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Communication for Technology Transfer in Agriculture

(AID/S&T Project 936-5826)
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IMPLEMENTATION PLAN
for
PERU PILOT PROJECT

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Project Implementation Plan (IP)
for
Communication for Technology Transfer in Agriculture (CTTA)

I. OVERVIEW

The Communication for Technology Transfer in Agriculture (CTTA) Project provides an opportunity to apply what is known about communications and to develop innovative approaches in the use of communications, especially mass media, to reinforce agricultural extension. Integrated communication strategies to improve the performance of agricultural extension will be synthesized from: 1) experience gained around the world in the use of communication in agriculture and in other sectors such as health and education; 2) advances in developmental communication; and 3) concepts from fields such as behavioral science and social marketing. The CTTA strategy will focus on development and use of:

- farmer feedback and institutional networking;
- specific farmer practices and behavior;
- a communication system that integrates broadcast, print, and interpersonal channels; and
- communication support programs that developing country governments can continue after the project is completed.

CTTA will collaborate with United States Agency for International Development (USAID) Mission projects in up to nine countries during the life of the project. In Peru, the CTTA Project will function in close collaboration with the Ministry of Agriculture (MOA) through the National Institute for Agricultural Research and Promotion (INIPA). Technical assistance will be provided by the Academy for Educational Development (AED), CTTA Project Contractor, through its headquarters and collaborating universities and agencies in the United States.

Authorization for the CTTA Project to provide technical services will be established through a Letter of Understanding between INIPA of the Government of Peru (GOP) and USAID.

II. BACKGROUND

Agricultural Extension, an essential component of the technology development-testing-transfer system, is established throughout Peru; but many farm families are not receiving or making beneficial use of improved agricultural technologies. Some major constraints to the effective transfer of technology by Extension are: 1) lack of information on technology adapted to local conditions, needs, and potentials; 2) inadequate number of trained staff; 3) ineffective communication support; and 4)

inadequate Extension-Research-Farmer-Agrosupport Sector linkages. Significant improvement in extension performance will require coordinated action to alleviate all these constraints.

The CTTA Project strategy is to strengthen Agricultural Extension institutional capacity and effectiveness in transferring improved agricultural technologies to small farmers through alleviating the overriding constraints identified above. To implement the overall strategy, CTTA will function in close collaboration with INIPA.

The CTTA Project will provide an opportunity to apply what is known about communication and to develop innovative approaches for using communication (especially mass media) to reinforce agricultural extension and alleviate the "ineffective communication support" constraint. The CTTA design and methodology are consistent with, and highly complementary to, those of INIPA.

The CTTA Project will provide assistance in developing and using integrated mass communication strategies to strengthen communication support capability and performance at the national and local levels, and for strengthening linkages between research and extension.

The CTTA Project will focus on improving communication support in a selected pilot region of each country in which it functions through developing and testing a 14-point iterative process of investigation, action, feedback and formative evaluation, monitoring, and adjustment. This is the first stage in adoption and extension of the tested methodology to other regions of the country. A substantive set of diffusion activities organized through CTTA will accelerate the sharing of experience gained and methodologies developed among the participating countries, and more broadly.

Initial discussions between AID/Science and Technology (S&T) and USAID/Peru and follow-up visits by CTTA project teams in January and October 1985 indicated strong interest in CTTA by both the USAID Mission and the GOP represented by INIPA. They expressed the desire to implement a CTTA pilot project in Peru at the earliest possible date. INIPA was identified as the CTTA institutional base and two regions potentially suitable for the pilot project site, Huancayo and Puno, were identified. It was determined that sufficient appropriate technology would be available for CTTA communication interventions. Subsequently in November 1985, AED prepared a proposal for USAID/Peru's consideration which included an estimated Life of Project (LOP) budget for Mission and S&T funding; and followed up in December on the pilot site and selection issue by sending a senior agricultural scientist to Peru to work with an INIPA team on a study of the two regions cited above.

III. AUTHORIZING MANDATE

The authorizing mandate for the project is Contract No. DPE 5826-C-00-5054-00 between the United States Agency for International Development and the Academy for Educational Development. A letter of understanding between the National Institute for Agricultural Research and Promotion (INIPA) of the Government of Peru and the United States Agency for International Development has been developed which delineates the purpose, activities, inputs and responsibilities of all parties involved in the CTTA Project.

IV. PARTICIPATING INSTITUTIONS AND PROJECTS

Several Peruvian institutions and external donor assistance projects are involved in strengthening the country's extension capacity and performance. CTTA activities and inputs must be associated and coordinated with all such projects and programs to achieve efficient management and to avoid duplication of effort.

A. Ministry of Agriculture

1. The National Institute for Agricultural Research and Promotion (INIPA)

The primary relationship of CTTA at the national level will be with the MOA through INIPA. All major planning and implementation decisions must be approved and coordinated by the head of INIPA.

2. Centro de Investigacion y Promocion Agropecuaria (CIPA)

At the field level, the CTTA will work closely with CIPA. Most departments have a CIPA whose director reports to the head of INIPA but has some flexibility in carrying out field operations. The CIPA directors in the Huancayo and Puno regions where pilot project sites are suggested have expressed great interest in the project.

3. Centro de Servicios de Pedagogia Audiovisual para la Capacitacion (CESPAC)

CESPAC has communication responsibility for the MOA as a whole. It has concentrated on the production of high quality video tapes for use in short courses and conferences to support a variety of MOA programs.

B. Agricultural Research, Extension and Education Project (REE)

North Carolina State University (NCSU) is the contractor for the USAID-supported REE project which is providing extensive assistance to INIPA in structuring and institutionalizing research, extension and training programs. The NCSU team indicated strong interest in the communication support methodology to be developed through the CTTA project and in collaborating with CTTA in its Peru pilot project.

C. USAID/Peru

The CTTA project activities will be planned and implemented with the approval of USAID/Peru.

D. The International Potato Center (CIP)

CIP in La Molina, Lima, will provide strong technological support related to potato production. The head of communications and training for CIP has expressed interest in the CTTA project, which complements his activities.

E. Other Collaborating Institutions

In addition to these institutions, CTTA will collaborate and establish linkages as appropriate with other private and public national and international institutions and projects. The National Agrarian University at La Molina (UNA) is a valuable educational resource; The Interamerican Institute for Agriculture Cooperation (IICA) has an active program in research and training in communications with which CTTA might collaborate; and linkage with the private National Farmers Organization (ONA) could be mutually beneficial. At the regional level, coordination with the offices of the Director of Agriculture and the Corporacion de Desarrollo (CORDE) in Junin will be established.

V. CTTA PILOT PROJECT DESCRIPTION

A. Purpose and Objectives

The broad purpose of the Peru CTTA pilot project will be to assist the GOP in developing, testing and applying a more effective methodology for the use of mass communication strategies involving the integrated use of mass media, especially radio, print, and interpersonal channels, to obtain widespread adoption of new and/or underutilized agricultural practices that will benefit the Peruvian farm family. Improving research-extension-farmer linkages also is critical.

Within this broad purpose, specific CTTA objectives include:

1. Developing integrated communication strategies, synthesized from state of the art use of communication in the agricultural and other sectors such as health and education, state of the art development communication, and relevant concepts from social marketing, behavioral science, behavioral analysis and formative evaluation.

2. Developing and testing methodologies for developing, applying, and sustaining improved communication strategies in support of technology transfer programs that can be continued by the Peruvian government after the project is completed.

3. Institutionalizing the communication support methodologies developed and tested in the pilot project to the point that they are being extended into other regions of Peru.

B. Methodology Overview

The methodology to be developed and tested by CTTA in the Peru pilot project (and worldwide) consists of an iterative 14-component process for systematic development and implementation of communication strategies that help technology development and transfer systems respond to needs of developing country farmers. These components are not necessarily sequential in terms of action required. They are highly interrelated and will be part of a continuous process of investigation, action, formative evaluation, monitoring, and adjustment that requires involvement of extension, research and others in addition to the communication staff.

Because a basic element of the CTTA strategy is development of communication support programs that Peru can continue after the project is completed, CTTA will function within existing institutions as indicated in Section IV. The project will provide only the minimum technical assistance required to train and work with host country staff in planning and implementing the 14-component process--with emphasis on in-service and on-the-job training. Although the major focus will be at the regional level (CIPA), INIPA will be substantively involved throughout, and will provide leadership in the institutionalization and expansion of the methodology into other CIPAS.

The CTTA components to be utilized in the INIPA pilot activity follow.

1. <u>Identification of new and underutilized agricultural technologies</u>

Selection of the agricultural technologies to be used in communication interventions with farmers will involve:

- Detailed analysis to determine if researchers and extensionists consider the available technologies to be scientifically sound and adapted to the pilot region, economically viable, practical and the risk factor is acceptable.

- Target audience analysis, developmental investigation and product/feasibility testing to determine farmer reactions and potential receptivity to the technology.

- Surveys of public and private sector agrosupport institutions and firms to determine if the inputs, credit, marketing, and other goods and services required to enable the farmers to adopt the technology are or can be made available in an adequate and timely fashion.

- This is an iterative process that will be necessary for each technology considered for inclusion in the communication interventions. It is complementary to and will build upon the farming systems approach to identifying technological problems, and will be accomplished in close collaboration with regional research and extension personnel.

2. Target audience analysis and developmental investigation

The CTTA communication program process begins with investigation of the characteristics of the farmers who comprise the target audience, the forms in which technological information should be packaged to make it acceptable to and understood by farmers, and the ways in which farmers receive and attach credibility to agricultural information. Such investigations are essential for developing a farmer-oriented communication program. The program's ultimate success will depend upon the communication team's knowledge and assessment of:

- The target farmer's current agricultural knowledge, attitudes and practices, particularly as they relate to the technologies to be included in the communication intervention.

- The constraints--social, economic, physical, or political--that limit the opportunity for farmers to gain knowledge and change their attitudes and practices relative to the new technology.

The primary audience will be the farmer, but program success also will depend upon researchers; input and service providers and retailers in the agrosupport sector; markets and cooperatives; government policymakers; and agricultural leaders. Finally, the developmental investigation must yield information about the

agricultural research and extension systems and the existing communication and media systems.

Some of the needed information will be available from host country staff. Well-designed and conducted studies will be required to obtain other information and verify existing data. The specific developmental investigation design will vary with cultural and social sensitivities, the existing knowledge base concerning the pilot region and its population, the amount of available ancillary information, resources and expertise and ease of access to and within the pilot region. The design will combine methods and techniques adapted from several social science disciplines to rapidly obtain the maximum relevant information at an affordable cost. Appropriate research instruments for the developmental investigation may include:

- reviews of existing data and information,
- focus group interviews,
- in-depth interviews,
- observations through field visits,
- central location (intercept) interviews, and
- other small sample surveys.

To summarize, the target audience and developmental investigation phase will provide knowledge and understanding about target audience characteristics, the agricultural extension and research systems, and the communication and media system. The design of such investigations will consider local social and cultural sensitivities and include the research instruments most appropriate for obtaining the needed information. This is also an iterative process that as the project progresses will be linked closely with formative evaluation.

3. Planning and strategy development

Data collected and analyzed during the developmental investigation will provide the basis for planning and strategy development, including:

- defining and segmenting the target audience of farmers and of the project's secondary audiences,
- establishing a behavioral framework for appropriate technology transfer,
- setting clear and measurable behavioral objectives,
- specifying the communication and marketing strategies to be used in the program, including use of social marketing concepts; with all 14 components of the CTTA

process organized and integrated into a comprehensive strategy for action.

During this stage, the support of relevant authorities and the agrosupport sector will be developed, and resources allocated for the various elements of the plan.

Major components of the comprehensive communication strategy will include:

- media selection for interrelated communication (broadcast, graphic and print media, and interpersonal channels),
- interaction with on-farm trials and demonstrations;
- an educational programming system to:
  - develop message content;
  - schedule, design, pretest, produce, and distribute communication materials on time and in synchronization with the agricultural cycle;
  - analyze, interpret and use results of feedback, product/concept testing and formative evaluation to improve the quality of materials produced;
  - effectively use technical guidance from agricultural, behavioral and communication research to develop educational (information) materials relevant to technology transfer objectives that are presented in a manner appropriate to the intended audience;
- formative evaluation to determine if the messages disseminated to farmers have been timely, well received and understood, and whether the elements of the program are working as planned;
- staff training and support; and
- coordination and networking.

The final step in the first round of planning and strategy development will be preparation of an integrated action plan which will provide the blueprint for project implementation. The action plan must include dynamic continual review and adjustment based on information collected using the various monitoring techniques. With such review, areas, procedures and materials that are deficient can be corrected immediately and other changes can be made to increase program effectiveness. A major review, revision and updating of the action plan will be carried out annually.

4. Product/Concept Testing

In the CTTA context, product/concept testing relates to the transformation of information from the agricultural research institution into a straightforward, interrelated set of messages for transferring technology to the target audience, taking into consideration such issues as perceived risks and benefits, ease of management, dependability, and appropriateness of the technology. Product testing will also consider issues of correct usage in field applications.

Feasibility testing in which approaches, strategies and systems are tested systematically under actual field or market conditions is closely related to product testing. On-farm trials conducted by researchers in collaboration with extensionists and farmers, and result demonstrations conducted by extension, are important types of feasibility testing of new technologies and practices.

A second application of the product and feasibility testing technique will involve the introduction of new instructional materials, dissemination channels or formats. While detailed format and channel testing are part of pretesting (see Step 5 below), some type of feasibility testing is needed before making significant investments in media design and production.

5. Materials development and pretesting

Results from the foregoing steps will be utilized in developing materials in the various media included in the communication strategy. Production and dissemination schedules will remain flexible to adjust to unforeseen situations, and cost factors will be considered in selecting media and formats. The types of materials to be produced will depend upon availability of resources and expertise to the project.

- Pretesting will be an integral part of materials development. Although knowledge of audience characteristics, etc., determined through developmental investigation and other techniques, will provide guidance in developing appropriate and farmer-acceptable materials, production staff interpretation of those results will still require verification.

- The volume of materials to be produced will preclude the pretesting of every piece of media material used in the communication interventions. Nevertheless, prototypical materials--particularly those representing the most innovative strategies, formats and vocabulary--must be pretested regularly and materials revised as necessary in accordance with pretest results before final production and use in the communication interventions.

6. Program implementation and ongoing monitoring

Three factors will assume overriding importance as the communication support program moves into full action, using multimedia messages produced, tested and disseminated according to plan. The factors are:

- overall program management;
- distribution of media materials to the dissemination point, and verification that they are used as programmed; and
- ongoing program monitoring.

Careful monitoring of the project's performance will be an ongoing activity.

7. Formative evaluation

Formative evaluation, as defined for CTTA, will differ from developmental investigation in that it will follow the project in progress. Formative evaluation will be carried out at points established in the overall plan in order to revise the general strategy in relation to:

- whether messages are reaching the farmers as planned;
- which channels are being used for receiving the information;
- which messages are being assimilated and which require reinforcement;
- which technologies and behaviors are being adopted, how they are applied and with what results; and
- how farmers' attitudes and willingness to take risks are being changed.

The formative evaluation can use the same research techniques as the developmental investigation.

The results of the formative evaluation will be compared with the objectives of the strategy designed for transferring technology and will permit feedback into the communication process in order to refine and adjust the components to maximize the results. The formative evaluation is intended to provide fast results for immediate decision-making. For that reason, it tends to use methods that are affordable and quick rather than rigorous or precise. Formative evaluation is part of ongoing project management. A separate summative evaluation, or precise measurement of impact, is planned, and is described in another section of this document. The formative evaluation, just as the

developmental investigation, is a fundamental component of the methodology and will be conducted throughout the life of the project.

8. Review, replanning, adjustment

The communication process represented by the 14 components is iterative and the components are highly interrelated as has been emphasized. There can be no relaxation in monitoring of program performance and in responding with appropriate interventions.

Replanning and action to respond to all information collected from developmental investigation, product and feasibility testing, feedback, and formative evaluation will be continuing activities; and adjustments will be made whenever such information reveals the need. Program performance will be reviewed in depth each year before updating the integrated action plan for the following year.

9. Management

The importance of efficient management cannot be overemphasized. The communication program will be complex in that it includes an array of functions and institutional involvements. It will be demanding in that all functions must proceed in appropriate sequence with several happening simultaneously. The communication interventions will be highly time-specific and must adhere to a tight schedule. Effective coordination of all project activities will be essential.

CTTA will cooperate with appropriate INIPA and REE Project staff in analyzing the present communication-related internal management structure and lines of communication, and in developing recommendations, if needed, for streamlining and strengthening it.

10. Interinstitutional coordination and collaboration

Although the institutional base for CTTA in Peru will be INIPA at the national level and CIPA at the regional level, effective coordination and collaboration with various other institutions will be essential to success in developing and testing the methodologies described in this section. In addition to agriculturally related institutions, these will include educational, governmental, and private institutions, programs, projects, and individuals from sectors outside agriculture who can give the social and behavioral science, social marketing, psychology and anthropology expertise needed to provide technical guidance in such fields. Peruvian institutions will be involved to the extent possible. Contact and coordination will also be maintained with regional and international institutions and programs such as the International Agricultural Research Centers

(IARCs), INTERPAKS, social marketing organizations and programs (the leading U.S. social marketing firm is a collaborating institution with AED in the CTTA contract), and universities.

Intrainstitutional coordination and collaboration will also be required for successful development, testing, institutionalization, and extension of the CTTA methodology. Developing working relations and coordinating with extension workers at each level and with collaborating projects will be particularly crucial.

11. Networking

The need for an uninterrupted, rapid two-way flow of reliable information among farmers and rural communities; extension, research and agrosupport institutions; and decision and policy-makers has been stressed repeatedly. The various activities and coordination mechanisms included in the CTTA 14-component process will provide the basis for developing viable networking procedures. CTTA will work with INIPA to develop and manage a strengthened communication network. Leaders of other relevant projects and programs, USAID/Peru, and the AID/S&T CTTA project manager and co-managers will be included in the network as appropriate to keep them fully informed of project progress, activities, and developing situations in the Peru pilot region.

The CTTA network will also extend beyond Peruvian boundaries to include other institutions such as those identified in Step 10.

12. In-service training

The CTTA process places high priority on staff training. In general, two categories of training will be required to achieve CTTA objectives: 1) comprehensive training of a cadre of Peruvian counterpart professionals in communication planning, strategies and management to provide ongoing leadership to the institutionalization of the process into the technology diffusion system; and 2) training within the project of communication staff, extension workers, and others required for successful implementation of the program to be developed.

The counterpart professional group will include those in positions of leadership and authority in INIPA who comprise the internal project management team. The major training approach used with this group will be gaining experience and confidence through "doing," supplemented by appropriate training opportunities provided through other projects and programs.

The larger task will be that of in-service training of an INIPA communication unit staff, extension workers, and others involved in the investigative, intervention, and formative evaluation phases of project implementation. These training needs can be

roughly divided into two types technical skills training, such as scriptwriting or new techniques for graphic production and communication skills, and agricultural technology training needed by extension workers and other technology diffusion agents upon whom the program must rely for training of farmers through interpersonal channels. The latter group also need to know how to relate their work to other media through which the same technical messages are being disseminated.

INIPA has a cadre of staff who are trained and experienced in developing and producing materials in some of the media to be used in the anticipated communication interventions. Their expertise will be reinforced through introducing new techniques made possible by equipment to be procured under the project, and in areas such as developing technical message content, preparing messages targeted for specific audiences, and formative evaluation. The CTTA contract will provide technical assistance for training in production and evaluation skills.

13. Training field trials

New concepts and materials will be introduced into both staff and farmer training which will need testing in use (analogous to testing of materials as discussed in Step 5). The CTTA 14-component process includes training field trials in which experienced observers will observe training sessions in progress to determine what actually happens, the interaction between the trainer and the participants, and reactions of the participants to the teaching methodology and materials being used. Where possible, an observer team which includes a behaviorist and a communication specialist will be used.

14. Institutionalization

Institutionalization of the methods, approaches and procedures developed in the pilot region will be a major CTTA objective toward which virtually all project activities will contribute. By the end of the project, it is anticipated that Peruvian staff will be sufficiently competent in the methodology and process to continue to use it effectively in their ongoing technology transfer system and programs, and that the process will have become institutionalized to the point that it is reflected in policy and management statements, plans for future year activities and resource allocations. (See Section VI for a more quantitative statement of expected project outputs regarding institutionalization and expansion).

The communication methodology described below is based on a continuing interaction with the target population through research, periodic formative evaluation, and ongoing monitoring. This systematic collection of data and information feeds into decision making for strategy development, production of

appropriate materials and adjustments of the process to maximize impact within the target audience. The accompanying figure illustrates this process.

The integration of multiple elements in the implementation of the campaigns requires close intra and interinstitutional coordination to create an efficient network among the different disciplines and institutions involved.

From the management perspective, carrying out the activities named in this list of project components provides for training and organization of the national staff and institutionalization of the methodology.

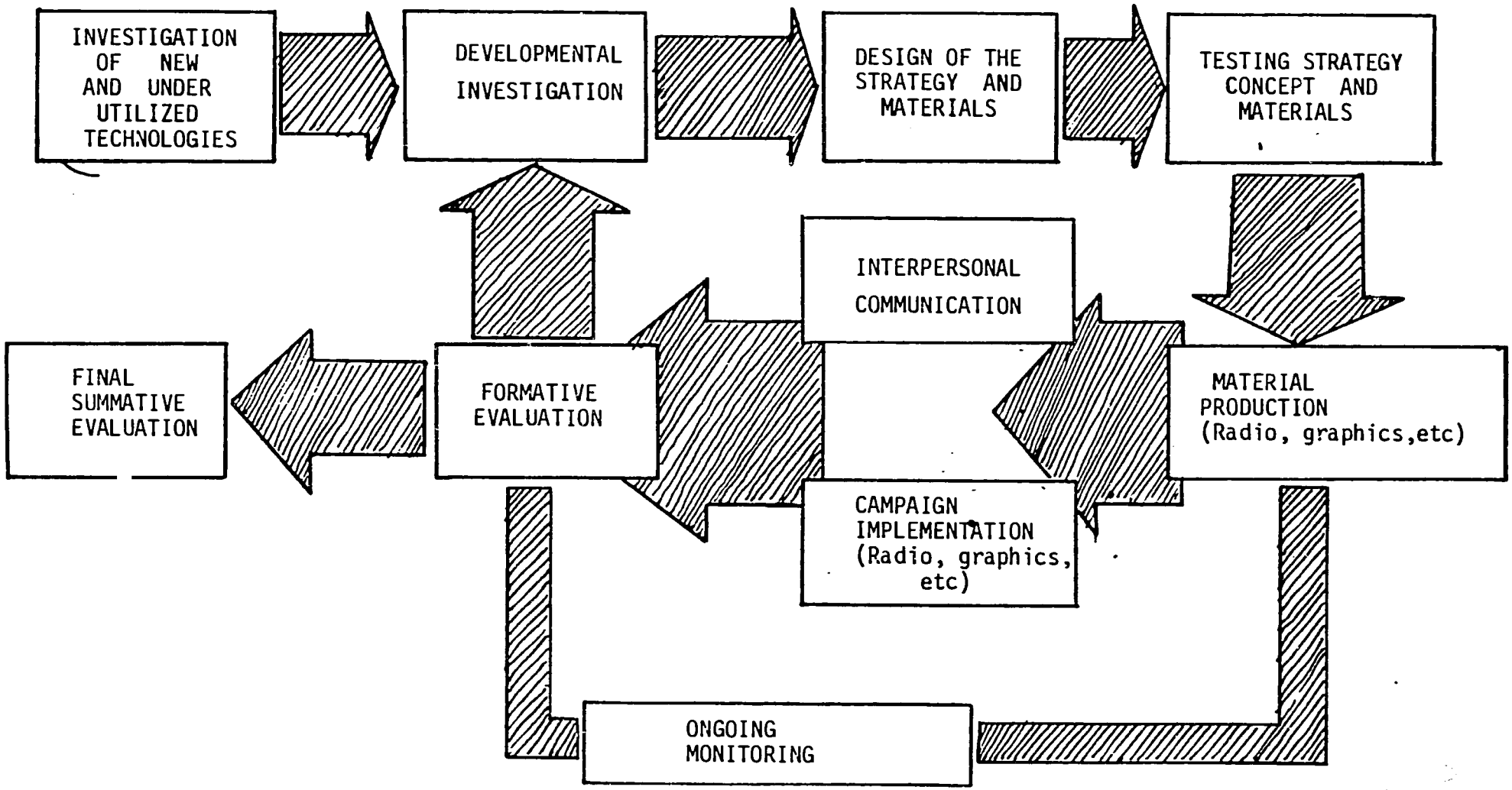
C. Pilot Project Site

1. Selection Criteria

The following criteria were used in selecting the pilot site:

- available new or underutilized agricultural technologies that are appropriate, adapted and acceptable to farmers who may not be aware of their availability or production potential, and a continuing source of new/improved technologies;
- services, inputs and supplies required for adopting the new or underutilized technologies (seed, fertilizer, insecticides, fungicides, credit, etc.);
- markets and prices accessible to farmers;
- adequate national and regional institutional base (research, extension) for CTTA and collaborating institutions;
- adequate communication infrastructure;
- region and farmers not highly dependent on export crops;
- technologies available that do not require major restructuring of the region's economy or agricultural infrastructure (due to the project's limited time frame);
- absence of other projects that would confound CTTA results, including other external donor projects;
- adequate demographic base and social structure for project purposes; and

COMPONENTS OF THE PROCESS OF THE COMMUNICATION MODEL



INVESTIGATION (AREAS)

	Objectives of:	Sources/Resources
. Tecnology/Biology/Economy (Risk factors) . Marketing/Sources of supplies, commerce	Behavior	Agronomy Economy Technical Institutions
. Culture/knowledges, attitudes, practices, social structure, types of communications	Knowledge	Behavioral analysis & Technics Social Marketing Anthropology
. Level of changing adoption	Motivation	Behavioral analysis sciences

DETERMINATION OF CONTENTS

- Behavior
- Knowledge
- Motivation

→ Definition of final spected behavioral framework

STRATEGY AND MATERIALS DESIGN

- Determination of the messages to be sent
- Audience definition and segmentation. Media and channels selection and design of integration models
- Determination of the communicational phases. Chronograms and costs. Material design

TESTING OF CONCEPT, STRATEGY AND MATERIALS

The campaign concept, contents and the final spected behavioral framework must be tested in order to see their feasibility and their spected acceptation level. Also the media and channels should be tested. Training needs. Cost effectiveness relationship. Testing the effectiveness of the materials for transmit the messages.

CAMPAIGN IMPLEMENTATION AND THE EXTENSION WORK

Material production. Training of extension personnel. Material distribution and diffusion. Farmers training.

ONGOING MONITORING

Supervision of the campaign development. Changes. Feed back.

FORMATIVE EVALUATION

Sistematical evaluation of the different phases of the process. Evaluation of channels and of the impact of the messages. Reprogramming of the strategy.

FINAL SUMMATIVE EVALUATION

Evaluation of the impact. Investigation of the adoption of the final spected behavioral. Benefit/effectiveness analysis.

- geographic location accessible to national headquarters to permit effective interaction at the national level.

2. Analysis

Because the Southern Sierra has been designated by the GOP as a priority region for development, pilot site selection focused on this region. Following discussions with the head of INIPA and several of his staff, however, it was agreed that pilot sites be considered in Huancayo and Puno. Three INIPA senior staff accompanied the CTTA senior agricultural scientist on field visits.

Huancayo. Following discussions in Huancayo with the CIPA director and his staff, information was collected on several suggested sites which appeared to meet most of the selection criteria. After reviewing the data with CIPA staff, the Acolla district of the Jauja Extension Agency was selected as one which best met the selection criteria. This was confirmed by a field visit to the site accompanied by the sector extensionist (sectorista).

Puno. Officials in INIPA familiar with the Puno region suggested three locations for the pilot site. Following discussions in Puno with CIPA officials and analyzing the data from the 3 sites, it was agreed that the Yunguyo district was most promising. A field visit to the area confirmed that it would be suitable.

3. Final Selection

After the site visits and analysis of the information from Huancayo and Puno, the field team concluded that either site would serve the project objectives equally well. It would be desirable to start the project at both sites but this is not feasible as only one long term communications advisor will be available for the project. It is proposed, therefore, that the project be initiated in the Acolla district of the Jauja Extension Agency in Huancayo. When the project begins it is suggested that one or more persons from extension in Puno with some background and interest in communications be temporarily assigned to Huancayo to work with the CTTA communications advisor. After a training period, they would return to Puno to initiate the project there with technical support from CTTA advisors.

Huancayo is the preferred start-up site for several reasons. The director of the Office of Technical Communications in CIPA Huancayo has experience in communications methodologies, has a very good production staff, and is very interested in being associated with the project. There was no one identified in Puno CIPA with similar qualifications.

Puno area messages would have to be developed in three languages, Quechua, Aymara, and Spanish; Spanish could suffice in Huancayo. It may also be easier to recruit a long term communications advisor if Huancayo is the initial project site.

4. Pilot Site Description

Excellent institutional support is available in the Huancayo area. The Santa Ana Agricultural Research Station just outside Huancayo is a good facility. There are new buildings with modern laboratory facilities for research in plant pathology, entomology, soils, plant physiology, virology, and others. Extensive field experiments with major crops of the region are conducted. CIP has a research component at the station and has a large program of controlled virus-free potato distribution. CIPA-Huancayo has collaborative programs with both the Research Station and CIP. The University of Huancayo also has experimental fields and research programs with which CIPA has cooperative arrangements.

It would be advantageous to include several districts in the Jauja Agency, such as the town of Acolla. Acolla, the district center, is about one half hour by road from Jauja, which is the provincial center. Jauja is about 40 minutes by car from Huancayo on a good paved road and Huancayo is about 6 hours by car from Lima. The district has about 2000 farm families in about 8 communities ranging from 3300 to 3800 meters in elevation. Farm size is from less than one-half to 5 hectares. Potatoes, wheat, barley, and quinua are major crops and broadbeans and onions are minor crops. Livestock, mainly sheep, is important in the area. The average potato and cereal yields are quite low. Potatoes average about 8.5 tons per hectare; wheat, 1.1 tons; barley, 1.5 tons; and quinua 0.6 tons. The farmers with access to fertilizers, pesticides and other inputs harvest 20 tons of potatoes or more per hectare.

5. Alternative/Additional Sites

Huancayo has been selected as the pilot project region as indicated above. It is anticipated that the first expansion of the CTTA methodology may be into Puno, and that selected Puno staff may be deputed to work in Huancayo during the first project year to prepare for such expansion. Additional sites for CTTA Project activity may also be considered, contingent upon availability of additional resources required for such activity and agreement among INIPA, USAID/Peru, AID/S&T, and AED.

D. Technology Transfer Objectives

The specific technology transfer objectives depend upon the level of technology utilization observed during the diagnostic effort. If technology use and application is low, the technology transfer objective will be to increase input use to achieve higher yields. This will require an analysis of viability of the current recommendations with respect to recently determined price policies and a refinement of the current methodology testing in the region to assure adequate adaptation. To transfer new or underutilized technologies, a process must be developed to 1) describe existing production patterns, 2) compare these technology levels with best estimates of local recommendation adjustments, 3) determine the economic viability of the recommendations, 4) measure the associated risk levels for technology adoption, and 5) evaluate the degree to which the current institutional delivery system can provide needed inputs and market activities.

The INIPA team has decided that three basic inputs will be analyzed--seeds, fertilizers and crop and animal protection methods. These inputs will be analyzed for the principal crops in the area, which include potatoes, wheat, barley, broadbeans, peas and quinua in the Jauja region. Other crops may be identified if the diagnostic procedure uncovers important farming activities not already considered. To the extent that expanded use of the inputs mentioned can lead to higher productivity, efforts will be made to elicit behavioral change among client farmers so they will increase their input use. When technologies that fit this selection process are identified, and cultural analysis of potential acceptance rates is complete, message development and media determinations will be made to expand the reach of the extension system.

To achieve success, this process will require the participation of the communications team, research staff, extension agents and evaluators. Strict integration by all collaborating disciplines will be necessary, starting with the initial behavioral investigation and continuing through to the end of the project. The principal objectives of the technology transfer process are to increase returns to crop and animal production. However, intermediate objectives will be determined by measuring the adoption rates of inputs or new practices, calculating the corresponding productivity changes by factors, and estimating changes in income levels. Attempts will also be made to influence the capitalization process of the new income streams produced. Income stabilization, improved family nutrition and food security also are considered in technology transfer, and can become the ultimate goals of the process. Targeted evaluation procedures will be developed to measure these achievements.

In Huancayo, there are several underutilized, low cost technologies available which may be acceptable to farmers and can be incorporated into their present farming system. Some of these are:

1. Seeds

   - Seeds of improved varieties, especially barley and wheat and also quinua are available that can substantially increase yield with minimum inputs.
   - Use of virus-free potato seed.
   - Protection of stored seed potatoes by diffused light to prevent sprouting.

2. Crop and soil management practices

   - Improvement of soil preparation for planting.
   - Modification of planting distances and density.
   - Improved fertilizer application.
   - Amounts and kinds of fertilizer to use relative to kind of crop, kind of soil, history of field use, and present soil fertility level as measured by soil tests.
   - Soil conservation practices.

3. Plant and animal protection

   - Plant pesticide use rates and methods of application.
   - Animal disease control.

E. Summative Evaluation

A summative evaluation is planned to gather accurate estimates of the accomplishments and impact of the CTTA Project. It will be integrated to the extent possible with the developmental investigation, pretesting, and formative evaluation phases of the program, in order to reduce costs and maximize the information base on which the project builds. However, it will also use separate data collection to ensure that the final results are sufficiently rigorous and precise to provide a valid measure of program impact.

To present a full picture of how well the program functions, the summative evaluation will investigate several different categories of variables. It will examine the access that the target audience has to the communication channels utilized in the

campaign; the actual exposure to the content and messages of the campaign; changes in levels of knowledge and attitudes about the target behaviors; changes in behavior related to the agricultural objectives; and changes in production and/or efficiency. Many related variables (such as input costs, market prices, weather, and characteristics of individual farmers and of the land) are also included in the summative evaluation structure.

Final decisions about the methods employed in the summative evaluation depend on the specific objectives selected after the developmental investigation and project design. However, it is anticipated that data will come from multiple sources, including surveys of farmers, interviews with agriculture sector professionals, direct observation and measurement of practices or effects of practices, and use of archival data from other agencies or projects.

The summative evaluation has several purposes:

- to provide information about the overall magnitude of impact, and hence of the general cost-effectiveness of the activity in the pilot region;
- to provide diagnostic information about the success of the various intermediate steps to allow identification of possible problems or areas where final outcomes can be increased by improving performance at intermediate points;
- to provide a base for decision-making about the value and possible returns for expanding the effort within Peru; and
- to integrate the findings from the Peruvian experience with related efforts in other countries under the worldwide CTTA program.

F. Diffusion Activities

Participation of two key CTTA project staff (the CTTA long term advisor and one senior INIPA counterpart actually involved in the pilot project) in the annual international diffusion meeting organized by CTTA will be funded by CTTA. INIPA extension personnel will be included in the communications network to be established by CTTA for sharing information and experience gained through the worldwide CTTA Project.

G. REE/CTTA Relationships

The CTTA Project will function in close collaboration with the REE Project for which NCSU is the contractor. Specific areas of cooperation and coordination between REE and CTTA Project staffs

will include:

- coordination of activities between the REE leader of extension and the CTTA long-term advisor, including relations with the Peruvian Office of Technical Communication (OCT), and identification of technologies to be included in the communication interventions;

- coordination of activities between the REE co-leader of the Human Resources National Program and the CTTA long-term advisor;

- coordination of activities between the REE leader of research and the CTTA long-term advisor, including interaction with research in identification of technologies to be included in the communication intervention;

- integration of CTTA objectives with those of INIPA and coordination through REE in program planning, implementation and evaluation; and

- additional REE/CTTA collaboration as appears appropriate throughout the CTTA Project.

VI. PROJECT OUTPUTS

Some of the benefits to be realized by the CTTA pilot project will be direct and will occur over time. These will include the following:

Generation of knowledge about:

- agricultural technologies which are appropriate to Peruvian farmers;

- the role and effective use of communication to reinforce extension activities in transferring agricultural technology; and

- the process of institutionalization of program assistance and other investments for agricultural technology development and transfer.

Developing a process and methods for:

- integrating the capacities of several disciplines including agricultural extension, development communication, behavioral analysis, and social marketing for effective application in agricultural technology transfer;

- integrating the project's communication methodology into Peru's agrosupport system, including research, extension, production input supply, and agricultural marketing;

- adapting and transferring the project's communication methodology to other regions of Peru and other developing countries; and

- evaluating the results of applying the communication technology.

Changes in farmer's practices and direct benefits, including:

- improvement in agricultural production performance through adoption of productivity-increasing inputs and practices by farmers and farm families in the pilot region;

- tested materials and message delivery procedures adapted to the Peruvian technology development and transfer system; and

- pilot region and national level communication units that are adequately equipped and staffed for applying the project's communication methodology.

Networks and participation, including:

- established linkages between project activities and national and international centers of agricultural research and extension;

- infusion and diffusion of the project's communication methodology in the curricula of Peruvian agricultural research, extension, training and agricultural programs; and

- understanding of the methodology and impact of the pilot project among all donors and technical assistance agencies providing development support to Peru.

Institutionalization and expansion, including:

- in-service training and institutionalization of the project's communication methodology in the pilot region; and

- Development of the organizational ties necessary to extend the project's communication methodology to other agricultural regions of Peru and other developing countries.

Extensive project documentation will be maintained.

VII. PROJECT INPUTS

Project inputs for the life of the project will include:

- Technical assistance
  - -- One long term resident advisor (36 person months)
  - -- Short term advisors (12 person months) in different disciplines to be determined based on project needs.
- Equipment and operating expenses
  - -- One vehicle for the long term advisor.
  - -- Limited communication-related equipment ?
  - -- Operating expenses for special pilot project activities
- Summative evaluation
- Support for worldwide diffusion activities
- Proportional contributions to the contractor's home office management and operational support.

USAID/Peru-supported activities within the Life of Project (LOP) budget for the 1986 fiscal year will include:

- Selection of a pilot site in a priority region for agricultural development for communication support to reinforce extension activities in the transfer of technology under the CTTA Project. This will be done in close collaboration with INIPA personnel and consider the criteria for pilot site selection and other factors. Plans for extending the pilot operation to other priority areas will be developed.
- An analysis of the INIPA Office of Technical Communications capacity, and preparation of recommendations for strengthening its capabilities with respect to facilities, staff and programs to provide effective communication support.

- Preparation of an implementation plan in collaboration with INIPA personnel who will be associated with the project and a letter of understanding between INIPA and USAID.

VIII. REPORTING REQUIREMENTS

Reporting requirements for the CTTA Project in Peru are as follows:

A. Implementation Plan

This LOP implementation plan is being prepared for submission to AID for approval. This document will guide planning and decision making for the Peru Pilot Project. The plan, which will be updated annually, will include: objectives, description of end of project status, inputs, methodology, reporting requirements, and a management plan (timeframe for key activities and budget).

B. Integrated Action Plan

An integrated action plan will be prepared in collaboration with Peruvian project staff counterparts within six months of the resident advisor's arrival in country. The integrated action plan will emphasize the priorities for the first 12 to 18 months of the project and will be annually reviewed and updated.

C. Interim and Final Reports

1. Monthly reports

Monthly reports will be prepared and submitted to the director of INIPA, USAID/Peru, AED, and the AID/Washington Cognizant Technical Officer (CTO). The monthly report will summarize key activities, problems and proposed resolutions.

2. Semi-Annual Reports

Semi-Annual reports will be prepared and submitted to INIPA, USAID/Peru, AED, and AID/Washington. These include:

- Progress reports of activities undertaken during the reporting period and planned for the next period. These reports will include updates and recommended revisions in the Implementation Plan and Integrated Action Plan.

- A financial report, including accounting by line item of expenditures incurred during the reporting period and projected expenditures for the next period.

3. Trip Reports and Seminars

Trip reports for all international travel and for proceedings of seminars will be prepared and submitted to AED.

4. Summative Evaluation Reports

A minimum of two Summative Evaluation Reports will be submitted during the life of the project.

5. Final Report

A Final Report outlining all major activities undertaken during the life of the project, level of effort, and associated costs will be prepared at the conclusion of the project.

D. Informal Reporting

In addition to meeting the formal reporting requirements, frequent informal written and oral reports of progress and problems will be made to INIPA and USAID/Peru by the CTTA-provided long term advisor and other technical assistance specialists.

IX. IMPLEMENTATION SCHEDULE

The preliminary implementation schedule considers the need to: 1) complete all pre-communication intervention activities in time to begin communication support programming at least one month before the onset of the 1986-87 cropping season; 2) develop specifications for communication-related equipment to be purchased to permit early procurement. This preliminary implementation schedule will be revised and fine-tuned in the annual integrated action plans.

Preliminary Implementation Schedule

1.	Preparation of Project Implementation Plan (IP) and Letter of Understanding (LU)	3/86
2.	IP and LU approved	31/3/86
3.	Submit candidates for long-term (LT) Agricultural Communications Advisor	15/4/86
4.	LT Advisor approved	15/6/86
5.	LT Advisor in-country	15/7/86

6.	Preparation of specifications for communication related equipment	7-9/86
7.	Developmental investigation and other preparatory activity in Huancayo pilot region	7-9/86
8.	Identification of agricultural technologies to be included in first year pilot communication intervention	7-9/86
9.	Initiation of first year pilot interventions	9/86
10.	Preparation of first annual Integrated Action Plan (IAP) for Huancayo pilot project	11/86-1/87
11.	Preparation of Summative Evaluation Plan (SEP)	7-9/86
12.	Measurement of land preparation and planting behavior	12/86-1/87
13.	Submission of CTTA semi-annual report	1/87
14.	Submission of first annual IAP for approval	2/87
15.	Completion of first year Huancayo pilot project activities	7/87
16.	Submission of second CTTA semi-annual report	7/87
17.	Year one post intervention measures	7/87
18.	Second year CTTA pilot communication support program integrating 14-component CTTA communication process	7/87-6/88
19.	First year summative evaluation report	11/87
20.	Extension of CTTA pilot project methodology to additional sites in other regions	7/87 on
21.	Measurement of land preparation and planting behavior	12/87-1/88
22.	Submission of third CTTA semi-annual report	1/88
23.	Submission of second IAP for approval	1/88
24.	Year 2 SEP post-intervention measures	7/88
25.	Completion of second year pilot project activity	7/88
26.	Submission of fourth CTTA semi-annual report	7/88

27.	Submission of second final summative evaluation report	11/88

The following summative evaluation activities will be undertaken if funding permits.

28.	Measurement of land preparation and planting behavior (if LT advisor extended)	12/88-1/89
29.	Submission of fourth CTTA semi-annual report	1/89
30.	Submission of third IAP for approval	1/89
31.	Completion of LT Agricultural Communication Advisor assignment	6/89
32.	Year 3 SEP post-intervention measures	7/89
33.	Completion of third year pilot project activity	7/89
34.	Submission of third final summative evaluation report	11/89

X. FINANCIAL PLAN

Funding for the Peru CTTA Project will be provided from a combination of sources as shown in the budget in Attachment 1. The GOP contribution will be for allocations to activities directly related to the CTTA Pilot Project and expansion of the initial pilot site to other sites.

The CTTA contractor, through its headquarters office, will maintain accountability for all expenditures of USAID/Peru and AID/S&T funds allocated to the Peru CTTA Project. The CTTA long-term communication advisor will be responsible for management and accounting of an imprest fund for in-country expenditures. All vouchering will be done by the CTTA contractor directly to AID/Washington. Separate accounts for USAID/Peru and AID/S&T funding inputs will be maintained by the contractor and reported regularly to both.

ATTACHMENT 1

PERU PILOT PROJECT FINANCIAL PLAN

ACTIVITY	FY86		FY87		FY88		FY89		FY90		TOTAL		Five-year Total
	Mission	Central	Mission	Central	Mission	Central	Mission	Central	Mission	Central	Mission	Central	
Planning and Assessment	78.6	22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	78.6	22.5	101.1
LT Technical Assistance	0.0	26.6	70.3	43.7	45.9	45.9	33.3	33.3	16.7	16.7	166.2	166.2	332.3
ST Technical Assistance	34.7	3.7	2.0	32.9	9.3	9.3	9.7	9.7	5.8	5.8	61.5	61.5	123.0
Project Vehicle (purchase, operation)	0.0	15.0	3.0	2.0	2.6	2.6	2.7	2.7	2.8	2.8	11.2	25.2	36.3
R&D Operational Costs	0.0	0.0	53.6	44.4	24.5	24.8	23.0	12.5	12.5	0.0	113.6	81.7	195.3
Summative Evaluation	36.7	2.1	16.4	16.4	17.0	17.0	23.1	23.1	8.0	8.0	101.2	66.6	167.7
Intl Diffusion Activities *	0.0	1.0	5.0	6.0	5.0	5.0	2.5	2.5	2.5	2.5	15.0	17.0	32.0
CTTA Home Office Costs *	0.0	50.0	14.0	35.0	26.0	27.0	26.5	26.5	28.5	28.5	95.0	167.0	262.0
BUDGET TOTALS:	$150.0	$120.9	$164.3	$180.4	$130.3	$131.6	$120.8	$110.3	$76.9	$64.3	$642.2	$607.5	$1,249.8

* Proportionate share allocated to Peru Pilot Project

(figures in 000)

INIPA Counterpart Contribution to
CTTA Pilot Project in Peru

	A Ñ . O S (YEARS)				
	1er.	2do.	3er.	4 to.	TOTAL US $
I. COSTO DE CAPITAL (CAPITAL COSTS)	-	-	-	-	-
A. Equipo de Oficina (Office Equipment)	1,300	-	-	-	1,300
a. Central	-	-	-	-	-
b. Regional	1,300	-	-	-	1,300
B. Equipo de Comunicación (Communication Equipment)	-	-	-	-	-
a. Central	-	-	-	-	-
b. Regional	-	-	-	-	-
C. Vehículos de Transporte (Transportation)		-	-	-	-
a. Central	-	-	-	-	-
b. Regional	-	-	-	-	-
D. Otros (Other)	-	-	-	-	-
a. Central	-	-	-	-	-
b. Regional	-	-	-	-	-

	A Ñ O S (YEARS)				
	1er.	2da.	3er.	4to.	TOTAL US $
II. COSTOS DE OPERACION (OPERATION COSTS)					
A. Personal (Personnel)					
a. Central	-	-	-	-	-
b. Regional	3,600	3,600	3,600	3,600	14,400
B. Viáticos (Per Diem)					
a. Central	1,100	1,100	1,100	550	3,850
b Regional	550	550	550	280	1,930
C. Combustible y Carburante (Fuel)	-	-	-	-	-
a. Central	-	-	-	-	-
b. Regional	-	-	-	-	-
D. Servicio Profesional (Professional Services)					
a. Central	-	-	-	-	-
b. Regional	1,500	1,700	1,900	-	5,100
E. Otros Servicios (Other Services)					
a. Central	-	-	-	-	-
b. Regional	1,000	1,500	2,000	2,000	6,500
F. Comunicaciones (Communications)					
a. Central	-	-	-	-	-
b. Regional	500	500	500	500	2,000
G. Materiales y Suministros (Office Supplies)					
a. Central	1,000	1,000	1,000	-	3,000
b. Regional	6,000	6,000	6,000	3,000	21,000
H. Transmisión Radial (Radio Transmission)					
a. Central	-	-	-	-	-
b. Regional	10,800	10,800	10,800	-	32,400
I. Imprevisto (Contingency)					
a. Central	-	-	-	-	-
b. Regional	1,200	1,800	1,800	1,620	6,420
(GRAND TOTAL) TOTAL GENERAL :	28,550	28,550	29,250	11,550	97,900

A N E X O

I. COSTO DE CAPITAL

A. Equipo de Oficina

a. Central.- Se dispone de ambiente y equipo de oficina para el desempeño de las funciones del profesional que viaje a la capital

b. Regional.- El total requerido permitirá adquirir 3 escritorios, 3 sillones, 1 máquina de escribir eléctrica, 1 mesita de metal para máquina de escribir, 1 archivador de metal de 4 gavetas y 4 sillas fijas de metal. En la sede regional se cuenta con mesa para conferencia y sillas.

B. Equipo de Comunicación

a. Central.- La oficina de Comunicación Técnica del INIPA cuenta con equipo para radiodifusión e impresión, dibujo , proyectores y video.

b. Regional.- La oficina Regional CIPA XII- Huancayo dispone de grabadora portátil, mesa de dibujo, proyectos de slides, retroproyector y mimeógrafo .Asimismo se dispone de equipo en sala de grabación (ver-anexo)

C. Vehículos de Transporte

a. Central.- Se dispone de 1 vehículo para las necesidades del profesional durante su estadía en Lima.

b. Regional.-Se cuenta con los medios de transporte necesarios para el trabajo en el campo.

D. Otros

a. Central.- Existen fotocopiadoras, procesadora de textos y de servicio telefónico.

b. Regional.- Se dispone de fotocopiadora.

II. COSTOS DE OPERACION

A. Personal

b. Regional.- Los recursos permitirán contar con los servicios de una Secretaria Bilingue y de un conserje.

B. Viáticos

a. Central.- Permitirá que el personal de la Oficina de Comunicación Técnica viaje a la ciudad de Huancayo en promedio de 7 días al mes.

b. Regional.- Previsión para solventar los gastos de viaje de los dos profesionales.

D. Servicio Profesional

b. Regional.- Requerimiento para servicios de locución y trabajos de - impresión.

F. Comunicaciones

b. Regional.- El requerimiento está dirigido para atender gastos de publicaciones varias.

G. Materiales y Suministros

a. Central.- Recursos necesarios para la compra de útiles de oficina , que requieran los dos profesionales.

b. Regional.- Recursos necesarios para la compra de útiles de oficina que requieran los dos profesionales y la secretaria bilingue.

H. Transmisión Radial

b. Regional.- Recursos que permitirán financiar las transmisiones que irradie la emisora local, con un estimado de 1 1/2 horas semanal ó 9 horas al mes.

MAZ 26

RELACION DE EQUIPOS Y BIENES DE LA SALA DE GRABACIONES

D E S C R I P C I O N	Cantidad	Estado Operativo
- Archivador de Metal de 4 gavetas marca PROFISA	1	Bueno
- División de madera 1 puerta, 1 ventana herméticamente cerrada con vidrios dobles para grabación	1	Bueno
- Mesa de madera de 2 cajones enchapados en fórmica, color verde agua de 1.80 X 0.80	1	Bueno
- Silla giratoria de metal con tapíz MONFER t/secretaria	1	Bueno
- Silla fija de metal con tapiz t/visitante	1	Bueno
- Silla fija de metal con tapiz t/visitante	1	Bueno
- Silla fija de metal con tapiz t/visitante	1	Bueno
- Copiadora de cintas magnetofónicas TELEX Mod. 500	1	Bueno
- Consola profesional marca DIFONA de 6 canales 12 entradas con control pre grabar y pre escucha con monitor	1	Regular necesita mantenimiento
- Grabadora marca NATIONAL mod. 776-S con parlantes	1	malogrado
- Grabadora marca UHER-VARIOCORD de 2 pistas 3 velocidades serie 06809 mod. 63-S	1	Malogrado
- Grabadora Casett marca PHILLIPS mod. N2207	1	Malogrado
- Grabadora marca UHER-VATIOCORD de 2 pistas 3 velocidades serie 06695 mod. 63-S	1	Malogrado
- Grabadora casett marca FENCO mod. FCR 107-A serie 18931 a pilas y corriente	1	Malogrado
- Monitor para estudio (parlante especial color marrón)	1	Bueno
- Tornamesa marca LENCO mod. L 75 con pastillas magnetofónicas	1	Bueno
- Tornamesa marca LENCO mod. L 75 con pastillas magnetofónicas	1	Bueno
- Audifono graduable marca AKAI ASE 22 LEVEL	1	Malogrado
- Borrador de cintas marca AKAI mod. ATE	1	Bueno
- Cronómetro marca HERMER serie No. 408202	1	Bueno
- Desmagnetizador marca OLSON mod. HM-39	1	Bueno
- Micrófono marca SENHEISER mod. MD 21 de techo base S27	1	Bueno
- Micrófono de mesa Unidireccional marca RCF 1616	1	Bueno
- Micrófono de mesa Unidireccional marca RCF 1616	1	Bueno
- Micrófono marca BAYER con pedestal y protector de viento	1	Regular
- Monitor para sala de grabaciones (parlante de metal color plomo) marca "B"	1	Bueno
- Pistola paravsoldar marca WELLER	1	Bueno
- Micrófono marca BAYER con pedestal y protector de viento	1	Malogrado
- Cortina de tela castilla color azúl con rieles	2	Bueno
- Amplificador de 3 bandas y frecuencia modulada marca PHILLIPS mod. 742 serie 0662110519	1	Bueno

D E S C R I P C I O N	CANTIDAD	ESTADO OPERATIVO
- Tocadiscos marca PHILLIPS TIPO 22 GA-427170Z	1	Bueno
- Grabadora marca PHILLIPS mod. N4511/00	1	Bueno
- Mueble de madera enchapado en formica para equipo de consola de 1.80 X 0.50, color verde agua en forma de "U"	1	Bueno
- Mueble de madera enchapado en formica en forma de "L" compuesto de 3 piezas de puertas corredizas de 2.16 X 0.50 color verde agua	1	Bueno
- Parlante marca PHILLIPS tipo 22RH453/01R	1	Bueno
- Parlante marca PHILLIPS tipo 22RH453/01R	1	Bueno
- Estabilizador de corriente marca SAREA de LUXE	1	Bueno
- Grabadora de alta fidelidad marca GELOSO mod. G-268-P con micrófono y estuche color plomo	1	Regular
- Amplificador		

DISCOS

- 62 discos LP de música variada de conservación regular
- 2 álbunes de música clasica
- 34 discos de 45 RPM de conservación regular

nq.j/.

NECESIDADES DE LA OFICINA DE COMUNICACION TECNICA

	CANTIDAD:
1.- RETROPROYECTOR DE VISTAS OPACAS.	1
2.- COMPOSSER IBM.	1
3.- SECADORA DE COPIAS FOTOGRAFICAS 30 x 40 (con 2 planchas cromadas)	1
4.- 200M de 400 mm.(200 y 35 mm).	1
5.- LENTE DE APROXIMACION HASTA 10 cms.	1
6.- FLASH DE 4 PILAS.	1
7.- CAMARA FOTOGRAFICA PENTAX SPORTMATIC 36 mm.	1
8.- EXTENSION DE LENTE.	1
9.- FILTROS COLOR : AMARILLO No. 10- No. 15.	
MAGENTA No. 10 - No. 15.	
AZUL No. 10.	

INVENTARIO DE BIENES- AREA DE COMUNICACION TECNICA.

CIPA XII- HUANCAYO.

	CANTIDAD:	ESTADO OPERATIVO
. COPIADORA ELECTROSTATICA	1	MALOGRADA.
. MIMEOGRAFOS (TAMAÑO OFICIO)	2	OPERATIVOS.
. GUILLOTINA DE MANO.	1	OPERATIVA.
. TABLEROS DE DIBUJO.	2	OPERATIVOS.
. MAGAFONOS.	2	OPERATIVOS.
. RETROPROYECTOR DE TRANSPARENCIAS.	1	OPERATIVO.
. PROYECTORES DE SLIDES	3	1 Malogrado y 2 Operativos.
. ECRAN.	2	OPERATIVOS.
. MAQUINAS DE ESCRIBIR MECANICAS.	2	REGULARMENTE OPERATIVOAS.
. MAQUINA DE ESCRIBIR ELECTRICA.	1	REGULARMENTE OPERATIVA.
. PUPITRES.	6	REGULARMENTE OPERATIVO.
. FOTOCOPIADORA XEROX.	1	OPERATIVA.

Huancayo, Marzo de 1,986.

NOTA.= Un Laboratorio fotográfico con implementación limitada.

	AÑOS				
	1er.	2da.	3er.	4to.	TOTAL US $
II. COSTOS DE OPERACION					
A. Personal					
a. Central	-	-	-	-	-
b. Regional	3,600	3,600	3,600	3,600	14,400
B. Viáticos					
a. Central	1,100	1,100	1,100	550	3,850
b Regional	550	550	550	280	1,930
C. Combustible y Carburante	-	-	-	-	-
a. Central	-	-	-	-	-
b. Regional	-	-	-	-	-
D. Servicio Profesional					
a. Central	-	-	-	-	-
b. Regional	1,500	1,700	1,900	-	5,100
E. Otros Servicios					
a. Central	-	-	-	-	-
b. Regional	1,000	1,500	2,000	2,000	6,500
F. Comunicaciones					
a. Central	-	-	-	-	-
b. Regional	500	500	500	500	2,000
G. Materiales y Suministros					
a. Central	1,000	1,000	1,000	-	3,000
b. Regional	6,000	6,000	6,000	3,000	21,000
H. Transmisión Radial					
a. Central	-	-	-	-	-
b. Regional	10,800	10,800	10,800	-	32,400
I. Imprevisto					
a. Central	-	-	-	-	-
b. Regional	1,200	1,800	1,800	1,620	6,420
TOTAL GENERAL :	28,550	28,550	29,250	11,550	97,900