on Title XII linkages created excessive costs and limited CONACYT's flexibility in

accessing other, primarily Latin American, sources of technical assistance and training. Tones of nationalism often pervaded this issue, and relations between CONACYT and the Florida advisors deteriorated steadily. CONACYT grew increasingly reluctant to approve the use of Title XII resources. This adversely affected several subprojects and created tensions between CONACYT and the participating institutions who generally [illegible] Title XII assistance.

(b) The subproject review and approval process within CONACYT did not function smoothly and consistently. To be sure, the existence of many actors (CONACYT, Florida [illegible] D., the participating institutions) posed problems [illegible] coordination. However, CONACYT was unable to develop clear procedures and manage the process. As relations among the actors deteriorated, CONACYT increasingly acted on its own, excluding the other institutions from the process.

(c) CONACYT exercised a role much different from that envisioned in the Project design. It had been expected that CONACYT would actively promote and select subprojects from the viewpoint of a national science and technology policy. In fact, CONACYT was slow to develop such a policy and to establish priorities for rural development needs. Virtually all of the subprojects presented to CONACYT during the first two-and-a-half years of the Project were approved. The Loan Agreement included a Condition Precedent requiring CONACYT to develop a set of priorities consistent with national development goals for use in ranking subprojects. However, after long delay, Florida ended up drafting the document which was acknowledged but never used by CONACYT. On the other hand, CONACYT's staff, which consisted mostly of economists, often made judgements on detailed technical aspects of subproject proposals. This annoyed the participating institutions and further diminished CONACYT's credibility among its clientele.

(d) As previously noted, CONACYT has been highly reluctant to make use of the Loan funds available under the Add-on. The Loan Agreement clearly calls for reprogramming of the previously approved subprojects to add Loan funds and free up Grant funds for future subprojects. CONACYT resisted reprogramming with the result that the obligated Grant funds were almost totally earmarked by early FY-83. This meant that new subprojects could only be Loan funded, a notion that CONACYT also balked at, particularly for technical assistance. CONACYT also refused to sign an amendment to the Grant Agreement that would have made its terms (certain CPs and Covenants, PACD, budget, etc.) consistent with the Loan Agreement. This has caused some confusion and difficulty in managing the Project.

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The second evaluation team traced the underlying cause of these difficulties with CONACYT to the Project design and development process. CONACYT was created after the basic rationale and objectives of the RTTS were established. CONACYT was given the Project to implement without having participated in its conceptualization. As CONACYT began to develop in its own right, it found itself in disagreement with key elements of the design, such as the importance of Title XII assistance. The evaluation team also concluded that, while the concept of the RTTS is valid for Ecuador, the design of the system was overly ambitious. Management of such a mechanism required the highest possible administrative and technical capacity and experience. It was unrealistic to expect that a newly created unit lacking that experience and unable to draw qualified personnel away from other institutions could succeed.

On the other hand, both evaluations found considerable merit among the subprojects. Significant strengthening of participating institutions was judged to have occurred where subprojects had been allowed to proceed with relatively little control or restrictions imposed by CONACYT. While endorsing the subproject mechanism, the evaluation teams agreed that some subprojects were ill-conceived and others hopelessly mired in implementation problems. They recommended that, as part of any redesign, the subproject portfolio be carefully scrutinized and the weak subprojects winnowed out.

C. GOE and USAID Response

Shortly after the election of the new GOE administration in May 1984, A.I.D. initiated informal discussions on the RTTS Project with the Minister of Agriculture-designate and other ranking members of the incoming economic team. The recently completed second evaluation served as the framework for these discussions. General agreement was reached on the need to redesign the Project.

On August 31, 1984, after less than one month in office, President Febres Cordero formally removed Project implemention authority from CONACYT and placed it in the MAG pending a thorough redesign. A.I.D. responded quickly by assembling a highly qualified team of international experts, including three persons who had participated in the second evaluation, to work with the GOE on the redesign. The team started work in November and presented its final report in early December. (The complete report is included as Bulk Annex A.)

The revised Project described in Section II below closely follows the recommendations of the redesign team. The perceived problem and Project purpose are essentially unchanged. The concept of the subproject, found to be effective under the original design, is retained. On the other hand, the core administrative mechanism of the RTTS is extensively restructured and the institution building focus of the Project is shifted to the subproject implementing organizations. The nature of these organizations themselves is changed. Instead of working primarily through public sector agencies, the redesigned RTTS will provide assistance to selected private producer organizations in key agricultural commodity areas. The Project will help these organizations to become more effective mechanisms of technology transfer, particularly to small and medium size commercial farmers. The

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redesigned Project will also place increased emphasis on training, for both the organizations and producers. Finally, the Loan funding for the redesigned Project is being reduced by $2.4 million to a new total of $2.6 million. This is warranted in view of the actual Loan funding needs identified in the redesign process and the availability of PL-480 Title I local currency to partially substitute for Loan funds.

D. Rationale for Redesign

1. Continuing Validity of Project Objectives

The RITS Project was originally devised as part of an overall Mission strategy to reverse the trend of agricultural decline in Ecuador and to increase incomes and employment in the rural sector. The importance of this goal is unchanged. Agricultural production, which averaged four percent annual growth over the 1970-74 period, slipped to one percent in 1975-79, and negative two percent in 1980-82. Since 1982, the sector has made a weak recovery, with growth averaging 1.9 percent over the 1983-84 period. Only a two percent growth rate is predicted for 1985.

The original Project Paper outlined a series of interrelated factors contributing to this poor agricultural performance. These factors were classified into three groups:

(a) Policy disincentives, chiefly import substitution and cheap food policies which undermine local production, lack of an effective land reform and inefficient use of land resources, and inefficient public sector marketing systems.

(b) Institutional deficiencies of GOE agricultural and rural development agencies, including poor coordination, weak human resources, inefficient delivery systems, and an inability to analyze agricultural policy issues and plan appropriate interventions.

(c) Technological constraints including inadequate research directed at small farm commodities and problems and, perhaps more importantly, a failure to disseminate effectively the results of research to the small farm sector.

The RITS Project was designed to focus primarily on the institutional and technological constraints. Several recent authoritative studies* have reaffirmed the importance of these constraints to increased

* "Ecuador: An Assessment and Direction for Development", World Bank Sector Report No. 4522, August 1983; "Ecuador: An Agenda for Recovery and Sustained Growth", World Bank Report No. 5094-EC, October 1984; "Agricultural Sector in Ecuador", a sector analysis prepared by the A.I.D./Ecuador Office of Agriculture and Rural Development, March 1984; Report of the Presidential Agricultural Mission to Ecuador, January 1985.

production in Ecuador. In particular, these studies have pointed to a chronic productivity gap in the agricultural sector. Except for bananas and palm oil, average yields have remainded stationary for all major crops since 1975 and are 30-75 percent less than those obtained by more advanced farmers. This gap is attributed in large part to a lack of access by the majority of producers to modern inputs, technical support services, and marketing facilities. Thus, the purpose of the RTTS Project remains valid: to develop institutional mechanisms that will improve the flow of appropriate technologies to the agricultural sector.

2. Priorities of the New GOE Administration

The Febres Cordero Administration has made improved agricultural performance one of its primary objectives. This is in accordance with the administration's philosophy that the Ecuadorean economy must undergo major structural adjustment which strengthens those productive sectors in which the country has clear comparative advantages. The administration believes that this adjustment can best be achieved by reducing government intervention in the economy and promoting the role of the private sector. Since taking office it has implemented a number of actions directed at strengthening the competitiveness of the economy in general and the agricultural sector specifically. These actions include: a restructuring of the foreign exchange regime which has shifted virtually all international transactions from the highly subsidized official exchange rate to the Central Bank free market intervention rate, thus increasing incentives for agricultural exports and reducing the implicit subsidy on food imports; elimination of maximum producer prices for several food staples; and reorganization of the MAG to emphasize production and support to the private sector.

The new administration attaches great importance to the concept of the RTTS and has acted quickly to restructure the Project along lines consistent with its economic philosophy and agricultural sector strategy. Instead of relying on the public sector, the redesigned Project will strengthen the role of private producer associations as the main conduits of technical support to farmers. In those areas where the public sector does have a legitimate role, such as research, the Project will seek to make it more responsive by strengthening the capacity of the organizations to articulate farmer needs and demands to the public entities. The new MAG leadership has also reaffirmed support for Title XII participation in the Project, including a more active role for the University of Florida in helping to identify constraints and develop and monitor subprojects. As a result, the distribution of implementation responsibilities should be more balanced between Florida and the GOE, and the Project made more manageable. It is believed that this reorientation will overcome the fundamental problems that plagued the original Project design and greatly facilitate the achievement of Project objectives.

3. USAID Strategy

A.I.D. strategy in the agricultural sector is to assist Ecuador to substantially increase agricultural production and exports while addressing problems of rural poverty and resource degradation. The approved CDSS for 1986-90 notes that weaknesses in technology generation and transfer are a major reason for lagging productivity in the sector and states that successful implementation of the RTTS Project is an important objective in the first half of the CDSS period. Efforts to strengthen private agricultural service delivery structures are also called for in the CDSS, as part of an overall strategy to increase private sector participation in Ecuador's development process.

4. A.I.D. Policy

The A.I.D. Policy Paper for Food and Agricultural Development (May 1982) states that it is the objective of U.S. assistance to enable countries to become self-reliant in food, assure food security, and achieve economic growth. Efforts which increase the productivity, incomes, and market participation of producers on small holdings are to receive special attention.

In implementing this policy, the Food and Agriculture Development Assistance Sector Strategy Paper outlines four areas of concentration, two of which are directly addressed by the redesigned Project. First, the strategy calls for the strengthening of human resources and institutional capacities with special emphasis on science and technology. Priority is to be given to developing institutional mechanisms for generating and disseminating technologies which increase agricultural productivity. The present Project will seek to convert producer associations into effective technology transfer and extension agents, thus filling a major need in the sector. At the same time, the Project will help make Ecuadorean research institutions more responsive to farmer needs. Second, A.I.D. assistance should support the expansion of the role of the private sector. The Strategy Paper specifically cites research, extension, and service delivery as areas in which opportunities for greater private sector participation should be explored.

Similarly, the LAC Regional Strategy Statement endorses country programs which focus on the development of national human and institutional resources and on the expansion of private sector participation. The extensive training to be provided under the redesigned Project to producer organizations and farmers directly supports these strategy elements.

II. DESCRIPTION OF THE AMENDED PROJECT

A. Project Purpose and Strategy

The original Project purpose, as stated in Section I.A. above, remains the same. However, the amended Project will adopt a somewhat different strategy for more effectively achieving the three principal objectives:

1. Strengthen rural institutions so that they are better able to serve the sector effectively. To date, the Project has focused on public sector research, education, and extension institutions. To provide greater balance, and in line with the priorities of the new GOE administration, the amended Project will channel a large share of the remaining Project resources to private producer associations in selected agricultural commodity areas. Through training, technical assistance, and a limited amount of commodity support, the associations will strengthen their capacity to: identify technological constraints facing their producer members with special attention to the needs of small and medium commercial producers; transfer appropriate technological solutions to producers; articulate the interests of their members to the GOE; and finance member services on a self-substaining basis.

2. Develop and disseminate technologies appropriate to the needs of small farmers and the agricultural sector in general. Under the original Project strategy, both technological research and transfer were considered the domain of the public sector. Experience has shown that public sector research institutions, such as INIAP and the Faculties of Agriculture, are reasonably effective in developing technologies in a laboratory or field demonstration context. Oftentimes, however, this research is unresponsive to the needs of producers, particularly small farmers, and results are inadequately disseminated. These deficiencies can be traced to public sector extension services which do not function well as a link between the research community and producers. The redesigned Project will test an alternative strategy by placing the extension function in the hands of the private producer associations. The hypothesis that producer associations can be more effective technology transfer agents is based on two premises: (a) that they can more reliably detect and articulate the technological needs of their members; and (b) that they have a stronger institutional and commercial interest in providing their members with needed technologies and services. A strengthened extension linkage will generate demands and better information that should induce the research community to be more responsive. At the same time, the associations will provide a mechanism for disseminating research results directly to producers. Within the remaining life of Project, it is not expected that the full cycle from needs identification and articulation to research and development to technology transfer and adaptation can be fully played out. However, strengthened producer associations should generate demands and information which begin to bring about a reorientation in research activities. At the same time, the associations will develop their capacity to disseminate available "shelf" technologies for the benefit of their members.

3. Promote and support the establishment of a Rural Technology Transfer System. The driving force of the RTTS, as conceived under the new Project strategy, will have its locus in the private producer associations. As indicated above, these associations will generate demands for research and development, technical assistance, training, financing, and other services that will increase the productivity of their members. To some degree, these demands will be directed toward public sector institutions such as MAG (technical assistance), INIAP and the Faculties of Agriculture (research), IERAC (land titling), BNF (credit), and others. But the RTTS will have a broader reach. Under the amended Project, producer associations will establish direct linkages with Title XII universities and possibly with international agricultural research centers (IERACs) and other non-Ecuadorean institutions. These linkages are expected to serve as a continuining mechanism for technology transfer and institutional development of the associations. Finally, private commercial firms (equipment and input suppliers, agricultural consulting companies, etc.) offer technologies, technical assistance, and training that can also be accessed by the associations. Within this dynamic, demand driven system, the MAG will select those commodity areas which are deemed of highest priority from the standpoint of Ecuador's agricultural, economic, and social development, and will channel resources from this Project and other sources to support the development of strong producer associations in those areas.

The Logical Framework has been revised slightly to reflect these changes in institutional focus and strategy as well as changes in outputs and inputs. The revised Logframe is contained in Annex A.

The Project purpose will be achieved through four components. The first component consists of a number of new, commodity oriented subprojects. In each selected commodity area, a major producer association will work with a team from a Title XII university or other institution to design a subproject which will both address key technological constraints facing producers of that commodity and strengthen the association as a technology transfer agent. Subsequent to subproject approval, the counterpart university will continue to collaborate with the association in the implementation of the subproject. An estimated four new subprojects will be funded under this component for a total of $2,018,200 in Grant and $258,800 in Loan.

The second component will consist of previous subprojects initiated in the earlier stages of the RTTS Project. The existing subproject portfolio has been carefully reviewed and recommendations made to continue, modify, or terminate each subproject. Those subprojects which have not been completed or terminated will continue to receive support from the Project. Total A.I.D. funding for these previous subprojects, including past disbursements, is estimated at $1,741,100 Grant and $395,200 Loan.

The amended Project also includes a Training Component. The training activities under this component will serve, in part, directly to support the technology transfer and institutional development objectives of the

subprojects. Other activities will be directed to strengthening human resources in other areas of the RTTS (e.g., the public sector research institutions) and of the agricultural sector in general. A.I.D. funding for the Training Component is $658,000 Loan.

Finally, the Small Subprojects Component will be retained. The concept of this component will remain the same: to provide a flexible source of funding for activities which are more limited in scope and duration than the regular subprojects but which support the overall objectives of the Project. In line with the revised strategy, the Small Subprojects approved henceforth will be directed primarily to needs of private producer associations. Total A.I.D. funding for Small Subprojects, including past disbursements, is budgeted at $200,000 Loan. The other small fund, for private sector research and development, has been made redundant by the revised Project strategy and will be eliminated.

The amended Project will retain, as a key strategic element, the establishment of linkages between the Ecuadorean agricultural sector and the Title XII university system. Inputs to the Project components will continue to flow primarily from Title XII sources through the mechanism of a lead Title XII university. The University of Florida will continue to play this role under the amended Project. Florida may also draw upon other sources, such as the IARCs, the USDA, or third country institutions, especially for short term training. Finally, it is expected that Florida will procure all Project funded commodities for the subprojects.

B. Project Components

1. New Subprojects

a. Overview

The overall objective of the new subprojects is to strengthen the role of private producer associations in the technology development and transfer process and thereby increase the productivity and incomes of farmers in specific commodity areas. The subprojects will pay special attention to the technology needs of small and medium commercial producers which constitute the large majority of producers in the commodity areas of interest. Where necessary, efforts will be made to broaden the membership base of the associations to make them more representative of the producers.

The amended RTTS Project is expected to finance four new subprojects, each corresponding to a priority agricultural commodity or commodity group. Each subproject will be implemented by one or more producer associations in collaboration with a counterpart Title XII university or other institution selected for its expertise in the pertinent commodity. The association and university will work together to identify key technological constraints which affect production or marketing of the commodity. They will

then proceed to design a subproject to address those constraints which can realistically be reduced or eliminated within a two-to-three year period. At the same time, the subproject design will provide for the strengthening of the association as a technology transfer agent.

Upon subproject approval, the association will initiate implementation with the continuing support of the counterpart university. The latter will field a team of advisors and may also provide U.S. training. Training from other institutions may also be programmed. All training (aside from that given directly by the technical advisors in-country) will be financed under the Training Component. The MAG and other public sector institutions are expected to support implementation by assigning technical personnel and other resources to the associations, at least during the early stages of the subprojects. The GOE and local universities will also participate in subproject research activities. In addition to the benefits realized by the associations, this mechanism will benefit the public sector by strengthening the partical knowledge and skills and the field service orientation of their technical personnel.

b. Subproject Development

The following subsections outline in greater detail the process by which the new subprojects have been developed and present brief summaries of the new subprojects which are expected to be financed under the RTTS Project.

(1) Selection of Commodity Areas

The MAG, with technical assistance from the University of Florida advisory team, prepared a preliminary rank-ordered listing of commodity areas to be considered for subprojects. The following criteria were used in determining the priorities:

o The economic importance of the commodity in terms of production volume and value added, land and labor participation, and potential for competitive import substitution or for export.

o The existence of a producer association for that commodity with sufficient organization and resources to serve as a viable subproject implementing agency.

o The existence of technological constraints which can be effectively addressed in a relatively short period of time (e.g., two or three years) with assistance from Title XII universities or other technology transfer institutions.

In addition, the University of Florida subcontracted local consultants to prepare a series of profiles of the social and institutional context in each of these commodity areas. The purposes of these profiles were to examine in greater depth: (a) the extent of small and medium

size producer participation in production of the commodity and, hence, the likelihood that this group would be beneficiaries of the subproject; and (b) the organization, orientation, and capacity of the producer association(s) corresponding to the commodity area.

On this basis of this information, A.I.D., the MAG, and Florida agreed upon the following categorization of priority commodity areas:

1. Sheep
2. Coastal livestock
3. Highland dairy cattle
4. Short cycle crops (hard corn, soybeans, sorghum)
5. Rice
6. Vegetables
7. Citrus
8. Tropical fruits
9. Grain legumes

(2) Selection of Counterpart University

The selection of the counterpart university or other institution to provide technical support for the design and implementation of each subproject involves five steps: (a) preparation of a commodity specific situation paper; (b) identification of one or more qualified Title XII universities or other institutions to provide the technical support; (c) solicitation of expressions of interest; (d) determination of the institution from which the technical support should be obtained; and (e) subcontracting or direct provision of the technical services by the Title XII lead university.

The University of Florida advisors, in collaboration with the MAG and the corresponding producer associations, prepare a technical situation paper for each commodity area being considered for a subproject. The situation paper describes in broad terms the production and marketing structure of the commodity subsector, the major technical problems affecting the production and marketing of the commodity, the organization of producers in the subsector, and potential areas that could be effectively addressed through technology transfer activities. The situation papers are forwarded by the MAG to A.I.D. for review and approval. In order to be approved, each situation paper must provide evidence that:

o the proposed association represents an adequate proportion of the producers of the commodity;

o the participation of small and medium producers in the association's total membership is reasonably proportional to their participation in the commodity subsector as a whole, or that the association is open to increasing the number of these producers in its membership;

o the association's leadership has agreed to collaborate in the design and implementation of a subproject, and is aware of and committed to the new types of responsibilities that the association would have to undertake;

o the resources of the association would be sufficient to meet the expected counterpart requirements; and

o the MAG or other public sector institutions are willing and able to assign technical personnel and other resources to the subproject as needed.

Upon approval of a given situation paper, the University of Florida, in consultation with A.I.D., MAG, and the corresponding producer association(s), proceeds to identify one or more Title XII universities or other institutions which are judged to have the capability to provide technical assistance in designing and implementing a subproject for that commodity subsector. In some cases, there will be agreement that Florida or some other institution has predominant expertise in a commodity area. In other cases, two or more institutions may appear well qualified.

When agreement is reached on one or more institutions, the University of Florida provides them with the situation paper and a description of the general objectives and the estimated duration of the subproject. The universities are requested to provide written information which responds to the following criteria:

o Institutional capacity, including: specialized research programs and facilities in the commodity area; experience working collaboratively in developing countries; evidence of tenure, promotion, and salary policies which reward international professional service by faculty; and demonstrated willingness and ability to provide training in Ecuador and on campus.

o Qualifications of proposed personnel, including: technical knowledge and (where appropriate) project management skills; developing country experience; language ability; and assurance and timeliness of availability. In addition, the institution is requested to ensure that at least one key advisor participates in both the design and implementation stages of the subproject.

o Interest of the institution in participating in the proposed subproject.

The University of Florida reviews the expressions of interest and, in consultation with A.I.D., MAG, and the producer association(s), determines the most appropriate institution. Florida then requests A.I.D. authorization for Florida to negotiate a subcontract or to arrange to provide the services directly.

(3) Subproject Design and Approval

The selected counterpart university will be expected to place its design team in the field within a short time following subcontract execution.

The design work is carried out primarily by the university and the producer association. They are assisted by counterpart technicians assigned by the MAG. The MAG may also provide general policy guidance, information, and logistical support (vehicles, office space, secretarial services, etc.) to the subproject design team. The role of the University of Florida resident staff is one of coordination, "quality control", and liaison between the subproject design team and A.I.D. Florida ensures that the proposed design team has the expertise to address all major aspects of the design (technical, economic, financial, social, etc.) or assists the team in obtaining that expertise. Florida also ensures that the university personnel begin work in Ecuador in a timely manner, provides those personnel with briefings, arranges with the MAG for necessary logistical support, assists in locating information, and generally monitors the design process and keeps A.I.D. and MAG informed. An important responsibility of Florida is to identify, at an early stage, potential issues in the emerging design and to attempt to resolve these issues with the design team. Florida is also responsible for ensuring that the resulting subproject proposal conforms to A.I.D. requirements for general structure, completeness, and responsiveness to A.I.D. policy concerns (e.g., small farmer impact, institutional development). A.I.D. may also provide an initial briefing to the subproject design team, with emphasis on A.I.D. requirements for the design.

The product of the design process is a subproject proposal. The contents of the proposal will resemble that of an A.I.D. Project Paper, including: verifiable objectives; detailed activity descriptions; technical, institutional, economic, financial, social, and where appropriate, environmental analyses; implementation and financial plans; and an evaluation schedule. Given the collaborative nature of the design process, including Florida's oversight, major issues of substance and form are expected to be resolved before the final draft of the subproject proposal is produced.

The Florida core staff reviews the proposal and makes any modifications, consulting with the design team as necessary. Florida also passes the document to appropriate MAG officials for review. When this review and editing process is completed, Florida formally forwards the proposal to the MAG leadership with its recommendation. The MAG, in turn, transmits the proposal to A.I.D. for final review and decision regarding financing under the RTTS Project. A.I.D. may return the document to the MAG with issues for further consideration and adjustment. In making its decision, A.I.D. will examine, among others, the following points:

o A technical approach that addresses small and medium producer needs in an appropriate fashion.

o Evidence that both production and marketing problems have been taken into consideration.

o A strong economic analysis and demonstration (through cost-benefit or other techniques) that the subproject is economically justifiable.

o A clear institutional development strategy, based on an analysis of the producer association, which will strengthen the capacity of the association to function effectively as a technology transfer agent after subproject completion. Where appropriate, this strategy should also provide for the broadening the association's membership base to increase its representativeness and impact.

o A financial analysis which demonstrates how, when, and the degree to which the association is expected to attain financial self-sufficiency.

o Evidence that the association, MAG, and other Ecuadorean participants will be able to provide an appropriate and adequate level of counterpart resources (normally equal to at least 25 percent of the total subproject cost). The association should provide counterpart from the outset of the subproject, including a full-time coordinator and office space for the subproject advisors. Other forms of association counterpart might include operating expenses for vehicles and facilities, additional staff, and salary incentives for technicians assigned by the MAG or other public institutions. Variances from these norms may be allowed in specific cases, for example, if the association is beginning with few resources and a major institutional strengthening effort is proposed as part of the subproject.

A.I.D. approval of the proposal is a Condition Precedent to disbursement for implementation of any given subproject.

On the basis of the approved subproject proposal, Florida will prepare a subproject agreement to be signed by the various parties involved in the subproject (A.I.D., MAG, Florida, the technical support institution, and the producer association). This agreement will be essentially a document of understanding and intent to ensure that the parties share a common framework for implementing the subproject. The agreement will conform to a model previously approved by A.I.D. and will include:

o a statement of the subproject objectives;

o a description of the subproject activities;

- the roles, responsibilities, and commitments (financial and otherwise) of the various parties; and
- conditions and convenants, as necessary.

c. Summary Subproject Descriptions

On the basis of the categorization of commodity areas and funding availabilities, four new subprojects have been largely developed at this time. It is expected that these subprojects will fully utilize the remaining Project funding for new subprojects. However, based on the final designs and budgets, some funding may remain. In that case, one or more additional subprojects could be developed following the procedures outlined above. Summaries of the four new subprojects pending A.I.D. approval are presented below.

(1) Sheep Production Improvement Subproject

Background: Ecuador has a comparative advantage in sheep production because of its extensive natural pasture in medium and high altitude areas. In the early 1940s, world demand for mutton increased sharply and the Ecuadorean sheep sector responded positively. Large ranches imported hundreds of improved sheep as well as rams to upgrade the breeding of the national flock. In 1953 producers organized the National Association of Sheep Producers (ANCO). In the ensuing years ANCO led a largely successful sheep improvement program. This included importing some 5,000 animals, establishing two purebreed breeding flocks totaling 11,000 head, training verterinarians and extension agents, and establishing a wool buying system with warehouses.

Beginning in the early 1960s, the sheep sector entered an extended period of decline. The agrarian reform, initiated in 1963, divided many large producing farms into small campesino holdings. These small holders, however, lacked knowledge of sheep production and management techniques that would enable them to maintain the size and quality of their flocks. In addition, the military government dissolved ANCO in 1972, largely for political reasons. The main mechanism for transferring improved technologies and providing marketing channels to producers was thus eliminated. As a result, the national flock shrank from 1.8 million head in the mid-1960s to 1.1 million in 1974. Of the latter, 94 percent were lower grade criollo and crossbreeds, with only three percent purebreeds.

In 1975 the MAG imported 6,000 ewes from Chile and 325 rams from the U.S. in an effort to begin rebuilding the national flock. Over the past 10 years, however, these animals have deteriorated through inbreeding and lack of selection. About 4,000 head remain on three inadequately managed MAG farms.

Ecuador now has about one million sheep and their numbers continue to decline. In addition, carcass weights are low compared to other countries as is the quality of the meat and by-products. Production and management technologies are inadequate, particularly among small holders which account for an estimated 70 percent of total production. There is a need to reestablish an effective system of extension as well as to undertake adaptive research to increase the flow of appropriate technologies to the sector. Marketing mechanisms must also be improved to give smaller producers greater access to domestic and export markets and to increase their profit margins, thus stimulating greater production and quality.

There is a clear economic justification for increasing sheep production. Meat consumption in Ecuador is far below that of other countries with similar meat production capabilities, and mutton accounts for only a tiny fraction of that consumption despite its relatively low price per unit of protein. There is every indication of a strong potential demand for increased mutton. In addition, Ecuador now imports most of its wool at an annual cost of about $1.8 million. Local supplies, though much less costly per pound, are

of limited quantity and quality. Finally, Ecuador is making little use of sheep hides which have excellent potential for export and for substituting for leather imported by local industries.

In light of the recent history of the sector, the most effective means of achieving these goals is to rehabilitate the private producer association. ANCO was recently reorganized and legalized with the support of the MAG. This subproject will assist ANCO to develop its extension, research, and marketing capacities and to provide these services to producers on a wide basis.

Objective: The subproject will increase production of sheep and sheep by-products (mutton, wool, pelts) by generating and transferring appropriate technologies to producers and by improving marketing channels and incentives. This will be accomplished by strengthening ANCO's role in the process of developing and transferring technology and providing other needed services to sheep producers. It is expected that, by the end of the subproject, the total number of sheep will be increasing by five percent per year.

Activities: Since extension activities do not exist in the sheep sector, the subproject will first focus on developing an extension capability within ANCO. An extension advisor will work with ANCO and extension agents assigned to ANCO by the MAG to design a methodology for diffusing information and readily available techniques to producers. These techniques will address areas such as animal health and nutrition, flock management, and breeding. The extension methodology will include approaches for reaching small producers, taking into account their education and sociological situation and will include special aids for those illiterate in Spanish. The extension advisor will train the extension agents through a hands-on program of instruction and demonstration in the field. Initially, the extension activities will take place on the three farms that MAG is turning over to ANCO for management and selected private farms in Pichincha and Chimborazo provinces. Eventually, the activities will be spread to the other four sheep producing provinces in the highlands.

Research has not yet fully identified the factors limiting sheep productivity in Ecuador. Parallel to the extension activity, a program of adaptive research will be undertaken. Data will be gathered to identify producer problems. A research advisor will then work with ANCO and MAG personnel to carry out research to develop and adapt appropriate packages of practices for improved production in various zones of the highlands. Most of this research will be carried out on private farms to enhance the demonstration effect. Other, more controlled research will be conducted on the three farms which the MAG is turning over to ANCO for management. Finally, research will include the testing of various extension methods to determine those most effective for reaching small producers. The Title XII advisors will work closely with he GOE and ANCO, thus providing them with practical experience in research methods. In addition, two research scientists from INIAP or local universities will be selected to receive masters level training in the U.S.

Short term assistance will be provided for the institutional development of ANCO. This will include developing ANCO's organization, including management, planning, and financial systems. Other short term assistance will be directed at strengthening ANCO's capacity ot provide complementary services such as marketing of produce and inputs, and the sale of improved animals from the ANCO farms. Finally, the advisory team will assist ANCO to promote itself and broaden its membership base, and to devise fee structures that will allow ANCO to attain financial self-sufficiency in a reasonable period of time.

Inputs and Estimated Cost: The total subproject cost is estimated at $1,413,200. A.I.D. funds of $449,500 Grant and $58,700 Loan (36 percent) will finance technical assistance and international travel for the foreign advisors, and imported commodities. The GOE counterpart of $537,000 (38 percent) will consist of the MAG farms transferred to ANCO, technical and research personnel, and local commodities and logistical costs. ANCO's counterpart will be equal to its operating budget over the life of the subproject, as all income is expected to be in support of the subproject activities; these resources are estimated at $368,000 (26 percent).

(2) Dairy Production Improvement Subproject

Background: Ecuador's extensive natural pastures and ranges in medium and high altitude regions also favor dairy cattle raising. While all regions of Ecuador produce milk, the Sierra (central highlands) region made up of Pichincha, Cotopaxi, Tungurahua, and Chimborazo provinces produces most of it (80%). Sixty percent of marketed milk in this zone comes from large herds (more than 50 milking animals), 35 percent from medium herds (6-50), and five percent from small herds (less than six milking animals).

Ecuador produced about 990 million liters of milk in 1984, of which 675 million liters reached consumers in the forms of milk, cheese, and other products. Annual production per cow averages close to 1,500 liters in Ecuador. However, the range, from 1,000 to 4,000 liters, indicates the large potential for improvement. There is a great need to increase milk production for domestic consumption. Per capita consumption of dairy products in all forms in 1984 was 76 liters, of which liquid pasteurized milk consumption was only 12 liters per capita. National nutrition standards set a minimum level of 120 liters per capita. The MAG projects that this deficit will continue to widen through the rest of the decade. The most rapid and cost-effective manner to reduce the deficit is to increase milk production per animal (as opposed to increasing herd sizes).

The major constraints to increasing milk output include poor animal health, nutrition, and animal management. Producers lack methods for monitoring and evaluating animals. Producers also need to apply guidelines continously to control the many operation associated with milk production: nutrition, culling, selecting, breeding, and health. Lack of diagnostic procedures has left most producers unaware of diseases in their herds or in the area. Suboptimun usage of forage results in inadequate energy intake which, in turn, decreases the growth rate of young dairy cattle, delays first calving, and reduces milk output.

Producer organization, grouped under the Council of Sierra Livestock Associations (CAGS), recognize the weaknesses that diminish their capacity to assist producers. This subproject will respond to their needs by assisting them to correct weaknesses and to acquire improved techniques for identifying producer problems, selecting and testing potential solutions, and transmitting the solutions to producers.

Objective: The subproject will increase milk production in the Sierra by developing a system for generating and transferring appropriate technology to dairy producers. CAGS will play the central, coordinating role in this system. A 10-20 percent increase in herd milk production is expected as a result of the subproject activities.

Activities: The emphasis of the subproject will be in the area of extension. The MAG will assign several dairy and veterinary specialists to the subproject, under the supervision of CAGS. The Title XII advisors will

train these specialists and field technicians from the various associations in methodologies for diffusing information and proven techniques of herd management, improvement, and health to producers. The trainees will learn by doing in demonstrations, short courses, and one-on-one assistance to individual producers, under the supervision of the advisors and the general organization of CAGS. This field training will be supplemented by formal, in-country short courses. The advisors will also assist CAGS to develop bulletins, pamphlets, and technical guides on topics such as pasture improvement and management, disease and parasite control, nutrition for newborns, reproduction, and general health programs.

The subproject will also include research. One level of research will seek to adapt shelf technologies to specific Ecuadorean conditions. This research will be undertaken on selected farms and be focused on problems which limit milk production. It will be carried out by MAG and association personnel under the supervision of the Title XII advisors. The second level of research will be located at INIAP or at selected sites where more strict control is possible. This research will address special problems identified by the producers and advisors. Potential areas for experimental research include pasture renovation and fertilization, feeding, and milking techniques. Veterinarians from INIAP or local universities will participate in the latter research and receive research training from the subproject advisors.

At the outset of the subproject, the Title XII team will evaluate the various producer associations to determine their capabilities to participate in and eventually assume administrative responsibility for the extension and research activities. Assistance in areas of organization and management will be provided as needed to upgrade those capabilities.

Inputs and Estimated Cost: The total estimated subproject cost is $1,273,000. A.I.D. Grant funds of $683,200 and Loan funds of $49,400 (57 percent) will finance the salaries, travel, and related dollar costs of the foreign advisors, plus imported commodities. GOE resources valued at $465,400 (36 percent) will include specialists assigned to the CAGS, research, and local logistical support and commodities. CAGS will contribute administrative and technical personnel, facilities, and publications materials valued at $75,000 (seven percent).

(3) Cattle Production and Marketing Subproject

Background: More than half of Ecuador's population resides in the five coastal and three Sierra provinces of the Littoral. Cattle raising comprises an important segment of its agriculture with some 30 percent of rural families engaged in the activity. The Littoral has a natural advantage in cattle production because of its location and abundant feed. It provides about 20 percent of Ecuador's milk and more than 50 percent of its beef.

Responding to rising prices for beef and milk and declining prices for bananas, cacao, coffee, and sugar, cattle numbers increased more than one third between 1974 and 1983 and pasture land increased more than 50 percent. Crossbreeds of criollo stock comprise 80 percent of the Littoral's cattle. Three production systems operate in the region: (1) extensive systems composed of large and medium meat producers with growth and fattening operations; (2) dual purpose systems composed of medium and small producers of both milk and meat; and (3) subsistence systems composed of small family farms producing milk, and meat, mainly for home consumption.

In spite of the natural advantages, cattle productivity remains low in the Littoral relative to genetic capability and forage potential. Slaughter weights for grass fed steers range from 300 to 350 kilograms at 48 months. Milk output per cow averages about 1,000 liters annually in the Littoral. Nevertheless, some beef operations produce animals weighing 410 kilograms at 42 months and some dairy operations produce 1,800 to 3,000 liters per cow. The output of these advanced operations demonstrates the potential for improving milk and beef production in the region. As noted in the previous two subproject descriptions, domestic production of meat and milk is not sufficient to meet minimum recommended per capita consumption levels.

Cattle production in the Littoral is constrained by two basic features. First, cattle graze on low grade forages. The majority of pastures contain only introduced grasses, and producers generally do not use concentrate supplements and uniherals. Moreover, the combination of increased herd sizes and poor pasture management practices has resulted in diminishing natural forages. The second major constraint is poor animal health, due principally to parasites. Technologies to prevent and control parasites and other diseases exist but the level of use in the Littoral is low.

Efforts to transfer improved practices have had little success because of lack of evidence of profit in the practices promoted. Weak linkages between private sector needs and public sector research may have resulted in the dissemination of the marginally profitable new practices. The history of technology adaptation efforts by the public sector without the cooperation of producer organizations suggests that such efforts lack continuity. Improving cattle production in the Littoral will require strong producer organizations to identify producer problems and promote economically validated technologies to resolve them. MAG needs them to help direct the validation of improved technology and to instruct producers in its use.

The subproject will initially involve producer organizations in five geographic areas which are representative of the varying climatic conditions of the Littoral.

Objective: The subproject will increase the production of meat and milk from cattle in the Littoral. This will be accomplished by strengthening the role of producer organizations in the process of developing and transferring technology to cattle producers. When fully developed these organizations will have the capacity to identify producer problems, seek out for validation improved technologies to resolve them, verify the technical fit and economic feasibility of improved technologies, promote improved practices effectively, and assist members to market their products more efficiently.

Activities: The subproject consists of five activities which will be supported by technical assistance and training from the counterpart Title XII university.

The institutional development activity will include: the training and integration of MAG assigned technicians into the producer organizations; membership expansion activities; production of a magazine to provide producers with technical and marketing information as well as to promote the organizations; and the creation of an umbrella council of producer organization representatives to help plan, monitor, and evaluate the subproject acitvities. The MAG technicians, with support from the advisors, will carry out the problem identification and technology selection activity, based on surveys of producers and on-farm observations. In some cases, the needed technology will be readily available and validated. Under the technology validation activity, other technologies recommended by the Title XII advisors will be tested and adapted on farms belonging to members of the producer organizations. These trials will be conducted by the MAG technicians and possibly university students under the supervision of INIAP or university researchers and the Title XII advisors. Technology transfer by the producer organizations will be effected through publications, short courses and seminars, field days, demonstrations, farm visits by the MAG technicians, and training of selected producers in the use of certain technologies. Finally, the marketing activity will include a study of the cattle marketing system. The study will present recommendations, some of which will be implemented under the subproject, for strengthening the selling position of cattle producers. The mix and relative emphases given to these activities will vary among the five pilot areas, depending on local needs and institutional capacities.

Inputs and Estimated Cost: The total subproject cost is estimated at $916,000. A.I.D. will provide $400,000 Grant and $83,300 Loan (53 percent) for expatriate technical advisors and studies consultants, and their related dollar costs. The GOE counterpart contribution of $378,700 (41 percent) will include extensionists and research, as well as local costs associated with the extension activities and some local commodities. The producer associations will contribute staff, facilities, publications materials, and logistical costs, estimated at $54,000 (six percent).

(4) Short Cycle Crop Improvement Subproject

Background: The Municipality of Quevedo and its surrounding hinterland lie at the center of Ecuador's annual crop producing area. Located between the coastal hills and the central highlands, it has rich, volcanic ash alluvial soil, abundant rainfall, and some good primary roads to Guayaquil, the major port city. MAG estimates Quevedo's cultivable land at 168,000 hectares with 143,000 in use.

The Quevedo area oscillates in a state of flux after shifting from bananas, cocoa, and coffee to maize, soybeans, and sorghum. For reasons not fully understood, but related to the change in crops, pests and diseases multiply as farmers become dependent on annual crops. No new pests or diseases have surfaced; rather, the changed landscape has nourished the exisiting ones. Their growth presents a new challenge to farmers and MAG. The eight to 10 years, moreover, since farmers began to shift from perennial to annual crops, have given pests and diseases time to establish themselves.

Because of problems arising from shifting crops, the role of government in pricing annual crops, and the need for credit, a group of medium and large producers the Quevedo area formed a producer association, APROCICO. These farmers crop 30,000 hectares in maize rotated with soybeans and sorghum. Within or bordering their farms small farmers dot the landscape. The patchwork of intermingled large and small farmers facilitates small farmer observation of improved practices used on larger farms. APROCICO members claim to have become demonstration farms and that their farms have influenced small farmers to adopt some improved practices.

APROCICO naturally became involved with the control of pests and diseases. It initially sought help from A.I.D. for an exacerbated problem of Diatrea on dent corn. Overuse of pesticides aimed at controlling Spodoptera frugiperda had caused the problem. A.I.D. responded first by bringing in an expert on soybeans, maize, and sorghum. A.I.D.'s involvement eventually led to recommending that APROCICO undertake an integrated pest management program to attack the problem. The feasibility study of this recommendation concluded that APROCICO should direct such an effort in the Quevedo area and also diffuse these techniques into the neighboring Balzar area (populated mainly by small farmers) via MAG extension agents.

Objective: The subproject will increase the incomes of small producers of corn and other short cycle crops in the Quevedo area by decreasing the levels (and cost) of pesticide use and by reducing crop damage and losses. This will be accomplished primarily by introducing IPM techniques on a wide scale. The subproject will strenghthen APROCICO's capacity to diffuse these techniques and to provide related services on a broader basis for the benefit of farmers throughout the area.

Activities: The subproject activities will fall into five areas: institution building, integrated pest management, soil analysis, marketing, and extension. For eight years APROCICO has represented annual crop producers in Quevedo and adjacent areas. Last year it supplied farm inputs for the first time and it did so successfully and benefitted member and nonmember farmers in the entire area. Assistance in institution building will permit APROCICO to provide IPM as well as other services to farmers. APROCICO will receive assistance in planning, organizing management training, controlling operations, and evaluation systems.

Assistance in integrated pest management techniques will enable APROCICO to identify farmers pest problems and to devise controls that minimize the use of chemicals. The controls will rely on techniques having least harmful side effect on humans, nontarget organisms, and the environment. Such techniques include the introduction of natural enemies, regulating planting dates, changing cultivation practices, using resistant plant varieties, and applying chemicals only when damage to plants begins to reduce yields.

Assistance in soil analysis will enable APROCICO to involve farmers in soil sampling and testing. This will increase their knowledge of modern fertilization concepts and effective use. Soil testing and fertilizer use will mesh with APROCICO's fertilizer sales program. Soil analysis will also deal with the causes and prevention of soil erosion and weed control. Plant specialists will test no-tillage concepts as one method of erosion prevention.

Assistance in marketing will enhance APROCICO's capacity to identify and solve farmers' marketing problems. It will focus on developing futures markets. Market studies will cover the products that members of APROCICO produce. The studies will cover both countrywide and worldwide supply and demand situations. APROCICO will provide the results to the GOE to enhance development of orderly programs and policies for the country. Other studies will cover potential for expanding the demand for annual crops, for making marketing more efficient, and for forecasting market prices.

Assistance in extension will build in APROCICO a capacity to validate technology and to transfer it. This element will enable APROCICO to channel knowledge from INIAP and other sources through its technical unit to demonstration plots and on to farmers. The information will also flow through other channels such as newspaper columns, newsletters, and radio programs. Since IPM methods must be applied to an entire area, adopters will also have a self-interest in convincing neighbors to use the methods. The MAG will assign extension agents to assist in this activity.

Inputs and Estimated Cost: The total estimated cost of the subproject is $654,900. A.I.D. will contribute $485,500 Grant and $67,400 Loan (84 percent) for the technical advisors and studies consultants. The GOE will provide technicians and other support for the extension activities, as well as some local commodities, valued at $65,500 (10 percent). APROCICO's contribution of $36,500 (six percent) will cover the costs of staff, facilities, and in-country logistics.

2. Previous Subprojects

Twelve subprojects were approved from the beginning of the RITS Project in 1980 until the initiation of the Project redesign process. Implementation has been uneven among the various subprojects; four have been completed.

As part of the Project redesign effort, the MAG and University of Florida advisors undertook a comprehensive review of these previously approved subprojects. Each of the unfinished subprojects was assessed against its prospects for achieving its stated goals in a reasonable period of time. The continued relevance of the subproject to GOE priorities was also considered. (See Annex D for summary descriptions and status reports on the previous subprojects and recommendations regarding their disposition.)

On the basis of this review, the Minister of Agriculture approved, and A.I.D. accepted, the recommendation that four of the unfinished subprojects be discontinued. The MAG and Florida then conducted an in-depth evaluation of the four subprojects approved for continuation. The purpose of these evaluations was to identify actions and design changes to improve implementation and to reprogram the subproject funding, as necessary. As a result of this process, $1,187,900 in Grant funds were de-earmarked and made available for other Project components; Loan earmarks increased by $160,000 as some items were shifted from Grant to Loan. These results are summarized in Table II-1 below:

TABLE II-1

DISPOSITION AND FUNDING OF PREVIOUS SUBPROJECTS

A.I.D. Funding ($000)

Subproject and Implementing Agency	Recommendation	Original Earmarking G	Original Earmarking L	Revised Earmarking G	Revised Earmarking L	Change G	Change L
1. Agrarian Structure Study (IERAC)	Completed	495.0	-	415.0	-	(80.0)	-
2. Brucellosis Control (Machala) Technical Univ.)	Completed	19.1	-	19.1	-	0	-
3. Farming Systems Research (INIAP)	Continue	617.9	-	283.3	81.2	(334.6)	81.2
4. Soil Conservation (INIAP)	Continue	633.6	-	252.6	68.3	(381.0)	68.3
5. Native Crops (Machala Technical Univ.)	Continue	58.3	-	46.4	20.0	(11.9)	20.0
6. Insect Control (Machala Technical Univ.)	Continue	161.5	0	52.3	45.3	(109.2)	45.3
7. Fish Culture (ESPOL)	Continue	50.5	-	252.9	6.0	202.4	6.0
8. Post-harvest Food Losses (Ambato Tech. Univ.)	Continue	218.1	198.7	85.5	149.9	(132.6)	(48.8)

9. Agricultural Statistics (INEC)	Completed	318.5	-	318.5	-		-
10. Appropriate Technology for Small Fishermen (INP)	Completed	26.5	36.5	15.5	24.5	(11.0)	(12.0)
11. Inventory of Agricultural Information (CONACYT)	Discontinue	-	-	-	-	-	-
12. Food Technology (ESPOL)	Discontinue	330.0	-	0.0	-	(330.0)	-
TOTALS		2929.0	235.2	1741.1	395.2	(1187.9)	160.0

3. Training

a. Overview

A separate Training Component has been added to the amended Project. This reflects a broad consensus among the Project evaluation and redesign team, the new MAG leadership, Mission and IBRD analyses, the Presidential Agricultural Task Force, and numerous knowledgeable observers that the severe shortage of trained technicians is a principal constraint on development of the agricultural sector in Ecuador. The redesign team specifically recommended that training, as a mechanism for technology transfer, be given greater emphasis under the Project.

The Training Component will allow the Project to address these needs in a more systematic way, including both the subprojects and the broader needs of the sector in general. All funds for training (other than in-country training provided by the technical advisors) will be pooled under this component. The University of Florida will add to its resident staff, for approximately one year, a training advisor to help manage these funds. The training advisor will have broad knowledge of agriculture training opportunities in the Title XII system and other institutions as well as substantial experience in analyzing training needs and setting up training programs for personnel in developing countries. This advisor will be responsible for working with the MAG and other institutions to develop semiannual training plans for the Project. These plans will be based on the approved subproject designs and on the nonsubproject needs identified at the time. The plans will include a schedule of training events for the semester and indicate the probable sources and locations of training, the types of training, the estimated number of participants, and the estimated cost. These plans will be reviewed by the other Florida advisors and the MAG, then transmitted to A.I.D. to approval and authorization of funding. The expatriate advisor will also work with and train an Ecuadorean who will assume these functions upon the departure of the former.

An estimated 38 persons will benefit from long term training in the U.S. or third countries, and an estimated 117 persons will engage in short term training or observation in Ecuador, the U.S., or third countries. Approximately half of the funding under this component will be for subproject related training and the balance for other priority needs in the sector. (A preliminary training plan for the remainder of the Project is presented in Annex E.)

b. Subproject Related Training

Each new subproject design will include training activities. The training advisor will work with the Title XII university and producer association to clarify needs and structure the training activities accordingly. (In the cases of the previous subprojects, some training activities which are already planned may be reprogrammed, again with the

support of the training advisor.) Some of this training will be directed at strengthening the institutional capacity of the producer associations in areas such as organization and management, program planning and implementation, and financial administration. Other training will be aimed at the technical personnel involved in the subproject to upgrade their skills and capacity to function as extension agents and researchers. These may include personnel from the producer association, and participating public sector institutions (e.g., MAG, INIAP) and agricultural university faculties. Still other training activities may directly benefit the producers who are the target group of the subproject. It is expected that a large share of the external subproject training will occur on the campus of the counterpart university for a given subproject. In certain cases, however, training at another institution may be more appropriate.

c. Nonsubproject Training

Training activities which are not specifically included in the subproject designs may be of two types. The first category would include activities which focus on problem understanding and skill development in general areas. Examples might include small farm livestock and crop management, agricultural cooperative management, agricultural market development, and development and operation of extension programs. These contrast with the more specific and highly technical types of training that are expected to be included in the subproject designs. The second type of nonsubproject training activities would be more specific in technical content or commodity focus but would be directed at areas outside of the selected subprojects. Nonsubproject related training will constitute a relatively minor share of total training funds but will give the Project a certain, desirable amount of flexibility in addressing technology transfer needs throughout the agricultural sector.

In response to a priority request from the Minister of Agriculture shortly after the transfer of Project administration to the MAG, A.I.D. approved the first nonsubproject training activity. This activity is financing scholarships for approximately 30 Ecuadoreans to attend the Panamerican Agricultural School in Honduras.

Further nonsubproject training needs will be identified by the MAG and Florida resident staff, in collaboration with the training advisor. In addition to the Title XII system, sources such as the IARCS and Latin American universities and research institutions will be considered as training resources. It is expected that a large part of the nonsubproject training will be given outside of Ecuador.

4. Small Subprojects

The remaining funds originally budgeted for Small Subprojects will be used to contribute to the overall policy of supporting private sector producer associations. Activities which institutionally strengthen

associations, or provide other related short-term focused assistance will be financed. Identifying and implementing these activities will be a combined effort of the MAG and the University of Florida, and will follow the same overall process as the larger subprojects, with the exception of documentation requirements, which will necessarily be less comprehensive. A two-to-five page description of the activity which explains the situation, the proposed solution or activity, and a summary budget will be prepared and presented by the MAG to A.I.D. for funding consideration. The requests will normally be approved by A.I.D. through an Action Memo and Project Implementation Letter process; no formal review will be needed. Of the original Loan budget of $200,000 for Small Subprojects, $81,500 remain for commitment. These funds are expected to finance approximately four small subprojects, in addition to the three previously funded.

C. Summary Financial Plan

The total estimated Project cost is $14,940,000 of which A.I.D. is providing $5,300,000 Grant and $2,600,000 Loan (53 percent). The couunterpart contribution consists of the equivalent of $6,506,500 (43.5 percent) from the GOE and $533,500 (3.5 percent) from producer association. The detailed financial plan is presented in Table II-2 below.

To date, all of the Loan and $3,700,000 of the Grant funds have been obligated. The remaining Grant funds will be obligated in tranches in FY-86 (planned obligation: $1,000,000) and FY-87 ($600,000).

The PACD under the amended Project will be extended by one year, to September 30, 1988. Thus, the total life-of-Project will be approximately eight years.

TABLE II-2

RURAL TECHNOLOGY TRANSFER SYSTEM PROJECT

SUMMARY BUDGET

(in US$000's)

As of September 30, 1985

COMPONENTS	A.I.D. FUNDING EARMARKED TO DATE		A.I.D. PROJECTED FUNDING		TOTAL PROJECT FUNDING		COUNTERPART FUNDING	
	GRANT	LOAN	GRANT	LOAN	GRANT	LOAN	G.O.E.	PRODUCERS ORGAN.
A. CORE TECHNICAL ASSISTANCE AND RELATED SUPPORT	1540.7	37.0	0.0	1051.0	1540.7	1088.0	1365.0	0.0
B. COMPLETED AND ON-GOING SUBPROJECTS 1/	1741.1	395.2	0.0	0.0	1741.1	395.2	3694.9	0.0
1. AGRARIAN STRUCTURE STUDY	415.0	0.0	0.0	0.0	415.0	0.0	525.0	0.0
2. BRUCELLOSIS	19.1	0.0	0.0	0.0	19.1	0.0	62.5	0.0
3. FARMING SYSTEMS RESEARCH	283.3	81.2	0.0	0.0	283.3	81.2	29.4	0.0
4. SOIL CONSERVATION	252.6	68.3	0.0	0.0	252.6	68.3	1600.0	0.0
5. NATIVE CROPS	46.4	20.0	0.0	0.0	46.4	20.0	207.0	0.0
6. INSECT CONTROL	52.3	45.3	0.0	0.0	52.3	45.3	176.8	0.0
7. FISH CULTURE	252.9	6.0	0.0	0.0	252.9	6.0	98.6	0.0
8. POST HARVEST FOOD LOSSES	85.5	149.9	0.0	0.0	85.5	149.9	385.0	0.0
9. AGRICULTURAL STATISTICS	318.5	0.0	0.0	0.0	318.5	0.0	400.6	0.0
10. APPROPRIATE TECHNOLOGY FOR SMALL FISHERMEN	15.5	24.5	0.0	0.0	15.5	24.5	210.0	0.0
C. NEW SUBPROJECTS	0.0	0.0	2018.2	258.8	2018.2	258.8	1446.6	533.5
1. SHEEP IMPROVEMENT	0.0	0.0	449.5	58.7	449.5	58.7	537.0	368.0
2. CATTLE IMPROVEMENT	0.0	0.0	400.0	83.3	400.0	83.3	378.7	54.0
3. SHORT CYCLE CROPS	0.0	0.0	485.5	67.4	485.5	67.4	65.5	36.5
4. DAIRY SUBPROJECT	0.0	0.0	683.2	49.4	683.2	49.4	465.4	75.0
D. SMALL SUBPROJECTS	0.0	118.5	0.0	81.5	0.0	200.0	0.0	0.0
E. TRAINING 2/	0.0	405.0	0.0	253.0	0.0	658.0	0.0	0.0
TOTAL:	3281.8	955.7	2018.2	1644.3	5300.0	2600.0	6506.5	533.5

1/ Does not include two Subprojects (Inventory of Agricultural Information, and Food Technology) which were cancelled with no funds having been disbursed.
2/ Does not include remaining Training under On-going Subprojects. Funding for this training is budgeted under the corresponding Subproject above.

BEST AVAILABLE

III. PROJECT ANALYSES

A. Technical Analysis

A technical analysis of the amended RTTS Project must address two levels of activities. At the subproject level, little of substance can be said here. The technical merits of each subproject proposal will be considered in the subproject review process outlined above. Each proposal will be required to include a full technical analysis. The University of Florida core staff will have the responsibility of ensuring that the analysis is thorough and defensible. Florida's staff is particularly strong in the technical area and is also familiar with A.I.D. requirements for technical analyses. Furthermore, Florida's monitoring of the subproject design process will help ensure that major technical issues are identified and thought through at an early stage. Therefore, A.I.D. expects that the proposals presented for its review and approval will contain analyses which adequately demonstrate the technical soundness of the subprojects.

This technical analysis is more properly concerned with the overall strategy of the amended Project. The analysis seeks to demonstrate how the changes in this strategy improve the likelihood that the Project will achieve its objectives of developing mechanisms for transferring technologies to the agricultural sector. Four key points will be considered here: (a) the locus of technical decisions for subproject design and implementation; (b) the identification of priority areas for technology transfer activities; (c) the use of private producer organizations as mechanisms for technology transfer; and (d) the balance between technological research and dissemination activities.

Technical decisions. The amended Project strategy places responsibility for technical decisions more clearly in the hands of qualified institutions. CONACYT's role had originally been seen as one of setting policy for rural technology development and identifying priority areas for subprojects. Its small staff of mainly economists was properly suited to this role. However, by virtue of its strong central role in Project administration, CONACYT had increasingly sought to make decisions on technical matters of subproject design and implementation. Not surprisingly, CONACYT's views often conflicted with those of the implementing institutions, the Title XII subproject support teams, and the Florida core staff. As previously mentioned, these tensions were a main factor in the deterioration of Project implementation. The transfer of Project administration from CONACYT to the MAG has rectified this problem. High level MAG officials have, of course, taken the lead in establishing the general parameters for the revised Project strategy and in identifying the priority areas for subprojects. Beyond that, however, MAG participation has been primarily at the level of technical divisions which are knowledgeable of the constraints affecting the various commodity subsectors and can contribute constructively to subproject design. Equally important, the MAG has firmly endorsed a more active and central role for Florida, the Title XII universities, and the producer organizations in the design of the subprojects. Technical decisions on subproject design have been

taken largely by those institutions, in consultation with MAG personnel as necessary. The Mission is confident that the MAG will continue to delegate technical responsibility during subproject implementation, and that the earlier problems will be avoided.

Selection of priority areas. The amended Project has introduced a more rational, systematic process for selecting subprojects. CONACYT had played a rather passive role in identifying possible subprojects. It fielded proposals from all subsectors without reference to a policy for rural technology development which established priorities, and it approved virtually all proposals. Thus, the impact of the subprojects was diffuse. Under the amended Project, subproject development has begun with the clearly stated policy of the Minister of Agriculture to focus on the key technological constraints on production of the major agricultural commodities used for domestic consumption (though some may have export potential as well). Within that framework, Florida and the MAG performed a broad review of the major commodity subsectors and established priorities, taking into consideration the needs for technology transfer, the potential economic payoff to Ecuador, and the existence of producer organizations to implement the subprojects. Moreover, rather than try to address all of the possible areas, the MAG and Florida have sought to concentrate the remaining Project resources in a limited number of areas. This approach should result in greater impact in the selected commodity areas and improve the overall cost-effectiveness of the Project.

Use of producer organizations. The decision to rely on private producer organizations as the means for technology transfer appears justified on two counts. First, Ecuador does not have an organized extension system. Technology transfer activities have taken place in a diffuse and *ad hoc* manner and consequently have not had the desired impact on agricultural production. This was borne out by the experience of the original set of RTTS subprojects which were conducted by public sector institutions. Although many of these institutions made good progress in developing potentially useful technologies, they generally lacked the means to adapt and disseminate them to producers. Under the revised Project strategy, greater emphasis will be placed on the extension mechanism itself. For this, the private producer organizations would appear to have a relative advantage given their close affiliation with the producers and their strong institutional interests in improving production in their respective commodity areas. The new subprojects are not intended to substitute for a public sector extension system. They will, however, attempt to demonstrate viable mechanisms which the MAG could build upon in any effort to strengthen its extension efforts. Second, there does exist an elaborate system of producer organizations in Ecuador. Virtually every major agricultural commodity subsector has its own association or other representative body. Some larger commodity areas have more complex organizational structures including second level federations. These organizations provide various services to their members and most of them have the basic staff, resources, and prestige upon which to build a technology transfer capability.

The use of producer organizations in this way does raise issues of an institutional and social nature. These are further discussed in the corresponding analyses below.

Technology research and dissemination. A central objective of the RTTS Project is to develop and disseminate technologies to the agricultural sector to improve production and incomes. As described above, the original set of subprojects was heavily tilted toward the research and development phase with little adaptation and dissemination beyond the experimental farms. While this approach had value in terms of building Ecuadorean capacity to do agricultural research, it had little direct impact on productivity. The new MAG leadership assigns greater weight to meeting producers' needs as quickly and effectively as possible. Accordingly, the new subprojects will generally consist of two, parallel strategies for technology transfer. Efforts will be made to identify and adapt at the farm level so-called "shelf" technologies which can bring about immediate, significant results. Within the two-to-three year life of each subproject, these technologies will be the main source of actual productivity gains. At the same time, the subprojects will begin to build the capacity of the producer organizations to identify needs for further research and technology development and to communicate these needs to the Ecuadorean research community. Technical assistance to both the producer organizations and the research institutions (e.g., INIAP) will help ensure that these linkages are established and that meaningful research is undertaken which will eventually benefit the producers.

B. Economic Analysis

The Project Paper, prepared five years ago, presented various arguments for the economic viability of the Project. These arguments still hold and, in some cases, have been strengthened by the revised strategy and by ensuing events in the Ecuadorean agricultural sector.

For example, the Project Paper described the generally low level of technology in the sector and, as a result, the large productivity gap between actual average yields and the yields obtained on the more technified farms and at experimental stations. Thus, the combination of research and extension under the Project was expected to help close that gap and have a high payoff in terms of increased productivity and incomes. The new subprojects should have a more immediate impact in this regard by introducing and adapting "shelf" technologies at an early stage, rather than passing through a lengthy research and development stage as was typical of the original set of subprojects. This will increase the stream of benefits in the near term and thus increase the net economic returns to the Project.

The argument that the Project will help save or generate foreign exchange also still holds. Ecuador remains a net importer of several basic foodstuffs including some which have been identified for priority attention under the revised Project. For example, in 1984 Ecuador's import bill for foodstuffs (wheat, grains, legumes, oils, milk, etc.) was over $200 million.

An important related point is that many of the new subprojects will focus on increasing quality as well as yields. Higher quality produce will be able to penetrate new markets where it has a higher value. These include export markets, agroindustries, and relatively high income urban markets.

Finally, recent changes in the policy environment should augment the economic returns to the Project. In particular, the movement toward realistic producer prices for most commodities will increase benefits (incomes) vis-a-vis the risks which producers may perceive to be associated with the new technologies. This, in turn, should strengthen the incentives of farmers - especially small and medium ones - to adopt the technologies. Similarly, the rationalization of the exchange rate regime may induce more producers to increase the production and quality of commodities with export potential. To the extent that these incentives result in wider adoption of technologies introduced under the Project, the total economic benefits will be increased.

Each subproject proposal must include a rigorous economic analysis. The University of Florida is responsible for ensuring that each subproject design team includes an agricultural economist capable of conducting such an analysis. In order to be approved by A.I.D., the analysis should demonstrate an acceptable internal rate of return (12 percent in real terms would normally be the minimum acceptable) or other measure of economic feasibility. Given the economic criteria used to identify the priority commodities (potential for competitive import substitution or export; significant technological constraints affecting production or marketing which can be readily addressed during the life of the subproject), it is expected that properly designed subprojects will, in fact, show high economic rates of return.

C. Financial Analysis

Each subproject proposal will also contain a financial analysis. The analysis should examine the financial feasibility of the subproject at three levels: the producer association(s); the GOE; and the producer beneficiaries. Perhaps the most critical financial issues involve the producer associations proposed to implement the subprojects. The subproject proposals should analyze for each producer association: its current financial condition and recent performance; its capacity to contribute resources to the subproject and to manage the other, additional resources entailed by the subproject; and its projected financial performance during the subproject and beyond. The key issue is whether the associations will be able to move steadily toward financial self-sufficiency in the new service areas which they adopt under the subproject.

The GOE is also expected to contribute resources to the subprojects. These will include cash transfers (probably from PL-480 local currency) and in-kind resources such as MAG technicians and extensionists and INIAP research staff and facilities. The financial analysis should provide evidence that the GOE agencies are committed and able to provide the required resources in a timely manner. This is of particular importance in the case of the in-kind resources.

Finally, the proposal should assess the financial impact of the subproject on the intended beneficiaries. The main issue here is whether the expected payoffs from the improved technologies will provide producers with sufficient incentives to adopt the technologies on a wide basis. This analysis should be disaggregated by socioeconomic and, if possible, gender categories to reveal any differential impacts whcih might be biased against the primary target group.

D. Institutional Analysis

The main institutional innovation of the amended Project is the use of private producer associations as subproject implementing agencies. The particular associations which are expected to participate in the subprojects have, in general, proven capabilities. For example, the Association of Short Cycle Crop Producers (APROCICO) is a well established organization with a solid membership which, over the past eight years, has developed a viable program for the commercialization of farm inputs and products. One exception is the National Association of Sheep Producers (ANCO) which was only recently reorganized after lying dormant for over a decade. ANCO has a small staff and few resources, and its membership and services need rebuilding.

Every association will have to undergo some changes and develop new capabilities in order to function effectively as a technology transfer agent. For most, extension would be a new role. The associations must adopt the capability to identify members' needs, deliver different technology packages and services in accordance with those needs and on a regular schedule, devise appropriate fees and ensure they are collected, and evaluate the results of the extension services. The subproject design process should place strong emphasis on analysis of the associations' capabilities and commitment to take on this new role. Key variables to be examined include staff and facilities, management systems, membership, income sources, services currently being provided, and indicators of interest in expanding upon those services. The prospects for long run financial viability are also critical.

Based on the conclusions of its analysis, the subproject design team is expected to incorporate into the design a clear institutional development strategy. This strategy should describe what the association is expected to look like at the end of the subproject and possible over a longer term, and the specific activities that will be undertaken as part of the subproject to help move the association toward that goal. The subprojects are expected to take full advantage of the increased training resources available under the Project to develop the organizational and management capabilities of the associations as well as to address technical concerns. Subproject proposals which suggest that the association is simply being used as a convenient base for technology transfer activities carried out by the counterpart university with little regard for the strengthening of the association itself will not be acceptable to A.I.D.

E. Social Analysis

The Project Paper contained an extensive social analysis which focused on the small farm sector. It described the low productivity of small farm units due, in large part, to the low levels of technology available to them. The lack of improved technologies was, in turn, attributed to inadequate GOE extension systems. The proposed subprojects were to address these extension needs, as well as research and educational needs, of the small farmers in a technically and socially appropriate way.

These needs remain. However, as described above, experience under the RITS Project has shown the difficulties involved in strengthening public sector extension systems. In line with the priorities of the current GOE administration, the new subprojects will test the alternative of using private producer associations as technology transfer agents. This change in strategy raises a new set of issues regarding the social feasibility and impact of the subprojects, in that many producer associations have not had substantial experience working with small farmers. Examples of these issues include:

o The willingness of the associations, where necessary, to broaden their membership base to provide services to small farmers and permit the latter to participate in decisionmaking.

o The ability of the associations to develop and implement appropriate technology packages and delivery systems which take into consideration the varying social characteristics and cultural patterns found among the target groups.

o Possible resistance of the intended beneficiaries to the extension efforts of the associations due to differing perceptions of the productive and other problems facing the former.

o The willingness of the associations to acknowledge and address possible conflicts in the interests and relationships among various groups in the sector (e.g., between different size producers, between producers and intermediaries, between producers and extensionists).

o The willingness of the public sector (especially the MAG) to support the private sector activities, given possible ideological or conceptual differences concerning agricultural sector development.

In addition, it is recognized that, in certain commodity subsectors, small producers may not predominate. In such cases, the production gains to be realized from focusing on small producers may be negligble. Addressing the needs of medium producers, for example, may be more feasible.

The relevance and nature of these issues will vary by subproject, due to the different social, cultural, ethnic, ecological, and institutional characteristics of the commodity subsectors. Each subproject proposal will be

required to include a full social analysis which addresses these and other pertinent issues. The analysis should clearly identify and justify the target group of producers, their needs, and the proposed mechanisms for transferring technologies to them. Where necessary, the subproject design should include initial studies which will provide a fuller understanding of the characteristics of the target group or particular subgroups, as a basis for developing appropriate technologies and delivery systems. The subprojects should also include technical assistance, as needed, to help the producer associations expand their membership and ensure that services are directed to the target groups. Finally, each subproject must include a monitoring and evaluation plan which includes assessment of the rate of technological adoption and its impact on the intended beneficiaries.

F. Environmental Impact

An Initial Environmental Examination was prepared as part of the PID, and a Negative Determination was granted as requested. This was based on: (a) the "ICI" nature of the Project (that is, subprojects for A.I.D. approval and financing would be developed in the course of Project implementation so that specific environmental impacts could not be thoroughly assessed in the Project Paper); and (b) the expectation, based on a first look at potential subprojects, that the Project would have little, if any, negative environmental impact while having potential for positive significant impacts. The revised Project strategy does not alter this rationale.

With regard to the second point, the subproject design teams are instructed to pay close attention to environmental concerns in the process of designing the subprojects and to include in the proposal a thorough environmental analysis which demonstrates that there will be no negative impacts. Information available on the new subprojects under design reveal no significant environmental problems and considerable potential for positive impacts. For example, the Short Cycle Crop Improvement Subproject will promote the use of integrated pest management and soil conservation techniques.

A.I.D. will carefully review the environmental aspects of each subproject presented for approval. Should the Mission have any question about the impact of a proposed subproject, it will consult with the LAC Chief Environmental Officer.

It should also be noted that A.I.D. does not intend to finance any fertilizers or pesticides under the new subprojects.

IV. IMPELEMENTATION ARRANGEMENTS

A. Revised Project Schedule

AID/W has authorized the Mission to approve the Project Paper Supplement and amend the Project Authorization (see STATE 152195 in Annex C). In addition, AID/W approved a further, one year extension of the PACD, to September 30, 1988. This extension allows design of the new subprojects in accordance with a two-to-three year time frame, which is considered the minimum reasonable time to achieve the institutional development and technology transfer objectives of the subprojects.

The schedule of key events for the remainder of the Project is as follows:

Project Agreement Supplement approved	November 1, 1985
University of Florida contract amended	November 1985
New subprojects approved	October - December 1985
Implementation of new subprojects initiated	January 1986
Interim evaluation completed	December 1986
Final evaluation completed	September 1988
PACD	September 30, 1988

Each subproject proposal will contain its own detailed implementation plan.

B. Administrative Arrangements

A.I.D. and the GOE will sign a Project Agreement Amendment which will modify the Conditions Precedent and Convenants and the Project Description in accordance with the revised strategy and institutional mechanisms. The Minister of Finance will sign on behalf of the GOE. The Minister of Agriculture has already been designated as an additional representative of the GOE for implementing the Project. It is expected that the Minister of Agriculture will also delegate implementation authorities to another MAG official to help ensure fluid implementation.

A number of actors will be involved in implementation: MAG, the University of Florida, several producer associations and Title XII universities or other technical support institutions, Ecuadorean research entities, and A.I.D. Given the need to simplify administrative arrangements

to the extent possible, and in view of the Mission's limited staffing, the Florida resident staff will assume a more active central role in implementation than was previously the case. The administrative responsibilities of the major actors with regard to the new Project activities are described below. Section II included considerable discussion of roles in the course of designing the new subprojects. The following descriptions, therefore, deal primarily with the implementation of the subprojects and other activities.

MAG. As previously noted, the MAG provides general policy guidance for the Project. The Minister of Agriculture and other key staff played a key role in reorienting the strategy and placing the emphasis on directly raising levels of production technology through the use of producer associations. The MAG leadership has approved the priority commodity areas in line with GOE agricultural development policy. The leadership also reviews the final proposals from a policy perspective and makes the decision to transmit the proposals to A.I.D. for consideration for Project funding.

At the Subsecretary and technical division level, MAG plays an active role in subproject design and implementation. In particular, the Subsecretaries for the Coast and for the Sierra and the commodity specific sections beneath them work with the subproject design teams and review the proposals from a technical viewpoint. For implementation, the regional Subsecretaries, in conjunction with the Subsecretary for Administration, will play a key role in ensuring that MAG resources, including field personnel, are assigned to the subprojects as provided for in the approved proposals. Personnel from the Subsecretariats and technical sections will also participate in periodic monitoring of the subprojects and will receive and review progress reports through Florida. Finally, MAG staff are expected to participate in evaluations of the subprojects and of the overall Project.

With regard to the Training Subproject, MAG participation is expected to be largely through the Training and Extension Advisor to the Minister and the Agricultural Science and Technology Council recently established under the terms of the PL-480 Title I agreement signed by A.I.D. and the GOE in May 1985. This council will consist of five permanent members of international recognition (three Ecuadoreans and two non-Ecuadoreans) an an Ecuadorean Executive Secretary who will coordinate the Council's activities. The Council's primary function is to promote the development, adaptation, and dissemination of improved technology to improve output and efficiency in the agricultural sector. The Council will also serve as the principal advisor to the Minister of Agriculture on agricultural research, extension, and education matters. Hence, its inputs into the Project training plans will ensure consistency with overall MAG objectives for agricultural education. The Florida training advisor or his successor will consult with these sources in developing the training plans, particularly or nonsubproject training. These sources will provide knowledgeable information on candidates for training and policy guidance in prioritizing training activities. Final MAG approval of the training plans will be given by the Minister or his designee or by the Subsecretary for administration, depending on the nature of training. For example, the former will probably reserve the right to approve long term training.

Florida. The main responsibility of the Florida resident staff over the remainder of the Project will be to ensure the effective implementation of the subprojects, both previous and new. Florida will subcontract of otherwise arrange to provide technical services to the subprojects by the selected Title XII univesities or other institutions, and will ensure that the technial advisors arrive according to schedule. Florida will also arrange for training under the subprojects (see below) and will directly procure required commodities. The Florida staff will make regular field visits, generally accompanied by MAG officials and the A.I.D. Project Officer, to monitor subproject implementation and provide advice and assistance as required. Florida will be responsible for identifying problems and initiating discussions with the implementing agencies leading to any modifications which may be necessary. Florida will also schedule and conduct evaluations of each subproject, including arranging for the participation of outside experts. Finally, Florida will disburse directly to suppliers of goods and services and will keep detailed financial records to support reimbursements from A.I.D. The Title XII universities will prepare progress reports to the MAG and Florida. Florida, in turn, will provide comprehensive quarterly reports to A.I.D. describing physical and financial progress in the various subprojects and other activities, the actions taken by the Florida resident staff during the quarter, major implementation problems and proposed solutions, and major expected accomplishments for the next quarter. The preceding Florida responsibilities will also generally apply to the Small Subprojects although at considerably lower levels of effort.

For the Training Component, the Florida training advisor will be responsible for working with the MAG and other institutions to develop training plans. In addition, the training advisor will: schedule and organize all training activities (in-country and abroad, short and long term); help with the selection of training participants; keep track of and support participants (especially long term) to ensure that their training experience is beneficial; and follow through to facilitate useful placement of participants upon conclusion of their training. The training advisor will also work from the outset with an Ecuadorean counterpart approved by the MAG who will assume these responsibilities upon the departure of the Florida advisor. Florida will procure all training services, make direct payments to training institutions, and report to MAG and A.I.D.

Producer associations. The producer associations play the lead role in implementation of the new subprojects. At a minimum, the associations are expected to provide office space, a subproject manager or coordinator, and secretarial and logistical support to the advisors. The associations will work with the advisors to develop detailed workplans for the subprojects. They will also be responsible for directly requesting from the MAG or other GOE entities those resources (e.g., technicians and extensionists) which have been committed to the subprojects. Finally, the associations will participate in monitoring and evaluations of the subprojects.

A.I.D. The A.I.D. Deputy Rural Development Officer is Project Officer. His main task is to manage the Title XII lead university contract, including making specific requests for services or goods on behalf of the Ecuadorean implementing agencies. The Project Officer receives quarterly reports from Florida and meets with Florida and MAG staff to review implementation progress. He will also continue to make periodic field trips to observe the subprojects. On the basis of this information, the Project Officer will administratively approve disbursements, prepare internal reports, and take or recommend appropriate management actions to improve implementation. The Project Officer is supported by Mission staff offices. The Office of Development Resources will assist in the preparation of Project Agreement Amendments, PILs, waivers, and other implementation documentation. The Controller's Office will make disbursements and maintain overall Project financial records. Finally, the Mission Training Officer may provide advice as needed to the Project training advisor, particularly in regard to bureaucratic and other procedures and problems faced in sending Ecuadoreans abroad for training.

C. Contracting and Disbursement. During the first five years of the Project, inputs were obtained largely - but not exclusively - through a Core Contract with the University of Florida. Technical services and commodities were obtained through the issuance of individually funded task orders. However, each task order had to be negotiated, often through the Regional Contracting Officer, and entailed numerous exchanges of scopes of work, PIOs, and other contractual documentation among A.I.D., the University of Florida in Gainesville, and other participating Title XII universities. In other cases, to save time or because the task order method was deemed inappropriate, the Mission directly contracted goods and services. However, this added to the implementation burden of the Mission's limited staff.

In an effort to resolve these problems, the Mission decided, as part of the redesign, to modify the contract with the lead university. All remaining Project funding and, hence, all contracting actions, will be channeled through that contract. In addition, the unwieldy task order method will be abandoned. Instead, the funding will be available in the contract and the lead university will simply subcontract goods and services on the basis of written requests from A.I.D.

The Mission, in consultation with the Regional Contracting Officer, proposed to modify and extend the existing contract with the University of Florida. This was justified in the interest of avoiding the undue delays in Project implementation that would have resulted from fully competing a new contract and the unnecessary duplication of effort had another university been selected to replace Florida. In accordance with FAR regulations, notice of the Mission's intent to extend the contract was published in the Commerce Business Daily, on June 10, 1985. No comments were received within the required waiting period, and the RCO is proceeding to amend the contract.

A.I.D. will therefore disburse remaining funds directly to Florida (with the exception of outstanding commitments to other entities which have not yet been fully disbursed). Florida, in turn, will disburse to its subcontractors and will maintain full accounting records on the use of A.I.D. funds.

D. Evaluation

Two major overall evaluations are planned during the remaining three years of the Project. A process evaluation will take place in late 1986, approximately one year after the new subprojects are initiated. This evaluation will examine the manageability of the model of working through producer associations. Key issues are likely to include the ability of the associations to utilize the technical assistance and other resources provided and their willingness to undertake new services in the area of extension, as well as the levels, timeliness, and effectiveness of MAG and other GOE counterpart contributions. To the extent possible at that time, the effectiveness of the technology packages and delivery systems developed under the subprojects will also be assessed. The final evaluation will focus on the institutional impacts of the subprojects. It will seek to determine the success of the associations in expanding their membership to include small and medium size producers and in achieving financial self-sufficiency. The strength of the linkages forged between the associations and the Title XII system - and hence the prospects for continuing technology transfer to the Ecuadorean agricultural sector will also be examined. Finally, more precise and quantifiable measurements of the impact of technology transfer on producers should be possible.

These overall evaluations will build upon subproject specific evaluations which will be required as part of each subproject proposal. They will also make use of data obtained by Florida as part of its monitoring activities. In particular, Florida is expected to observe closely the rate of adoption of the newly introduced technologies as a key indicator of the effectiveness of the revised Project strategy.

Funding for the subproject specific evaluations will usually be included in the subcontracts let to the universities. Outside consultants for the overall evaluations will be funded directly out of the Florida contract.

E. Conditions and Convenants

The Project Agreement Amendment will remove various conditions and convenants which no longer pertain. One new Condition Precedent will be added which reads:

> Prior to any disbursement, or to the issuance by A.I.D. of documentation pursuant to which disbursement will be made, to finance the implementation phase of any New Subproject, the GOE shall, except as the Parties may otherwise agree in writing, furnish, in form and

substance satisfactory to A.I.D., a subproject proposal and A.I.D. shall formally notify the GOE in writing of its approval of the proposal.

In addition, the GOE, acting through the MAG, will covenant that, unless A.I.D. otherwise agrees in writing:

It will assign Ministry of Agriculture technicians, extensionists, and other GOE resources to the producer associations, in the quantities and for the periods specified in the subproject agreements to assist the associations to effectively conduct the subproject activities.

The subproject agreements themselves will contain specific conditions and convenants which apply to the producer association as well as to the MAG and other GOE entities.

Finally, it bears noting that the recently signed PL-480 Agreement contains self-help measures which are also intended to strenghten the private producer associations. Although these measures will not be repeated as conditions or covenants in the Project Agreement Amendment, they will directly reinforce implementation of the new subprojects. The measures include:

(a) Adoption of procedures that will enable MAG technical staff work through producer associations in their programs to promote the adoption of improved technology.

(b) Development of a procedure for producer associations to help set research priorities and determine research plans for INIAP. This will be accomplished through the appointment of advisory boards from producer associations to assist in the planning process for INIAP research. In addition, the GOE will make funds available to selected producer associations and directly to INIAP for research on production contraints identified by producers.

(Revision No. 2)

AID 1020-28 (11-79)
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

(INSTRUCTION: THIS IS AN OPTIONAL FORM WHICH CAN BE USED AS AN AID TO ORGANIZING DATA FOR THE PAR REPORT. IT NEED NOT BE RETAINED OR SUBMITTED.)

Life of Project:
From FY 1980 to FY 1988
Total U.S. Funding $7,900,000
Date Prepared: October 24, 1985

Project Title & Number: Rural Technology Transfer System 518-0012

PAGE 1

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: (A-1)	Measures of Goal Achievement: (A-2)	(A-3)	Assumptions for achieving goal targets: (A-4)
Increase food production, employment, and incomes, and otherwise improve the well-being of the rural poor.	Increased productivity, employment, incomes, and improvement in the quality of life for the beneficiaries of the various subprojects, according to the objectives and analyses of the individual subprojects.	Baseline and follow-on data on economic and social benefits will be gathered from individual subprojects. The Project evaluations will draw conclusions about the economic and social effects of the projects and from them draw macro conclusions about the economic and social effects of the Project as a whole.	1. Continuation of the GOE comitment to eliminate rural poverty and to increase agricultural production. 2. A political environment conducive to conducting rural development projects of this nature. 3. No adverse weather or macro-economic conditions.

ANNEX A
Page 1 of 4

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project: From FY 1980 to FY 1988
Total U.S. Funding $7,900,000
Date Prepared: October 24, 1985

ct Title & Number: Rural Technology Transfer System 518-0012

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
ct Purpose: (B-1)	Conditions that will indicate purpose has been achieved: End-of-Project status. (B-2)	(B-3)	Assumptions for achieving purpose: (B-4)
Promote and support the establishment of a Rural Technology Transfer System (RTTS) - a management, administrative, and financial system which can address major sectoral constraints. Strengthen rural institutions so they are able to effectively serve the sector. This includes forming linkages among research, extension, and educational institutions, developing a trained human resource base, and improving management and delivery systems and analytic and statistical capacities. Develop and disseminate technologies appropriate to the needs of small farmers andthe agricultural sector in general. This includes basic and applied research, dissemination of results, improved policy analysis, and improved program planning.	1. MAG has acquired experience and capacity to: identify priorities for technology transfer to the agricultural sector; select subprojects, training, and other activities to address those needs; and channel technical and financial resources to the activities. 2. Public and private REE institutions which participated in RTTS - sponsored subprojects have integrated the subproject activities into their programs and are providing them with continuing budget and staff support. 3. The information of strong linkages between U.S. Land Grant universities and Ecuadorean institutions for provision of the external TA and training services required for the RTTS and its subprojects.	Project quarterly reports and evaluation studies. Also, field trip reports and observations.	1. Continuation of the GOE comitment to strengthening the various rural development institutions. 2. The making available by the GOE of sufficient resources to support the Project and to continue the RTTS after the end of the Project.

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number: Rural Technology Transfer System 518-0012

Life of Project: From FY 1980 to FY 1988
Total U.S. Funding: $7,900,000
Date Prepared: October 24, 1985

PAGE 3

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Outputs: (C-1)	Magnitude of Outputs: (C-2)	(C-3)	Assumptions for achieving outputs: (C-4)
1. RTTS: a. Ecuadorean training advisor on board and trained. b. Subprojects developed and approved. c. Small subprojects approved and funded.	1.a. One. 1.b. 16. 1.c. Seven.	The annual evaluation will look at the progress of the RTTS and at a sample of on-going subprojects. Each individual subproject will be expected to have firm objectives, baseline data, and a budget for collecting comparative data.	Achievement of coordination among the various rural sector institutions A willingness by the various rural sector institutions to participate in the Project and to make the necessary personnel and resources available to carry out the subproject.
2. Subprojects: a. Implemented and completed. b. Professional trained. c. Technicians trained. d. Paraprofessionals trained. e. Farmers trained. f. Research activities undertaken. g. Technologies tested. h. Technologies demonstrated. i. Technologies adopted. j. Workshops, seminars, conferences, simposia held. k. Data generating capacity established. l. Studies undertaken on constraint areas.	2.a. 12. 2.b. Through 2.1.: These figures must be aggregated from the objectives of the individual subprojects.		

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number: Rural Technology Transfer System 518-0012

Life of Project:
From FY 1980 to FY 1988
Total U.S. Funding $7,900,000
Date Prepared: October 24, 1985

PAGE 4

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS			MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Inputs: (D-1)	Implementation Target (Type and Quantity) (D-2) ($000)			(D-3)	Assumptions for providing inputs (D-4)
A.I.D. Funds	Grant	Loan	Counterpart	A.I.D. and Project financial records.	No under bureaucratic or technical delays in the provision of the Project inputs.
. Core technical assistance and related support.	1540.7	1088.0	1365.0		
. Previous subprojects.	1741.1	395.2	3694.9		
. New subprojects.	2018.2	258.8	1980.1		
. Small subprojects.	-	200.0	-		
. Training.	-	658.0	-		
TOTAL	5300,0	2600,0	7040,0		

PRESIDENCIA DE LA REPUBLICA

Quito a, 31 de agosto de 1984

Señor Arquitecto
ORLANDO LLENZA
Director de la Agencia Internacional
para el Desarrollo (A. I. D.)
Presente

Señor Director:

Por información recibida del señor Ministro de Agricultura y Ganadería ha llegado a mi conocimiento que un importante Proyecto de Cooperación entre el Gobierno Nacional y la A.I.D., el que tiene que ver con el Sistema de Transferencia de Tecnología Rural (Convenio de Fondos no Reembolsables, 518-0032 y Convenio de Préstamo, 518-T-041), afronta serios problemas y demoras en su ejecución.

Estos problemas han impedido una eficaz utilización de los recursos en función de objetivos críticos para el Ecuador, como son los que tienen que ver con el mejoramiento y fortalecimiento de la producción agropecuaria en el País,particularmente los aspectos tecnológicos que afectan al sector agropecuario.

Al respecto, debo ratificar a usted la voluntad y decisión del Gobierno del Ecuador de llevar a feliz término este Proyecto, aplicando las acciones correctivas que fueron necesarias, así como la alta prioridad que asignamos al desarrollo del sector agropecuario y el proceso de transferencia de tecnología al área rural.

Con estos antecedentes, me permito informar a usted que el Gobierno del Ecuador ha decidido iniciar prontamente un proceso de rediseño y reubicación institucional del Proyecto Sistema de Transferencia de Tecnología Rural. Para el efecto, he dispuesto que el señor Ministro de Agricultura y Ganadería tome los pasos pertinentes y se ponga en contacto con A.I.D. a fin de formalizar los aspectos programáticos, institucionales y legales que permitan una pronta utilización de los recursos del Proyecto.

PRESIDENCIA DE LA REPUBLICA

....2

En cuanto al aspecto institucional, me permito informarle que, hasta que se complete el trabajo de rediseño y reubicación, con la opinión favorable del señor Vicepresidente de la República, que preside el (CONACYT), estoy trasladando la responsabilidad de Entidad Ejecutora del Consejo Nacional de Ciencia y Tecnología al Ministerio de Agricultura y Ganadería. Con copia de esta comunicación estoy informando al señor Ministro de Finanzas, al señor Ministro de Relaciones Exteriores y al CONACYT de esta decisión

Sin otro particular por el momento, aprovecho de esta oportunidad para reiterar, al señor Director, mis sentimientos de consideración y aprecio.

DIOS, PATRIA Y LIBERTAD,

León Febres-Cordero Ribadeneyra.

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UNITED STATES AID MISSION TO ECUADOR
INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
QUITO, ECUADOR

O/DP-84-166

18 de septiembre de 1984

Estimado Señor Presidente:

Por medio de la presente doy contestación a su atenta carta del 31 de agosto del año en curso, relacionada con el Proyecto de Cooperación Técnica y Financiera entre el Gobierno del Ecuador y la Agencia para el Desarrollo Internacional (A.I.D.) para el Sistema de Transferencia de Tecnología Rural.

Al respecto, Señor Presidente, agradecemos la preocupación que el Gobierno Nacional, a su más alto nivel, ha expresado con miras a solucionar los problemas y dificultades de implementación que ha experimentado este importante Proyecto.

A nosotros nos es grato acoger su inquietud y su decisión en cuanto al rediseño de los aspectos programáticos e institucionales del proyecto, y estamos desde ya a las órdenes del Señor Ministro de Agricultura y Ganadería para integrarnos inmediatamente al proceso de rediseño del Sistema de Transferencia de Tecnología Rural.

Sin otro particular, queremos reiterar nuestra voluntad de apoyar, en la medida de nuestras posibilidades y recursos, las iniciativas que el Señor Presidente y los altos funcionarios del

Señor Ingeniero
León Febres Cordero R.
Presidente Constitucional de la
República del Ecuador
En su Despacho

INTERNATIONAL MAIL ADDRESS
U.S. AID Mission to Ecuador
c/o American Embassy
Quito, Ecuador

U.S. MAIL ADDRESS
USAID - Quito
Agency for International Development
Washington, D.C. 20523

CABLE ADDRESS USAID QUITO
Phone: 521100

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Gobierno Ecuatoriano tengan en materias que, como esta, son de mutuo interés.

Aprovecho de esta oportunidad, Señor Presidente, para reiterar a Usted los sentimientos de mi más alta consideración y estima.

Orlando Llenza
Director

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QUITO 2158
011956Z MAR 85

ANNEX C
Page 1 of

TELEGRAM

INDICATE
[ ] COLLECT
[X] CHARGE TO USAID/E

FROM: AMEMBASSY QUITO
CLASSIFICATION: UNCLASSIFIED

12356
E.O. XXXXX
TAGS:
SUBJECT: N/A
Amendment of Rural Technology Transfer System Project (518-0032)
SECSTATE WASHDC

ACTION:
AID

UNCLASSIFIED QUITO 2158

AMB
DCM
CHRON
RF

AIDAC

FOR: LAC/DR/SAP, EZallman/DCniriboga

REF: (A) 84 STATE 345071; (B) Zallman/Giusti/Roeser telcon, 2/11/85

1. SUMMARY. USAID and the GOE have undertaken actions leading to the redesign of the subject project in an effort to improve implementation and ensure achievement of the project purpose. The strategy and main components of the redesigned project have been identified. However, under the revised strategy, the design of a new set of specific subprojects needs to be carried out over the next few months. USAID proposes to proceed with actions leading to the design of a definitive set of subprojects, at which time the Project Paper Amendment

ACTION:	
DIR	
A/DIR	✓
EXO	
O/CONT	
O/DP	✓
O/DR	✓
O/ENR	
GBO	
PSD	
TRO	
RDO	✓
FHD	
U/S	
TIC	
DF 2	✓
M&R	✓
EMD	
WASH.	
RLA	

DRAFTED BY: O/DR:RRoeser:pja
DRAFTING DATE: 3.1.85
TEL. EXT.
CONTENTS AND CLASSIFICATION APPROVED BY: Orlando Llenza, Director

CLEARANCES:
O/DR:CGiusti (in draft)
D/DIR:GRWein (in draft)
RDO:DMcIntyre (in draft)
O/DP:PMaldonado (in draft)

UNCLASSIFIED
CLASSIFICATION

50152-101

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(Formerly FS-413(H))
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can be properly completed. USAID requests AID/W concurrence for Mission to proceed as planned and to authorize the amended Project Paper in the Mission. A redelegation of authority for PACD extension and guidance on related issues are also requested. END SUMMARY.

2. BACKGROUND

(A) The Rural Technology Transfer System (RTTS) Project was authorized by AID/W on July 31, 1980 for a life of project Grant funding amount of Dols. 5,300,000. Subsequently, on June 24, 1982, the Mission authorized a Loan add-on of Dols. 1,000,000. The project purpose is to: (1) strengthen rural institutions so that they are able to serve the sector effectively; (2) develop and disseminate technologies appropriate to the needs of small farmers and the agricultural sector in general; and (3) support the establishment of a mechanism (the RTTS) to address the technological and related constraints facing the sector on a continuing basis. The central administrative mechanism for the RTTS was originally placed in the GOG National Science and Technology Council (CONACYT). CONACYT was to identify, help develop, and channel financing to a series of subprojects designed to address technological and

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related institutional constraints in the rural sector. A key aspect of the project strategy was the establishment of linkages between the RTTS and the Title XII system to facilitate the transfer of appropriate technologies to Ecuador. To date, Dols. 3,469,000 in Grant and Dols. 5,000,000 in Loan have been obligated. Disbursements as of December 31, 1984 were Dols. 1,742,000 and Dols. 36,000, respectively.

(B) During the first two and a half years of the project, satisfactory progress was made. The core contract for the lead Title XII university was competitively awarded to the University of Florida. By early 1983, 11 subprojects had been approved with various public sector rural development agencies and Ecuadorean universities. From that time, however, implementation deteriorated dramatically. CONACYT approved no further subprojects and the execution of several of the ongoing subprojects suffered. Two major external evaluations were conducted, in March 1983 and July 1984. While finding merit in the overall project concept and in many of the individual subprojects, these evaluations focused on the ineffectiveness of CONACYT and recommended that the locus of the implementing mechanism be changed.

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(C) Shortly after the second evaluation, USAID initiated discussions on the future of the RTTS Project with the officials of the new government-elect. Less than one month after the inauguration of the new administration in August 1984, the President of Ecuador formally transferred the implementing authority from CONACYT to the Ministry of Agriculture (MAG) pending redesign of the project. A highly qualified team of outside experts collaborated with the MAG and USAID in developing a recommended redesign. The redesign document was completed in December 1984. (A copy of the redesign document is being pouched to LAC/DR/SAP per request in ref A.)

3. GENERAL DESCRIPTION OF THE REDESIGNED PROJECT

(A) Purpose and Strategy. The project purpose remains unchanged. However, the amended project will adopt a somewhat different strategy for more effectively achieving that purpose. The MAG will be the permanent central implementing agency, replacing CONACYT. The MAG, under the leadership of the new GOE administration, is philosophically in agreement with the project and, since assuming responsibility, has shown strong enthusiasm for it. The selection of the MAG is also appropriate given the increased emphasis on agricultural

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production and marketing under the redesigned project. In addition, the amended project will channel a large share of the remaining resources to private producer associations in selected agricultural commodity areas. This will provide greater balance to the subproject portfolio which, to date, has been implemented solely by public sector institutions. The focus on private producer associations is also in line with the priorities of the new GOE administration to increase the role of private initiative in the development of the agricultural sector. The amended project will consist of three components: new commodity-oriented subprojects; ongoing subprojects; and training.

(B) New Commodity Oriented Subprojects. The amended project will finance a number of new subprojects. In general, each new subproject will correspond to a priority agricultural commodity. Each subproject will be designed and implemented by a major private producer association with the collaborative assistance of a Title XII university or other external institution (e.g., one of the International Agricultural Research Centers) selected for its expertise in the pertinent commodity area. The commodity areas are being selected by the MAG using criteria which include the economic importance of

the commodity, the extent of small farmer participation in production of the commodity, and the existence of a producer association with sufficient resources to implement a subproject. The MAG, in collaboration with the producer associations and the University of Florida advisory team, will prepare situation papers on each of the top ranked commodity areas. These papers will describe the major technological problems affecting production and marketing of the commodity as well as the capacity and commitment of the proposed implementing associations. Following the same basic procedures which have been used to date under the core contract, the University of Florida will then be instructed to obtain resources from within or to subcontract other qualified universities or institutions to provide subproject design teams in the various areas. These teams will work with the counterpart associations to design the subprojects. As in the past, the subproject design documents will follow a prescribed format which includes a detailed implementation plan and budget as well as technical, economic, financial, social, institutional, and, where appropriate, environmental analyses. The MAG and USAID will review the subprojects and render approvals based on established criteria. Those

subprojects which are approved will begin implementation immediately, with the follow-on support of the previously selected counterpart university. It is estimated that approximately six new subprojects will be approved with available project financing.

(C) Ongoing Subprojects. Implementation of the ongoing subprojects has been uneven. The MAG, Florida, and USAID have recently completed a comprehensive performance evaluation of these subprojects. Each subproject was assessed in terms of its prospects for achieving its stated goals in a reasonable period of time. The continued relevance of the subproject to GOE priorities was also considered. As a result, the Minister of Agriculture has recommended that four of the 12 ongoing subprojects be discontinued and that some of the other subprojects undergo design modifications.

(D) Training. The evaluation and redesign teams recommended that the project give greater emphasis to training. Therefore, a central training component is proposed. A large portion of the training activities under this component will be directly related to the subprojects. Staff of the producer associations will receive training that will strengthen their capacity to identify production and marketing problems and to plan

and manage subproject implementation. Farmers will also receive training to facilitate the transfer of new technologies introduced under the subprojects. Other training will be directed at strengthening human resources in other areas of the RTTS (e.g., the Ecuadorean public sector research institutions) and of the agricultural sector in general. Training financed under this component will be mostly short term but will also include some long term academic training. The University of Florida will provide an in-country training advisor who will assist in identifying training needs and resources, and in elaborating a firm training plan and budget for the PP Amendment.

(E) Timing. The original PACD was September 30, 1985. With the authorization of the Loan add-on, the PACD was extended by two years to September 30, 1987. As described above, the new subprojects will entail institutional development and reorientation as well as technology generation, adoptation, and transfer activities. The Mission estimates that, for several subprojects, up to three years will be required to successfully implement these activities. The Mission therefore proposes that the overall PACD be extended by one year, to September 30, 1988.

(F) Budget. The amended project will entail no repeat no increase in the currently authorized life of project funding level (Dols.10,300,000). However, the new project strategy does raise issues regarding the appropriateness of Loan funding. There is within the GOE an understandable concern about using Loan funds contracted by the government to finance goods and services which are directly provided to the private sector. There may even be GOE legal prohibitions, which the Mission is seeking to verify. The Mission is therefore considering the possibility of fully Grant funding the redesigned RTTS Project (aside from those Loan funds that have already been irrevocably committed or disbursed). This could be achieved, for example, by deobligating the remaining Loan funds and reobligating them for other projects in the ARDN account, and shifting ARDN Grant funds from other projects in the FY-85 OYB to incrementally fund the RTTS Project. The Mission is studying the implications of such a change on its current OYB and Grant mortgage.

4. PP AMENDMENT DEVELOPMENT SCHEDULE

(A) In order to comply with statutory requirements that all projects have firm specifications and be fully costed out, USAID proposes to proceed, upon AID/W

OPTIONAL FORM 152a(H)
(Formerly FS-413(H)a)
January 1975
Dept. of State
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concurrence, with a series of actions leading to design of the new subprojects and the training component and reprogramming of the ongoing subprojects. The PP Amendment will be prepared at the time that these actions are completed. The estimated schedule is as follows:

-- Rank ordering of commodity areas approved	March 1
-- Final definition of subproject evaluation and approval criteria and procedures	March 1
-- Execution of amendment of core contract with University of Florida	March 31
-- Counterpart universities selected	May 15
-- Design of subprojects and training component and reprogramming of ongoing subprojects completed	August 1
-- PP Amendment approved and authorized by Mission	September 1
-- Project Agreement Amendment signed	September 15

(B) During this period, a new subproject for improved sheep production which has already been designed may be approved and the counterpart university selected following the criteria and procedures that will be defined. This subproject would be ready for implementation before the design of the other subprojects is completed. USAID would propose initiating implementation of this subproject soon after AID/W concurrence in the strategy outlined above, so as to maintain momentum during the PP Amendment process and to allow some phasing of subproject start-ups. USAID would provide AID/W with information on this subproject as requested prior to starting implementation. Subsequently, the full description and justification of this subproject would be included in the PP Amendment, along with the other new subprojects.

(C) In addition to amending the PP, the Mission has determined that the Project Authorization will require amendment to: (1) modify the project description to eliminate explicit reference to CONACYT; (2) to revise Conditions Precedent and Covenants as appropriate; and (3) possibly change the Grant/Loan funding mix per para 3 (F) above.

5. DESIGN BUDGET

It is estimated that project funds will be expended as follows in carrying out the activities outlined in para. 4, leading to the completion of the PP Amendment:

-- University of Florida staff Dols.30,000

-- Technical assistance for subproject design from Title XII or other institutions Dols.120,000

-- TOTAL Dols.150,000

6. ACTIONS REQUESTED

(A) Persuant to LAC Redelegation of Authority to the Field No. II regarding Field Assistance Approval, the Mission may approve and authorize project amendments provided that, prior to the exercise of this authority, the Mission communicates to AID/W information on the scope and justification of the amendment. This cable constitutes the Mission's notification. We request AID/W concurrence for the Mission to proceed as planned and to approve the Project Paper Amendment and amend the Project Authorization in the Mission.

(B) In addition, as noted in para 3.E. above, a further, one year extension of the PACD, to September 30, 1988, would imply a cumulative PACD extension of three years for the Grant. The Mission Director's currently

authority is limited to extensions up to two years. We therefore request that AID/W also approve an ad hoc redelegation of authority to the Mission Director to extend the PACD for an additional year, i.e., a cumulative period not to exceed three years.

(C) The request for further extension of the PACD has implications for the continued availability of the obligated Grant funds. The Mission has reviewed the guidance contained in HB3 Chapter 1, Appendix B, Section C and in Section 110 (B) of the FAA regarding time limitations on disbursement of Grant funds, but finds this guidance confusing. Specifically, is there a three or five year limit on disbursement following obligation of Grant funds? The Mission has conducted a pipeline aging analysis of the RTTS Grant, which has been obligated in a series of increments over a period of four years, and believes that even a three year limitation would not pose serious problems. However, the Mission wishes to avoid possible future problems which could jeopardize the Grant funds which are critical for funding the Title XII technology transfer activities and, as noted above, for supporting the new private sector orientation of the project. Per ref telcon (C), we request that AID/W provide a clear

interpretation of the HB 3 guidance so that the Mission may plan further Grant incremental obligations and disbursements accordingly.

(D) Also per ref telcon (C), we request that LAC provide guidance on appropriateness and feasibility of fully Grant funding the RTTS Project, as suggested in para. 3 (F) above.

7. AID/W assistance greatly appeciated.

HART

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REPLY DUE 5-17-85
( ) NO REPLY NEEDED
( ) REPLIED BY
ON
Date 5-17-85
FILE

AIDAC

E.O. 12356: N/A
TAGS:
SUBJECT: ECUADOR RURAL TECHNOLOGY TRANSFER SYSTEM PROJECT (518-0032)

REF QUITO 2158

A. AID/W CONCURS WITH USAID PLAN TO REDESIGN THE SUBJECT PROJECT TO IMPROVE PROJECT IMPLEMENTATION.

B. MISSION DIRECTOR IS AUTHORIZED TO APPROVE PROJECT PAPER SUPPLEMENT AND AMEND PROJECT AUTHORIZATION IN ACCORDANCE WITH STANDARD DELEGATION OF AUTHORITY NO. 1[illegible] AS LONG AS REDESIGNED PROJECT IS SUBSTANTIALLY THE SAME AS SET FORTH IN REFTEL.

C. THE AMENDED PROJECT AUTHORIZATION WILL (1) MODIFY THE PROJECT DESCRIPTION TO ELIMINATE REFERENCES TO CONACYT (2) REVISE CONDITIONS PRECEDENT AND COVENANTS AS APPROPRIATE AND (3) CHANGE THE GRANT/LOAN FUNDING MIX TO EFFICIENTLY IMPLEMENT THE REDESIGNED PROJECT WITHIN THE PRESENTLY APPROVED LOP FUNDING IF REQUIRED.

D. THE PACD IS HEREBY EXTENDED UNTIL SEPTEMBER 30, 1986 SUBJECT TO PRIOR COMPLETION OF THE PP SUPPLEMENT.

E. AS THIS IS AN OLD PROJECT, LAC WOULD LIKE TO SEE IT COMPLETED AS SOON AS POSSIBLE. WE URGE MISSION TO ENSURE THAT REDESIGN WILL RESULT IN RAPID DISBURSEMENT OF FUNDS. IF GRANT FUNDS ARE SUBSTITUTED FOR EXISTING LOAN FUNDS, AS SUGGESTED REFTEL, IT IS SUGGESTED THAT THE NEW TOTAL AUTHORIZED LEVEL BE REDUCED UNTIL IT IS CLEAR THAT THE NEW ADMINISTRATIVE ARRANGEMENTS ARE EFFECTIVE IN ENSURING RAPID DISBURSEMENT OF THE PROJECT PIPELINE. THE AUTHORIZATION COULD BE SUBSEQUENTLY INCREASED BASED ON CLEAR AND DEMONSTRABLE PROGRESS THAT THE PROJECT IS BEING SUCCESSFULLY IMPLEMENTED.

F. PLEASE ENSURE THAT PP SUPPLEMENT IDENTIFIES EACH SPECIFIC SUBPROJECT THAT WILL BE CARRIED OUT UNDER REDESIGNED PROJECT.

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G. PLEASE ENSURE THAT ANY FUNDS DEOBLIGATED EXCLUDE AMOUNTS already SPENT AS WELL AS FUNDS IRREVOCABLY COMMITTED TO THIRD PARTIES. SHULTZ
LT
#2195

NNNN

UNCLAS

Best Available Document

Ministerio de Agricultura y Ganadería
Quito - Ecuador

REPLY DUE 4/19
☐ NO REPLY NEEDED
☐ REPLIED BY
ON
Date Initials
FILE: P.0032 Univ. Florida

Quito, a April 11 1985

APR 12 1985 RECEIVED

MEMORANDO No. UF-025

PARA: Darell McIntyre, Project Manager

DE: Kamal Dow, UF

ASUNTO: RTTS Subprojects to be continued and discontinued.

For your information I am including a copy of our communication to the Minister of Agriculture regarding our recommendation as to the subprojects that should be continued or discontinued, with the co - rresponding reports on each subproject. I am also including a copy of the Minister's response indicating his agreement with our re - commendations, and a copy of his April 11 letter to Joe Goodwin requesting deobligation of funds. According to this, the following subprojects will be discontinued:

ACTION: RDO.3
DIR
A.DIR
EXO
O/COUT
O/DP
O/DR
O/ENG
GDO
PSB
TRG
RDO
FHD
O/N
TIC
RF-2
M&R
EMB
WASH
RLA

- IERAC, Agrarian Structure (Completed)
- INEC, Agricultural Statistics
- INP, Fisheries Extension
- CONACYT, SINICYT
- Brucellosis, Machala (Completed)
- ESPOL, Food Technology

It appears, thus, that funds obligated for these subprojects could be now deobligated and made available for new subprojects.

Support to the following subprojects will continue, subject to some redesign of their activities and a revision of the budget to adjust it to their needs and the current exchange rates:

- IDAPA, INIAP
- COMSA, INIAP
- Native Germplasm, Machala
- Pest Management, Machala
- Pisciculture, ESPOL
- Post-Harvest, Ambato

c.c.: Mr. Giovanni De Choudens
Mrs. Hope Goodwin.

Ministerio de Agricultura y Ganadería
Quito - Ecuador

Quito, a 10 de Enero de 1985

MEMORANDO No. UF_006

PARA: Señor Ministro de Agricultura y Ganadería

DE: Jefe Misión Universidad de Florida

ASUNTO: Subproyectos bajo el Proyecto STIF

Estoy adjuntando para su conocimiento un listado de los subproyectos bajo el STIF que se encontraban en marcha al momento de ser transferido el proyecto al MAG. Las cifras correspondientes a los gastos son aproximadas, pendiente la auditoría que comenzará la semana que viene.

Igualmente, incluyo un reporte resumido de cada subproyecto con nuestra recomendación en cuanto a la conveniencia de continuarlos o no. Estas recomendaciones se resumen en el cuadro siguiente:

	SUBPROYECTO	INST. EJECUTORA	RECOMENDACION
1.	IDAPA	INIAP	Continuar
2.	COMSA	INIAP	Continuar
3.	Estructura Agraria	IERAC	Ha finalizado
4.	SEAN	INEC	Descontinuar
5.	Pesca Artesanal	INP	Descontinuar
6.	SINICYT	CONACYT	Descontinuar
8.	Cultivares	U.T. de Machala	Continuar
8.	Brucelosis	U.T. de Machala	Ha finalizado
9.	Plagas	U.T. de Machala	Continuar
10.	Piscicultura	ESPOL	Continuar
11.	Alimentos	ESPOL	Descontinuar
12.	Post-cosecha	U.T. de Ambato	Continuar

Agradeceríamos nos comunicara su conformidad o no con estas recomendaciones para proceder de acuerdo.

BEST AVAILABLE

Quito, a 21 ENE 1995

Ministerio de Agricultura y Ganadería
Despacho del Sr. Ministro

0042

MEMORANDO No. MAG

PARA: DOCTOR KAMAL DOW

DE: MINISTRO

ASUNTO: Proyectos bajo STTR.

De mis consideraciones:

Me es grato informarle, que luego de haber revisado el listado de los Subproyectos bajo STTR con su respectivo reporte, estoy de acuerdo con sus recomendaciones, en cuanto a la continuación o discontinuación de ciertos Proyectos, de este modo espero que se lleve a cabo las gestiones necesarias para poner en marcha los proyectos señalados por usted.

Atentamente,

Marcel J. Laniado

Ministerio de Agricultura y Ganadería
Despacho del Sr. Ministro

Oficio No. -MAG

Quito, a 11 ABR. 1985

Señor Doctor
Joseph Goodwin
USAID/Ecuador
Presente

De mis consideraciones:

Como es de su conocimiento, en Enero 21 pasado, este Despacho aprobó la recomendación de la Universidad de Florida en el sentido que se descontinuaran los siguientes subproyectos bajo el STTR:

IERAC, Estructura Agraria (Terminado)
Brucelosis, Universidad Técnica de Machala (Terminado)
INP, Pesquería Artesanal
CONACYT, SINICYT
INEC, Servicio de Estadísticas Agropecuarias Nacionales
ESPOL, Tecnología de Alimentos.

Por lo tanto, quisieramos solicitar se desobliguen los fondos destinados a estos subproyectos, de manera de poder disponer de ellos para subproyectos en las áreas prioritarias determinadas por el MAG y de las cuales ustedes tienen ya conocimiento.

Agradeciendo de antemano su atención a la presente, me es grato suscribirme de usted.

Atentamente,
DIOS, PATRIA Y LIBERTAD

Marcel Laniado
MINISTRO DE AGRICULTURA Y GANADERIA

PROYECTO STTR: SUBPROYECTOS EJECUTADOS BAJO CONVENIO CON EL CONACYT.

1. Investigación y Desarrollo Adaptados al Pequeño Agricultor, INIAP.

2. Conservación y Manejo de Suelos y Aguas, INIAP.

3. Estudio de la Estructura Agraria del Ecuador, IERAC.

4. Sistema de Estadísticas Agropecuarias Nacionales, INEC.

5. Transferencia de Tecnología para el Sector Pesquero Artesanal, INP.

6. Inventario Nacional y Diagnóstico de Unidades de Información del Sector Agropecuario, CONACYT.

7. Evaluación, Conservación y Desarrollo Tecnológico de Cultivares Nativos en la Peovincia de El Oro, UTM.

8. Determinación de Prevalencia y Focos Endémicos de Brucelosis y Normas para su Control, UTM.

9. Inventario y Control de Plagas Agrícolas en la Provincia de El Oro, UTM.

10. Investigación Piscícola y de Producción a Nivel de Cultivo Experimental de Especies Nativas y Exóticas en la Cuenca del Río Guayas, ESPOL.

11. Tecnología Alternativa para la Producción de Alimentos a Base de Pescado y Frutas Tropicales, ESPOL.

12. Investigación en Tecnología de Alimentos para el Desarrollo de Tecnologías Agropecuarias en el Sector Rural, UTA.

PROYECTO ST FONDOS ASIGNADOS Y GASTADOS POR LOS SUBPROYECTOS BAJO CONVENIO CON CONACYT.

(Diciembre/84)

INSTITUCION	NOMBRE DEL PROYECTO	PRESUPUESTO STTR EN SUCRES ASIGNADO	GASTADO 1/	OBSERVACION
INIAP	IDAPA	15'448.650	7'000.000	Se recomienda su continuación.
INIAP	CONSA	15'840.000	6'475.000	Se recomienda su continuación, con ciertos ajustes.
IERAC	Estructura Agraria	13'750.000	9'500.000	Subproyecto concluído.
INEC	SEAN	9'400.000	7'175.000	Se recomienda suspender el apoyo STTR.
INP	Transferencia de Tec.	8'419.000	500.000	Se recomienda suspender el apoyo STTR.
CONACYT	SINICYT	830.000	0	Se recomienda suspender el apoyo STTR.
UTM	Cultivares Nativos	3'129.400	1'599.200	Se recomienda su continuación.
UTM	Determinación de Brucelosis.	1'024.500	889.090	Se recomienda apoyar a través del STTR la fase de utilización de los resultados.
UTM	Insectos Plagas	3'391.700	1'4700000	Se recomienda su continuación, con ciertos ajustes.
ESPOL	Inv. Piscícola.	4'533.550	0	Se recomienda su continuación.
ESPOL	Tecn. Alimentos.	14'519.000	300.000	Se recomienda suspender el apoyo STTR.
UTA	PITALPRO	13'751.900	2'464.102	Se recomienda su continuación.

1/ Los gastos en dólares puestos en sucres utilizando la tasa de cambio vigente a la fecha del convenio.

Subproyecto: IDAPA-INVESTIGACION Y DESARROLLO ADAPTADOS AL PEQUEÑO AGRICULTOR.

Datos generales:

Institución ejecutora: INIAP, Programa de Investigación en Producción, PIP.

Duración: Cuatro años

Fecha de inicio: 6 de Noviembre de 1981

Financiamiento:

Costo total:	S/.	40'351.209
Aporte BID.		15'446.660
Institución ejecutora:		24'902.549

Objetivos:

Desarrollar tecnologías agrícolas apropiadas en los campos de los agricultores con base en las tecnologías generadas a nivel de Estación Experimental, en áreas de concentración de pequeños agricultores (e.i. áreas de proyectos DRI) y en articulación con las actividades de extensión agrícola. Simultáneamente, procurar el desarrollo institucional de la investigación del INIAP en campos de agricultores, principalmente a través de la capacitación técnica.

Cobertura geográfica y actividades productivas: Cinco zonas PIP en las provincias de Imbabura, Cotopaxi, Loja, Esmeraldas y Napo. Se trabaja con el enfoque de sistemas de producción, cubriendo en cada zona los cultivos más importantes.

Estado de ejecución:

Transcurridos tres de los cuatro años previstos para la ejecución del subproyecto y no obstante la presencia de algunos problemas comprensibles en un proyecto de investigación y desarrollo tecnológico, el IDAPA se ejecuta bastante bien, con una programación y ejecución de actividades oportuna y de buen nivel y con una obtención de resultados alentadores. En términos de los objetivos propuestos, el subproyecto ha logrado progresos visibles en todos los componentes de actividad.

BEST AVAILABLE

Los componentes de investigación tecnológica y de capacitación técnica se instrumentan según lo programado, con excepción del trabajo en la zona del Napo, en donde el progreso ha sido mínimo y recién en el ciclo agrícola 1984-85 se desarrollará un volumen importante de investigación y difusión tecnológica en cría de gallinas, manejo bajo cautiverio de animales nativos de la amazonía y manejo bajo pastoreo del pasto INIAP-Napo 701. En el resto de zonas los programas de trabajo para el ciclo 1984-85 están ya en ejecución, con ensayos instalados en los campos de los agricultores, a excepción de Loja en donde los ensayos se sembrarán en Enero de 1985. Con base en los resultados tecnológicos de los años anteriores, en este año se enfatizará la difusión tecnológica a través de publicaciones y parcelas demostrativas para días de campo, en una diversidad de cultivos y tecnologías; así, en Imbabura en el cultivo asociado maíz-fréjol, con tecnologías de variedades y fertilización; en Salcedo en los cultivos de maíz, fréjol, trigo, cebada, haba y papa, con tecnologías de variedades, fertilización, densidades y otras, en Loja en los cultivos de maíz y maní, con tecnologías de variedades, control de malezas, fertilización y otras prácticas agronómicas; en Quinindé en los cultivos de plátano, maíz y cacao, con tecnologías de variedades, fertilización y otras prácticas de cultivo.

En lo financiero, el subproyecto ha gastado alrededor de S/. 7'000.000 del aporte del STTR, de lo cual S/. 3'820.000 corresponden a gastos de sueldos, quedando un saldo por ejecutarse de aproximadamente S/. 3'180.000.

Recomendación:

El subproyecto IDAPA constituye un esfuerzo de desarrollo tecnológico agrícola que por su estrategia de funcionamiento está en línea con la actual estrategia del MAG, orientada a actuar directamente en los campos de los agricultores, con la participación efectiva de los productores en la solución de sus problemas prioritarios. Por los objetivos y áreas de problemática tecnológica que cubre, el subproyecto mantiene una prioridad alta, la que junto con la buena ejecución de que es objeto justifican plenamente la continuación del apoyo financiero del Proyecto STTR.

BEST AVAILABLE

Para optimizar el logro de los objetivos, sin embargo, es necesario que una evaluación integral del subproyecto genere recomendaciones que permitan en el corto plazo resolver una serie de dificultades y necesidades que han sido detectadas en revisiones anteriores, incluyendo los ajustes requeridos en el cronograma general de actividades, sus plazos y presupuesto de gastos.

Subproyecto: COMSA-CONSERVACION Y MANEJO DE SUELOS Y AGUAS.

Datos generales.

Institución ejecutora: INIAP, Departamento de Suelos y Fertilizantes de la Estación Experimental "Santa Catalina".

Duración: 43 meses.

Fecha de inicio: 1º de Julio de 1981

Financiamiento:

Costo total:	S/.	44'325.943
Aporte STTR:		15'840.000
Aporte INIAP:		28'485.943

Objetivo resumido:

Desarrollar y transferir tecnologías apropiadas para un buen manejo de suelos y aguas. y capacitar y formar recursos humanos en este campo.

Cobertura geográfica y beneficiarios: Subcuencas hidrográficas prioritarias, con énfasis en áreas de erosión fuerte y alta concentración de pequeños agricultores.

Estado de ejecución:

Faltando solamente seis meses para completarse el plazo originalmente previsto para la ejecución del subproyecto, éste se encuentra notablemente retrasado, aunque ejecutándose en buena forma, luego de un largo período de inactividad e ineficiencias durante 1983.

Hasta Diciembre de 1982 las actividades se cumplieron con agilidad, aunque solo se ejecutaron los componentes de capacitación técnica y transferencia de tecnología, en franco descuido del componente de investigación. En este punto se reformula el proyecto, redimensionando su cobertura a solo la Sierra, pues el INIAP no disponía de los recursos humanos y financieros requeridos. Durante todo 1983, con el cambio de Director del subproyecto, éste entra a una fase de inactividad

en parte debida a la falta de fondos de contraparte. A partir de 1984, con el nombramiento de un tercer Director, el subproyecto se reactiva, iniciando estudios de diagnóstico y la elaboración de un nuevo programa de trabajo; el enfoque metodológico se reoriente hacia un manejo integral de los recursos suelo y agua en subcuencas hidrográficas del callejón interandino.

Se han iniciado trabajos en tres zonas: Subcuenca del Río Zamora en Cotopaxi, subcuenca del Río Sinincay en el Azuay y subcuenca del sector occidental de Pichincha (zona de la Estación Santa Catalina). Los trabajos realizados se resumen en lo siguiente: Estudios de diagnóstico vía encuestas, estudios técnicos de la erosión, construcción de obras conservacionistas (en la Zamora para 500 Has., en la Sinincay para 100 Has. y en Pichincha para 800 Has.), y prácticas agronómicas con tecnologías conservacionistas en varios cultivos en la subcuenca del Río Zamora y en Pichincha.

El componente de capacitación técnica continua activo en virtud de la incorporación de personal nuevo al subproyecto. La capacitación a usuarios está en marcha, previéndose para 1985 un programa intenso de difusión tecnológica y capacitación a los agricultores.

En lo financiero el subproyecto ha sufrido las consecuencias de las demoras en las asignaciones tanto del mismo INIAP como del CONACYT. Al 31 de Octubre de 1984 los gastos sumaban aproximadamente S/. 4'000.000 en sucres y US$ 99.000 en dólares, lo que representa sólo alrededor de un 40% del fondo total de aporte del STTR.

Recomendación:

El problema de erosión de los suelos agrícolas es de los más serios que afronta el agro y el subproyecto COMSA fue diseñado para controlar su efecto negativo. Si bien el progreso logrado es comparativamente pequeño, éste se ha logrado mayormente durante el último año de ejecución, que coincide con la actual Dirección del Dr. Padilla, estimándose que ahora el subproyecto se ejecuta con eficiencia y que bien se pueden lograr los objetivos propuestos.

El examen de situación del subproyecto permite recomendar que el Proyecto STIR continue apoyando su ejecución, tomando en cuenta las siguientes sugerencias: 1- En virtud de que el plazo previsto de ejecución termina dentro de seis meses, prever una expansión del plazo a fin de permitir el logro efectivo de los objetivos; 2- examinar la posibilidad de reincorporar la Costa a la cobertura del subproyecto (áreas de erosión potencial fuerte); 3- reprogramar las actividades del subproyecto, con base en su nuevo enfoque; 4- revisar y ajustar el presupuesto de gastos.

Subproyecto: ESTUDIO DE LA ESTRUCTURA AGRARIA DEL ECUADOR.

Datos generales:

Institución ejecutora: IERAC-Instituto Nacional de Reforma Agraria y Colonización, Departamento de Estructura Agraria.

Duración: 39 meses (plazo terminado).

Fecha de inicio: 20 de Julio de 1981

Financiamiento:

Costo total:	S/.	33'384.500
Aporte SFTR:		13'750.000
Aporte IERAC:		19'634.500

Objetivos:

Estudiar la estructura agraria en dos provincias piloto (Manabí y Chimborazo), con el fin de desarrollar una metodología de investigación factible de aplicar en el resto del país, y crear en el IERAC una capacidad institucional para ejecutar investigación.

Estado de ejecución:

El subproyecto culminó su ejecución en Noviembre de 1984. Según el reporte del último Director, el subproyecto cumplió los objetivos, cuyos resultados se resumen en lo siguiente: Formación de un equipo técnico en el IERAC, con entrenamiento teórico-práctico para ejecutar investigación; desarrollo en el IERAC de una unidad de estudios de estructura agraria, equipada con una biblioteca especializada y un banco computarizado de datos; desarrollo de una metodología de trabajo, que incluye un documento sobre el marco teórico requerido; ejecución de dos estudios sobre la estructura agraria de Chimborazo y Manabí, que incluye la entrega de dos reportes finales.

Las diferentes evaluaciones tanto internas como externas realizadas durante la ejecución del subproyecto, permiten concluir que éste se ejecutó con dificultades técnico-administrativas que se tradujeron en insuficiencias en el marco teórico y metodológico de trabajo y, consecuentemente, en los resultados obtenidos.

En lo financiero, según reporte de la AID, al 31 de Octubre de 1984 se desembolsó con cargo al STTR la suma de US$ 382.823, para los diferentes rubros de gasto, frente al presupuesto de S/. 12'750.000, del cual US$ 440.000 fue para gastos en dólares y S/. 2'750.000 para gastos en sucres. Al momento no se dispone de datos para calcular los saldos respectivos.

Recomendación:

En virtud de que el subproyecto concluyó su ejecución, el apoyo del STTR debe paralelamente concluirse.

Subproyecto: SEAN-SISTEMA DE ESTADISTICAS AGROPECUARIAS NACIONALES.

Datos generales:

Institución ejecutora: INEC-Instituto Nacional de Estadísticas y Censos.

Duración: 18 meses (plazo terminado).

Fecha de inicio: 14 de Junio de 1982

Financiamiento:

Costo total:	S/. 119'488.000
Aporte SIIP:	9'400.000
Aporte INEC:	42'750.000
Aporte MAG:	66'838.000
Aporte USDA:	500.000

Objetivos:

Desarrollar, en las instancias metodológicas e institucional, un mecanismo de generación continua de datos básicos sobre el sector agropecuario, que permita conocer su situación actual y evolución y apoyar así la formulación de políticas, planes, programas y proyectos para el sector rural.

Cobertura geográfica y datos a generarse: Utilizando un marco de muestreo de áreas el subproyecto se ejecuta a nivel nacional, generando datos soore uso de la tierra, producción y comercialización de los principales cultivos y ganadería.

Estado de ejecución:

Cumplido el período previsto de ejecución del subproyecto en Diciembre de 1983, y aún hasta el presente, no se han cumplido todas las actividades y metas planeadas. En síntesis, el progreso ha sido el siguiente: En la parte metodológica se desarrolló todo el proceso (diseño del marco de muestreo de áreas, diseño de los cuestionarios

y del trabajo de recolección de información, diseño y uso de los programas de computadora, ingreso y validación de datos, procesamiento y análisis de datos y estudio de métodos objetivos), instrumentándose cada fase de manera gradual y en un proceso de continuo afinamiento, con excepción de la aplicación de los métodos objetivos que no llegó a realizarse. Se llegó a ejecutar cuatro rondas de recolección de datos por muestreo, encontrándose la información en revisión y su publicación notablemente retrasada. Con la creación en el INEC de una unidad SEAN se intentó institucionalizar el mecanismo y servicio de producción de datos para el sector agropecuario, pero la falta de tiempo de computadora y de personal técnico en determinadas fases del trabajo, ha dificultado y demorado la institucionalización eficiente del sistema. El componente de capacitación técnica se cumplió con el personal disponible del INEC, pero la capacitación a usuarios (técnicos del MAG y otras instituciones), no se llegó a cumplir. La asistencia técnica prevista de la Universidad de Florida y de la firma Information Express se ejecutó en la medida de lo solicitado por el INEC, siendo en general notablemente subutilizada.

En el aspecto financiero, el subproyecto gastó aproximadamente S/. 7'175.000, es decir el 76% de los s/. 9'400.000 comprometidos.

En general, el subproyecto se ejecutó con notables retrasos atribuídos principalmente a la falta de liderzgo técnico-administrativo, en parte acentuada por los cambios de jefatura, al insuficiente número de técnicos en el subproyecto, a la falta de coordinación entre los técnicos dentro del INEC y entres éstos y los del MAG, y a la insuficiente disponibilidad de tiempo de computadora para el subproyecto.

Recomendación:

El logro defectivo de las metas del subproyecto requiere de acciones y esfuerzos que superan la capacidad actual de recursos y funcionamiento previstos en el convenio existente entre el MAG e INEC y en el expirado entre CONACYT e INEC con fondos STTR. Esta situación, y el hecho de que el proyecto STTR ha sido rediseñado y su enfoque actual no incorpora de manera directa actividades de fortalecimiento del sistema de estadísticas agropecuarias y de que existe

por otro lado un proyecto en el AID orientado a este ámbito de actividades, permite sugerir que el apoyo del proyecto STTR al subproyecto SEAN se de por concluído.

A efectos de desarrollar el SEAN y mejorar así el proceso de generación de información de manera eficiente y oportuna, se visualisan dos cursos de acción: 1- Mejorar la dotación de recursos técnicos y de procesamiento en el INEC y la coordinación con el sector usuario, particularmente con el MAG, y 2- Desarrollar en el MAG una capacidad institucional propia para implementar el SEAN, ya sea transfiriendo del INEC las fases del proceso para las que el MAG posea ventajas comparativas o asimilando gradualmente todo el proceso en el MAG.

RSV/ls

Subproyecto: TRANSFERENCIA DE TECNOLOGIA PARA EL SECTOR PESQUERO ARTESANAL.

Datos generales:

Institución ejecutora: INP-Instituto Nacional de Pesca.

Duración: 36 meses

Fecha de inicio: 31 de Diciembre de 1982

Financiamiento:

Costo total:	S/. 18'113.343
Aporte SPTP:	5'819.000
Aporte CONACYT:	11'250.000
Aporte INP:	9'044.343

Objetivos:

Transferir tecnologías apropiadas para el sector pesquero artesanal del litoral, para la producción diversificada de productos de pescado, mejorando el manejo, procesamiento y comercialización de especies de peces tradicionales y no tradicionales.

Cobertura geográfica y beneficiarios: Inicialmente se prevía trabajar en los principales centros pesqueros de toda la Costa, pero en la actualidad el trabajo está limitado a Puerto Cayo en Manabí y Valdivia en el Guayas, a través de los pequeños pescadores organizados en cooperativas.

Estado de ejecución:

Transcurridos 24 meses de ejecución del subproyecto, este se encuentra notablemente retrasado y modificado con respecto al enfoque y cobertura iniciales, al extremo que el CONACYT ha decidido suscribir un nuevo convenio reformulando el subproyecto, dimensionando su cobertura a las posibilidades limitadas del INP, con un aporte del presupuesto del CONACYT reducido a S/. 5'000.000.

En resumen, el progreso del subproyecto ha sido el siguiente: El diagnóstico tecnológico y socioeconómico de la pesca artesanal solo cumplió la fase de recolección de información y procesamiento inicial de datos, quedando sin realizarse el análisis y utilización de la información; consecuentemente, el diseño y ejecución de actividades posteriores no tuvieron la sustentación adecuada. Así, el componente de capacitación de usuarios sólo logró realizar un curso, la instalación de los Centros de Asistencia Técnica-CAT se cumplió parcialmente y no lograron funcionar, con la excepción del montado en Valdivia. La falta de operación del proyecto forzó la reducción de su cobertura a sólo dos áreas, la de Valdivia, Guayas, y Puerto Cayo, Manabí, en donde el trabajo ha sido posible por el apoyo de la asistencia técnica local contratada y la de la ODA (Overseas Development Agency) del Gobierno de Gran Bretaña, que mantiene un convenio con el INP.

Las dificultades surgidas han sido varias. a) Falta de liderazgo en la ejecución del subproyecto, lo que motivó el cambio de director; b) Falta de integración del equipo técnico que funcione establemente, pues, a partir de que se contrató a egresados y estudiantes sin suficiente formación y experiencia, hubieron desacuerdos internos que provocaron la salida de varios técnicos; c) Falta de fondos de contrapartida del INP, lo que junto a una descoordinación con la instancia financiera provocó la paralización del subproyecto durante un buen período, d) Falta de formación profesional y experiencia institucional para la transferencia de tecnología, lo que determinó insuficiencias metodológicas en la ejecución de las pocas actividades de este tipo realizadas.

El aporte financiero del STTR no ha podido cumplirse por las circunstancias arriba indicadas, habiéndose desembolsado a la fecha S/. 500.000,oo , esto es el 6%, quedando un saldo de S/. 7'919.000,oo.

Recomendación:

No obstante la prioridad relativa de los objetivos del subproyecto, la falta de eficiencia observada en su ejecución no permitiría continuar el apoyo del STTR sin una previa revisión de la capacidad institucional del INP. En virtud de que el CONACYT yaase ha anticipado en la reformulación del subproyecto, dimensionándolo a las posibilidades del INP, se sugiere que el apoyo del STTR se de por concluido.

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Subproyecto: INVENTARIO NACIONAL Y DIAGNOSTICO DE UNIDADES DE INFORMACION DEL SECTOR AGROPECUARIO-SINICYT.

Datos generales:

Institución ejecutora: CONACYT-Consejo Nacional de Ciencia y Tecnología, Dirección de Operaciones.

Duración: 12 meses (plazo terminado).

Fecha de inicio: 2 de Diciembre de 1982

Financiamiento:

Costo total:	S/.	2'010.000
Aporte STTR:		830.000
Aporte CONACYT:		1'180.000

Objetivos:

Conocer la realidad y detectar los principales problemas que afectan el funcionamiento, desarrollo y coordinación de las unidades de información del sector agropecuario del país.

Estado de ejecución:

Debido a dificultades administrativas, tanto en la ejecución de los desembolsos como en la contratación de la asistencia técnica requerida, este subproyecto se desfasó notablemente del cronograma previsto y hasta el presente, a dos años de su iniciación, aún continua su ejecución con dificultades y notable retraso. Respecto del apoyo financiero previsto del STTR, éste no ha logrado concretarse, pues no se reportan desembolsos.

Según el Director del subproyecto, éste continua su ejecución sustituyendo los fondos no desembolsados del STTR con fondos de la OEA. Al presente se ha terminado la fase de recopilación de información y se requiere financiamiento para contratar personal para el procesamiento y análisis de datos. La asistencia técnica

internacional prevista para la formulación de las políticas de información del sector agropecuario está siendo reemplazada por asistencia técnica nacional y financiada con fondos de la OEA. El subproyecto continuará con la ejecución del diagnóstico sectorial y la subsecuente formulación de las políticas y del programa para el desarrollo del subsistema de información agropecuaria.

Recomendación:

Los objetivos y metas de este subproyecto son de alta prioridad en el ámbito de los servicios e información de apoyo para el desarrollo agropecuario y por lo tanto amerita que los esfuerzos que el MAG realizará en este campo a través de la Dirección de Informática sean coordinados o integrados con este esfuerzo del CONACYT.

El apoyo del STTR a este subproyecto, sin embargo, no se visualiza factible debido a que el Proyecto STTR en el MAG fue rediseñado y su cobertura enfatiza el desarrollo tecnológico de la producción agropecuaria y no cincorpora de manera directa actividades de fortalecimiento del subsistema de información agropecuaria.

GV

Subproyecto: EVALUACION, CONSERVACION Y DESARROLLO TECNOLOGICO DE CULTIVARES NATIVOS EN LA PROVINCIA DE EL ORO.

Datos generales:

Institución ejecutora: UTM-Universidad Técnica de Machala, DIAP-Departamento de Investigaciones Agropecuarias.

Duración: 48 meses

Fecha de inicio: 26 de diciembre de 1981

Financiamiento:

Costo total.	S/.	8'558.200
Aporte STTA:		3'129.400
Aporte CONACYT:		250.300
Aporte UTM:		5'178.500

Objetivos:

Contribuir al aumento de la productividad agrícola de los cultivos del subsector de pequeños agricultores, mediante la recomendación de cultivares de alto rendimiento y la transferencia de tecnologías apropiadas generadas. Además, establecer un banco de germoplasma de los principales cultivos de la Provincia de El Oro.

Los cultivos que cubre el subproyecto son maíz, yuca, maní y fréjol.

Estado de ejecución:

El progreso en la ejecución del subproyecto no ha sido uniforme, observándose notable retraso en algunas líneas de trabajo. En síntesis, el subproyecto se ejecuta en tres zonas agroecológicas de la provincia (zonas alta, baja y seca) a través de tres fases diferenciadas de un proceso de desarrollo tecnológico, a saber: Fase I-Recolección e identificación de cultivares, que culmina con la preselección de cultivares en ensayos a nivel de granja experimental y su conservación en un banco de germoplasma; fase II-Selección definitiva de cultivares promisorios a través de ensayos a

nivel de fincas de agricultores, y fase III-Evaluación de prácticas agronómicas en los cultivares seleccionados, que culmina con la elaboración de recomendaciones y difusión de las tecnologías. Al terminar el año agrícola de 1984 la fase III debía contar con un primer ciclo de resultados, sin embargo esto se ha logrado sólo parcialmente en maíz y maní. Recién en 1984 se terminó la instalación del cuarto frío y se está formando el banco de germoplasma de la fase I. En algunos cultivos y zonas recién se está ejecutando la fase II.

Las causas principales para lo anterior han sido la falta de liderazgo técnico en el subproyecto, que originó insuficiencias metodológicas en el manejo del material genético y en el diseño de los experimentos, y las condiciones desfavorables del clima, que generó la pérdida de ensayos y de semilla. Con la designación a partir de 1984 de un nuevo jefe del subproyecto, un profesional a nivel de master en ciencias, los problemas se están resolviendo y se espera a futuro una buena ejecución del subproyecto. Adicionalmente se está gestionando la asistencia técnica del INIAP para apoyar el manejo del material genético.

El componente de capacitación técnica se ejecuta de acuerdo con la evolución del subproyecto. Con apoyo de la Universidad Central se realizó un curso sobre conservación de recursos fitogenéticos. Mediante el mecanismo de becas para egresados se continua con el programa de capacitación en servicio.

La difusión de tecnologías se ha iniciado en los cultivos y zonas para las que hay resultados a través de días de campo y asistencia técnica directa a los agricultores.

En lo financiero, del aporte del STTR y del CONACYT el subproyecto ha gastado alrededor de S/. 1'850.000 (11.560 en dólares), disponiendo de un saldo de S/. 1'530.000.

Recomendación:

La unidad ejecutora del subproyecto, por su organización y recursos humanos disponibles, presenta un buen potencial de ejecución y contribución al desarrollo tecnológico del agro orense.

Como consecuencia del buen liderazgo técnico actual del subproyecto, éste se encuentra superando las insuficiencias metodológicas y procurando la obtensión de semillas de cultivares puros. Esto,

junto a la disponibilidad del banco de germoplasma y de la asistencia técnica del INIAP, permite prever una buena ejecución futura del subproyecto y un eficiente logro de los objetivos. Por lo anterior, se considera recomendable la continuación del apoyo financiero del Proyecto STTP, a este subproyecto, sugiriéndose las siguientes acciones para el corto plazo: 1-Realizar una evaluación técnica del subproyecto, que genere recomendaciones para una ejecución eficiente, en consistencia con la actual política del MAG; 2-capacitar a los técnicos del subproyecto en diseño y ejecución de experimentos en campos de agricultores; 3-elaboración de un programa detallado de actividades, que enfatice la ejecución de la fase III, en línea con los objetivos y estrategia del subproyecto; 4-revisar y ajustar el presupuesto de gastos, definiendo el plazo de ejecución.

Subproyecto: DETERMINACION DE PREVALENCIA Y FOCOS ENDEMICOS DE BRUCELOSIS Y NORMAS PARA SU CONTROL.

Datos generales:

Institución ejecutora: UTM-Universidad Técnica de Machala, DIAP-Departamento de Investigaciones Agropecuarias.

Duración: 28 meses (plazo terminado).

Fecha de inicio: 28 de Diciembre de 1981

Financiamiento:

Costo total	S/.	2'673.400
Aporte STTR		1'024.500
Aporte CONACYT		85.000
Aporte UTM		1'563.900

Objetivos:

Determinar los índices de prevalencia y los focos endémicos de la brucelosis en la Provincia de El Oro, y determinar y difundir las normas y tecnologías para su control, estimulando el establecimiento de campañas de vacunación.

Estado de ejecución:

El subproyecto concluyó su ejecución en Abril de 1983, entregando el respectivo informe final que presenta los resultados sobre prevalencia de la enfermedad y ubicación de los focos endémicos en cada uno de los cantones de la Provincia de El Oro. Sobre esto se están preparando dos publicaciones, una sobre los aspectos metodológicos y otra sobre la incidencia de la enfermedad en la provincia.

La fase de determinación y difusión de las normas de control no ha concluido. Existe un documento sobre control de la enfermedad pero no ha sido practicamente difundido, pues solo se ha realizado un día de campo para los ganaderos. Al respecto, el subproyecto previa estimular y apoyar la utilización de la información por parte del MAG (campaña de control) a través de acciones de difusión de los resultados, sobre lo cual

se realizaron reuniones iniciales y se firmó un convenio colaborativo, pero no se ha logrado concretar nada todavía. El DIAP propuso un plan de difusión de los resultados a través de días de campo y publicaciones, con un costo de S/. 258.000, el que estaría financiado solo en parte con el saldo disponible en el subproyecto. Para la campaña de control, que ejecutaría el MAG con el apoyo del Instituto "Izquieta Pérez" y de la UTM, existe un proyecto elaborado con la asistencia técnica del Dr. Paul Nicoletti, de la Universidad de Florida.

Aparte del desarrollo metodológico y experiencia institucional, la ejecución del subproyecto deja un equipo técnico entrenado en toma de muestras, microbiología, diagnóstico y pruebas de seroaglutinación en placas.

En lo financiero, del aporte del STTR y del CONACYT el subproyecto ha gastado S/. 784.090 en sucres y aproximadamente US$ 7.600 en dólares, quedando un saldo de alrededor de S/. 135.410.

Recomendación:

El subproyecto logró bien los objetivos de determinación de la prevalencia y focos endémicos de la enfermedad en la provincia y de diseño de las normas para su control, pero no ha logrado el objetivo fundamental de difundir los resultados y procurar el establecimiento de una campaña de control mediante un trabajo colaborativo con el MAG. Si bien el subproyecto terminó oficialmente sus actividades, se recomienda persistir en el objetivo de control de la enfermedad, apoyando desde el STTR la fase de trabajo articulado con el MAG. Para el efecto se sugiere que el MAG y la UTM completen el diseño de la campaña de control y que el Proyecto del STTR apoye financieramente su ejecución utilizando el saldo disponible en el subproyecto y fondos adicionales de ser necesario.

Subproyecto: INVENTARIO Y CONTROL DE PLAGAS AGRICOLAS EN LA PROVINCIA DE EL ORO.

Datos generales.

Institución ejecutora: UTM-Universidad Técnica de Machala, Departamento de Investigaciones Agropecuarias.

Duración: 42 meses

Fecha de inicio: 28 de Diciembre de 1981

Financiamiento:

Costo total:	S/.	6'033.700
Aporte STTR:		3'391.700
Aporte CONACYT:		198.200
Aporte UTM:		2'443.800

Objetivos:

Determinar el daño causado por los insectos plagas en los cultivos de maíz, maní, fréjol, café y frutales en la Provincia de El Oro y recomendar tecnologías apropiadas para los métodos de control más eficientes. Simultáneamente, formar un insectario, capacitar personal técnico y fortalecer el desarrollo institucional para ejecutar investigación.

Estado de ejecución:

Transcurridos 36 de los 42 meses de ejecución previstos, el sub - proyecto lleva un retraso mínimo de 24 meses. De las cuatro fases de trabajo diseñadas, I-inventario e identificación de insectos plagas y beneficios y formación de un insectario, II-estudios de biología y evaluación de daños, III-determinación de medidas de control, y IV-difusión tecnológica en campos de agricultores, sólo se han realizado ciertos trabajos de las fases I y II, dentro de un marco de desorganización e ineficiencias metodológicas.

A través de la asistencia técnica internacional de corto plazo se entrenó al equipo técnico y se desarrolló la metodología de trabajo;

sin embargo, la posterior contratación de la asitencia técnica nacional de largo plazo introdujo cambios en la metodología y no ejecutó los trabajos previstos, rescindiéndose el contrato a los cinco meses.

En síntesis, las dificultades que ha enfrentado el subproyecto son las siguientes: 1-Falta de liderazgo y formación y experiencia profesional del jefe del proyecto que actuó hasta Marzo de 1984; 2-equipo técnico insuficiente, tanto en formación y experiencia como en número, que no pudo ser fortalecido según lo previsto por la inactividad del subproyecto; 3-falta de asistencia técnica de largo plazo 4- falta de equipamiento oportuno del laboratorio de entomología y de provisión de equipos en general.

En Abril de 1984 se designó al nuevo jefe del subproyecto, un especialista a nivel de master en ciencias, con quien a la fecha prácticamente se han resuelto las dificultades uno y cuatro y se espera una ejecución futura en línea con los objetivos y metodología previstos. Durante 1984 se han enfatizado los trabajos de las fases I y II y los trabajos para 1985 cuentan ya con una programación.

En lo financiero, de los aportes del STTR y del CONACYT el subproyecto ha gastado S/. 1'688.250, en sucres, y aproximadamente US$ 10.000, en dólares, contando con un saldo aproximado de S/. 1'470.000.

Recomendación:

Si bien el subproyecto no ha funcionado y los resultados logrados son mínimos, en la actualidad éste se encuentra bajo un adecuado liderazgo técnico y la unidad ejecutora en general exhibe un buen potencial para contribuir con el desarrollo tecnológico del agro orense. Por lo anterior y considerando que un propósito del STTR en el subproyecto es el fortalecimiento del DIAP para ejecutar investigación y desarrollo tecnológico mediante un trabajo directo en los campos de los agricultores, se estima que una opción recomendable es continuar con el apoyo del STTR, incorporando al subproyecto cambios y

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acciones en línea con las siguientes sugerencias:

1- Ampliar el plazo de ejecución en mínimo dos años, preparando un programa de trabajo detallado que se ajuste a los objetivos y metodología previstos.

2- Completar un equipo técnico con adecuada formación profesional, que incluya un especialista en ecología de poblaciones de insectos y agricultura.

3- Contratar asistencia técnica de corto plazo para apoyar la formación del insectario y los estudios de determinación de los umbrales económicos de las plagas.

4- Capacitar al personal técnico y asistente en diseño y ejecución de experimentos a nivel de fincas de agricultores.

Subproyecto: INVESTIGACION PISCICOLA Y DE PRODUCCION A NIVEL DE CULTIVO EXPERIMENTAL DE ESPECIES NATIVAS Y EXOTICAS EN LA CUENCA DEL RIO GUAYAS.

Datos generales:

Institución ejecutora: ESPOL-Escuela Politécnica del Litoral, Escuela de Pesquería.

Duración: 36 meses.

Fecha de inicio: 31 de Diciembre de 1982

Financiamiento:

Costo total:	S/.	15'280.010
Aporte STTR:		4'533.550
Aporte CONACYT;		2'214.400
Aporte ESPOL.:		8'532.000

Objetivos:

Desarrollar tecnologías apropiadas para el cultivo de especies de peces nativos y exóticos en las zonas de anegamiento de la Cuenca del Río Guayas y transferir las tecnologías desarrolladas a las comunidades rurales localizadas en la Cuenca. Este objetivo se instrumenta a través del montaje y funcionamiento de un centro piscícola.

Estado de ejecución:

Transcurridos 24 meses desde la firma del convenio de ejecución, el subproyecto continua con notable pero justificado retraso, pues por un lado el primer desembolso se retrasó cuatro meses y por otro la contratación de la asistencia técnica continua retrasado desde mediados del año de 1983. El resto de actividades se cumplen según lo previsto; así, el equipamiento ha sido completado mediante donaciones recibidas a través de la Subsecretaría de Pesca; el entrenamiento técnico del personal en el exterior ha logrado buen progreso

y la construcción del centro piscícola continua a buen ritmo, habiéndose completado ya la primera fase de infraestructura para la parte experimental. Adicionalmente, se están preparando los primeros experimentos de siembra de chame en cultivos de arroz, que se conducirán durante el primer semestre de 1985. Con la contratación de la asistencia técnica de largo plazo, a partir del segundo semestre de 1985 se iniciarán los trabajos de laboratorio para reproducción del chame (manejo de reproductores y alevines) y para reversión de sexo en tillapia.

La organización y administración del subproyecto se desenvuelve bien. El informe semestral del período Enero-Junio de 1984 incorpora documentos sobre las actividades cumplidas, destacando la firma de un convenio con el Ministerio de Recursos Naturales y Energéticos, por un monto de aporte a la ESPOL de s/. 5'000.000, para la ejecución de un programa de siembra de peces en cuerpos de aguas naturales y artificiales en la Provincia del Guayas.

En la parte financiera, según informe al 31 de Octubre de 1984, el subproyecto gastó S/. 2'319.225 del aporte de la unidad ejecutora y S/. 859.255 del aporte del CONACYT, aunque según informe verbal del Director del subproyecto, del aporte del CONACYT a la fecha ya se han gastado S/. 2'000.000. Del aporte STTR la unidad ejecutora no ha recibido desembolsos directos todavía.

Recomendación:

En general, no obstante el retraso observado, el subproyecto ha superado en buena forma las dificultades y se encuentra ejecutándose de manera adecuada, por lo que se espera un buen cumplimiento de los objetivos propuestos. A la fecha practicamente se ha cumplido ya la fase I y todo está listo para iniciar las fases II y III a partir de 1985, por lo que el apoyo del STTR es crucial y se recomienda que éste continue. A efectos de procurar una ejecución eficiente del subproyecto se sugiere considerar las siguientes recomendaciones:

a) Asegurar que el enfoque de trabajo del subproyecto incorpore de manera efectiva la participación de los agricultores beneficiarios, tomando en cuenta sus circunstancias y necesidades.

b) Reprogramar el plazo de ejecución del subproyecto, ampliando el período en por lo menos un año, para cubrir así el trabajo de la asistencia técnica de largo plazo que esté por contratarse.

c) Redistribuir las partidas de gasto de los fondos STTR ya que algunos rubros como equipos y capacitación técnica ya han sido cubiertos en buena parte mediante donaciones de otras fuentes.

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Subproyecto: TECNOLOGIA ALTERNATIVA PARA LA PRODUCCION DE ALIMENTOS A BASE DE PESCADO Y FRUTAS TROPICALES.

Datos generales:

Institución ejecutora: ESPOL-Escuela Politécnica del Litoral, Escuela de Tecnología de Alimentos.

Duración: 36 meses.

Fecha: 9 de Junio de 1983

Financiamiento:

Costo total:	S/.	28'233.200
Aporte STTR:		14'519.000
Aporte ESPOL:		13'714.200

Objetivo :

Generar tecnologías alternativas para el uso de productos del mar, vegetales y frutas tropicales de consumo popular, que estén disponibles tanto para la industria como para los productores.

Estado de ejecución:

El subproyecto se encuentra notablemente retrasado, con el cronograma de actividades totalmente desfasado; así, de las cuatro etapas de ejecución previstas (una fase de desarrollo de infraestructura de 12 meses, una fase preparatoria de la investigación de 4 meses, una fase experimental de 12 meses y una fase de difusión tecnológica de 8 meses), todavía no se ha cumplido la primera, pues falta de adquisición e instalación de equipos e instrumentos del laboratorio y de la planta piloto y la respectiva puesta en marcha, actividades que no obstante los esfuerzos realizados por la ESPOL y el CONACYT no han podido realizarse.

El progreso logrado se resume en la elaboración de los planos de la planta piloto y laboratorios y la preparación de las listas de equipos e instrumentos necesarios para la fase de investigación.

Una de las dificultades fue la falta de tiempo asignado al sub - proyecto por parte del Director. A la fecha esto se ha solucionado

y se ha logrado iniciar investigaciones en pimiento, ají, piña y mango, con base en equipos y materiales adquiridos con fondos de la ESPOL. Sin embargo, al persistir la falta de la mayoría del equipamiento e infraestructura previstos, la fase de investigación conforme a las metas no se cumple todavía y, en consecuencia, los otros componentes como capacitación y transferencia de tecnología y el uso de la asistencia técnica prevista no ha podido ser ejecutados tampoco.

En el aspecto financiero, en consistencia con lo anterior, solo se registra un desembolso de S/. 300.000 del aporte del STTR, es decir del 2%, quedando un saldo de S/. 14'219.000.

Recomendación:

Este subproyecto, que es básicamente de desarrollo institucional e investigación (28 de los 36 meses de ejecución son dedicados a estos objetivos), lleva un retraso de aproximadamente un año en su ejecución y presenta serias dificultades para lograr sus objetivos y metas bajo los términos de costos y plazos estipulados. Adicionalmente, el diseño del subproyecto, tanto en el enfoque de trabajo y objetivos como en las inversiones requeridas con fondos del STTR, no corresponde al actual espíritu del proyecto STTR en el MAG. Por todo esto, resulta difícil sustentar la continuación del apoyo del MAG-STTR a este subproyecto y, consecuentemente, se recomienda su suspensión.

Subproyecto: PITALPRO-INVESTIGACION EN TECNOLOGIA DE ALIMENTOS PARA EL DESARROLLO DE TECNOLOGIAS AGROPECUARIAS EN EL SECTOR RURAL.

Datos generales:

Institución ejecutora: UTA-Universidad Técnica de Ambato, Escuela de Ingeniería de Alimentos.

Duración: 36 meses.

Fecha de inicio: 26 de Abril de 1983

Financiamiento:

Costo total.	S/.	22'261.980
Aporte SNTA.		13'761.980
Aporte UTA:		8'500.000

Objetivo.

Contribuir a la reducción de las pérdidas post-cosecha de alimentos perecibles mediante la generación, adaptación y difusión de tecnologías apropiadas que sean económicamente factibles y fácilmente asimilables por el pequeño productor agropecuario, en el campo de embalajes, almacenamiento, conservación y procesamiento de alimentos, particularmente frutas y hortalizas.

Cobertura geográfica: Región hortofrutícola de influencia de la Escuela de Alimentos en las provincias de Tungurahua, Cotopaxi y Chimborazo.

Estado de ejecución:

Dados ciertos antecedentes, como el retraso considerable ocurrido con el primer desembolso, el progreso en la ejecución de este subproyecto es satisfactorio. El estudio de diagnóstico para identificar las zonas de trabajo y las líneas de desarrollo tecnológico prioritarias cumplió la fase de campo y se encuentra en el procesamiento y análisis

de la información. Igual se ejecuta el estudio de pérdidas post-cosecha en ocho productos importantes a lo largo del proceso de cosecha, acopio, transporte, almacenamiento y distribución. Con base en tecnologías disponibles de visible aplicación inmediata se adelantan trabajos de desarrollo tecnológico en tres líneas de procesamiento: 1- Fermentación para producción de vinos y vinagres, 2- Deshidratación de productos y 3- Tratamiento térmico de alimentos para enlatados.

El componente de capacitación técnica se ejecuta igualmente bien. Todos los becarios han sido contratados y están ejecutando sus investigaciones de tesis y su programa de entrenamiento en servicio. Se han realizado dos cursos de capacitación técnica, uno sobre tecnología de fermentación para la producción de vinos y vinagres y otro sobre el tratamiento térmico de alimentos. El Director del proyecto ha realizado dos viajes de observación, coordinación y entrenamiento a los Estados Unidos.

Para el componente de difusión tecnológica se han iniciado contactos interinstitucionales con el Proyecto DRI Tungurahua para futuras acciones en hortalizas en Píllaro. El componente de asistencia técnica internacional se ejecuta bien, en apoyo a todas las actividades arriba indicadas.

En lo financiero, el proyecto ha recibido desembolsos en sucres por un valor de S/. 1'144.102, y en dólares por un valor aproximado de US$ 40.000 (no se dispone de datos completos).

Recomendación:

Por objetivos y área de problemática que enfoqa el subproyecto, éste mantiene prioridad alta en el campo del desarrollo tecnológico. Este hecho, junto a la buena ejecución de que es objeto, justifican que el apoyo del STTR al subproyecto continue, considerando las siguientes sugerencias: 1- Que la estrategia de ejecución del subproyecto incorpore de manera efectiva la participación del sector productor en los términos de la política del MAG; 2- Que el cronograma general de actividades y los gastos asociados sean revisados, a efectos de ajustar y actualizar el plazo y el presupuesto del subproyecto.

PRELIMINARY TRAINING PLAN

TRAINING ACTIVITIES

	DEGREE TRAINING	SHORT COURSES IN COUNTRY	SHORT COURSES OUT OF COUNTRY	VISITS US & OTHER
PREVIOUS SUBPROJECTS				
Farming Systems Research	2	7	9	-
Soil Conservation	1	14	9	-
Post-Harvest Food Losses	2	2	1	2
Fish Culture	-	6	4	-
Native Crops	-	3	1	2
Insect Control	-	6	-	6
NEW SUBPROJECTS				
Cattle	-	1/ 2/	-	15
Short Cycle Crops	-	1/ 2/	-	-
Dairy	-	1/ 2/	-	-
Sheep	2	1/ 2/	-	-
NON-SUBPROJECT RELATED 3/	31	5	5	30
TOTAL	4/ 38	43	29	45

1/ THE NUMBER AND FREQUENCY OF THESE ACTIVITIES IS TO BE DETERMINED ONCE THE TEAM ARRIVES IN THE FIELD.

2/ THESE ACTIVITIES WILL NOT USE FUNDS FROM THE TRAINING SUBPROJECT AS THEY WILL BE EXECUTED WITH TECHNICAL ASSISTANCE AND PHYSICAL RESOURCES BUDGETED UNDER THE RESPECTIVE SUBPROJECT.

3/ TENTATIVE FIGURES. SUBJECT TO REVISION ONCE THE TRAINING OFFICER IS ON BOARD.

4/ DEGREE TRAINING BREAKDOWN BY AREA

1 - AGRONOMY / FARMING SYSTEMS
1 - AGRICULTURAL ECONOMICS / FARMING SYSTEMS
1 - SOIL SCIENCE AND CONSERVATION
1 - FOOD SCIENCE
1 - FOOD ENGINEERING (SYSTEMS AND PROCESSES)
1 - SHEEP PRODUCTION AND MANAGEMENT
1 - SHEEP EXTENSION
1 - EXTENSION AND COMMUNICATION
30- PAN AMERICAN SCHOOL IN HONDURAS

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38 TOTAL

TRAINING COSTS
(US$000)

PREVIOUS SUBPROJECTS 1/				(404.2)5/
Farming Systems Research			172.9	
Soil Conservation			84.7	
Post Harvest Food Losses			103.4	
Fish Culture			25.0	
Native Crops			9.7	
Insect Control			8.5	
NEW SUBPROJECTS 1/				111.0
Cattle			59.0	
Short Cycle Crops 2/			-	
Dairy 2/			-	
Sheep			52.0	
NON-SUBPROJECT RELATED 3/				547.0
Panamerican School 4/	30 at	13.5	405.0	
Degree Training	1 at	40.0	40.0	
Short Courses in Country	5 at	3.0	15.0	
Short Courses out of Country	5 at	6.0	30.0	
Visits to U.S.	15 at	2.0	30.0	
Visits to other L.A. Countries Countries and IARCs.	15 at	1.8	27.0	
TOTAL TRAINING COMPONENT				658.0

1/ AS ESTIMATED IN SUBPROJECT DOCUMENTS. SEE SUBPROJECT DOCUMENTS FOR BREAKDOWN.

2/ DOES NOT MEAN THE ABSENCE OF TRAINING ACTIVITIES. RATHER, THEY WILL BE EXECUTED USING HUMAN AND PHYSICAL RESOURCES BUDGETED UNDER THE SUBPROJECT.

3/ ESTIMATES SUBJECT TO CHANGE ONCE THE TRAINING PLAN IS ELABORATED BY THE TRAINING OFFICER.

4/ THIS TRAINING ACTIVITY WAS APPROVED IN PIL No. 35, DATED NOVEMBER 26, 1985.

5/ THE TRAINING ACTIVITIES UNDER THE PREVIOUS SUBPROJECTS WERE BUDGETED AS PART OF THOSE SUBPROJECTS. THEREFORE, FOR PROJECT BUDGETING PURPOSES, THESE COSTS ARE NOT INCLUDED IN THE "TRAINING COMPONENT" OF THE BUDGET IN TABLE II-2 OF THIS PROJECT PAPER SUPPLEMENT.