



FINAL REPORT OF TECHNICAL ASSISTANCE CONSULTANCY

of

Jack Dee Traywick, Agricultural Extension
Administration Specialist/Team Leader

Chemonics International Consulting Division

December 19, 1984 - June 19, 1987

AGRICULTURAL TECHNOLOGY TRANSFER PROJECT (ATTP)

for CHIRIQUI, PANAMA

Contract GOP/USAID 525-0227-3-20124/40015

Presented to

USAID/PANAMA

Rural Development Office

Panama, Republic of Panama

June, 1987

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PREFACE

Although final reports by consultants is not a project requirement, both Chemonics headquarters and USAID officers expressed their wish in my preparing one at the end of my 30-month consultancy assignment as Team Leader of the Agricultural Technology Transfer Project in Panama. The report covers the period December 19, 1984 to June 19, 1987 during which time I resided and worked in Panama, principally in the Chiriqui Province.

It is important to note that this is not a Project final report, but only relates to Chemonics' scope of work and particularly my own terms of reference, major activities and accomplishments up until June, 1987. At this time it is hoped and anticipated that the T.A. contract will continue at least until September, 1989.

Since I wrote all of the eight quarterly reports plus over 20 additional documents on project matters, detailed activities, problems, and recommendations can be found in these reports and papers, all of which are on file in the Chemonics ATT Project offices in Washington, and in USAID Panama. All of these documents, along with this report will provide both USAID Rural Development Office, Chemonics' home office, and the Panamanian Government written records of Project activities, T.A. team efforts, and in particular my activities during the 30-month period.

This report is divided into three sections and five appendixes. The Introduction reviews the scope of work for technical assistance, highlights, review of the project's critical issues and setbacks, and a summary of the project's advances. Section II covers this consultant's main activities and achievements. This is followed by Section III with a list of recommendations. Finally, the Appendixes include a recent memorandum presented to the Director of National Extension, list of papers and working documents by the author, and consultant list.

As I pointed out in each quarterly report, throughout the life of this project a continuous effort has been made to plan, program and implement activities as one team. I have considered myself and the other Chemonics team members as being integrated with the project's organization and efforts, although there were many differences of opinion as to organizational re-structuring, methodologies, strategies, and focus. However, in the final analysis we are all responsible for the successes and shortcomings of the project.

I. INTRODUCTION

The majority of final reports or project reports are rather thick, and are sometimes dry and formal. Recipients are often "just too busy" to read them. Consequently, I decided to break somewhat with tradition, and try to make this report interesting and brief enough to be read through. I covered the dry section in the Preface.

I do want to get one thing off my chest at the beginning, then we can get on with the fun part. This 30-month assignment, as T.A. Team Leader for the Agricultural Technology Transfer Project in Panama, has been a very trying, frustrating and professionally unrewarding period. I'm leaving with unfulfilled goals and aspirations. During the past 30 years I have participated in numerous long and short-term project assignments in a dozen developing countries. And I know that I accepted this position with more enthusiasm and high hopes than for almost any other project. For numerous reasons, including having lived and worked here before, I felt that I could contribute greatly toward helping improve farmer services in Panama. But early in the project, high hopes turned into disenchantment. Crisis and instability followed each other. As the recent Evaluation Team reported, "The ATT Project since its inception has been fraught with administrative and political problems that have impeded the flow of resources and the actions essential for project implementation".

As I've already stated, these numerous problems and crises have been reported on in many other documents for anyone who wishes to review them. Major ones will be summarized again in Section B.

Perhaps the ATT Project's planners could not have foreseen the many impediments--political upheavals, economic crises, market and institutional changes, widespread credibility gap, unfulfilled pre-conditions and commitments--or that extension programs would be used as scape goats, blamed for too many failures in improved agricultural production, farmer services and profits. As it turned out, by the time the technical assistant team arrived, almost all the rules for implementing a successful project had been broken. As Dr. James Heinzen stated in one of his seminars, "Don't expect to succeed if you break all the rules."

In other words, if you're attempting an impossible mission, you will surely fail (unless you hire an economist to evaluate the project). Of course, perhaps the theory of planners and bureaucrats is that "nothing is impossible for those who don't have to do it themselves". *

* Most of the laws in quotes in this report are from Paul Dickson's book, The Official Rules, Dell Publishing Co. 1978.

However, all has not been in vain. Significant progress has been made and is underway at present. I'm still an optimistic at heart, and I believe many good seeds have been sown. As to the future, although I hesitate to predict, recent re-structuring, re-orientation, and improved inter-institutional participation looks hopeful. Good team effort is underway in spite of continuing serious resource and administrative bottlenecks. "If the effort succeeds, then it must have been possible". In the section on recommendations I will comment further on what actions I feel must be taken for project improvement.

A. Scope of Work

As technical assistance team leader and agricultural extension administration specialist, my scope of work included providing leadership and assistance in the overall planning, development, and implementation of a functioning pilot project in technology transfer in Chiriqui (with two small, area-specific, sub-projects in Parita and Los Santos in Azuero). Specific responsibilities included:

- The design and carrying out of contractor and project work plans, operational plans and procedures.
- Assisting on staffing, reporting, evaluation methods and principles. Preparing and presenting contractor reports.
- Helping in the development of concepts and methodologies (with field testing) for an extension focus leading to a functional extension model.
- Supervising and coordinating the activities of all contractor specialists, negotiations and activities among USAID, MIDA, IDIAP, other appropriate agencies, and the contractor.

B. History of the Project's Critical Issues and Impediments

This project has had more than its fair share of critical issues resulting in obstructions and even reversals in progress at times. If these restraining issues had been only temporary ones, with obstructions quickly overcome, I couldn't complain. A strong challenge can be stimulating. However, in this case, more than one-half of the critical issues and impediments still have not been resolved satisfactorily. It's a great miracle that the Project has made advances and continues functioning, although under a heavy load of adversities.

Soon after I arrived and read the Project Paper and contract documents, I began to realize that we were in trouble since many conditions necessary for project implementation had not been met. These called for the following:

(1) evidence of an approved long-term training plan; (2) selection of highly qualified project coordinator and sub-coordinator; (3) adequate logistic control and management system installed in MIDA; (4) nationwide selection of senior and junior extension staff; (5) \$60,000 per year for fuel; (6) counterpart funding on time and in sufficient amounts according to project needs; and (7) a functional agreement between the Project and IDIAP which detailed IDIAP's sizeable responsibilities and resources to be committed to the ATT Project. Still as of this date only three of those seven have been completed satisfactorily.

In Appendix B, papers Nos. 4, 6, 13, 14, 16, and 20 written by me, plus all of the quarterly reports contain detailed descriptions of current serious issues and problems. In addition the two external evaluation teams placed strong emphasis on the need to resolve critical problems that restrained project advancement. Several letters on essential problem areas were presented to the Ministers of Agriculture and Director of USAID. The last one to the Minister, Dr. Hirisnel Sucre, from the USAID Director, Dr. Ronald Levin (October 1986) listed six major problems that required immediate resolution in order to justify continued project implementation. These six major problems had been repeatedly presented and had been emphasized by the 1986 Evaluation Team. The six major needs as presented were:

1. Adequate level of counterpart funds
2. Timely counterpart funding
3. Close linkages and collaboration between IDIAP and the ATT Project
4. Significantly improved staffing pattern and programming of extension personnel, including staff evaluation
5. Sufficient autonomy for the ATT Project to be implemented as a pilot venture
6. Increased farmer participation and input in the project planning and implementation of activities

The Minister responded in a very positive manner to the USAID Director's letter, and the T.A. Team and counterparts worked hard to help resolve these critical issues. Substantial progress was made for about 2-3 months, and progress is continuing in collaboration with IDIAP, and to a lesser extent with the Faculty of Agronomy. However, at present it appears that GOP personnel have slipped back in the old patterns and that very

little real progress was made. The Project actually has less autonomy (for example) than it had 30 months ago, and counterpart funding is even more critical.

The project simply does not have control of the resources necessary for implementation. Cash flow is always inadequate and frequent staff changes constantly creates instability and lowers moral. We should remember that, if we want to make progress, "a project that doesn't have control of its resources is like a fish on land without a bicycle."

In spite of determined efforts to resolve restraints, often consuming over one-half of the Team Leader's time, still the project is plagued with a severe shortage of qualified technical staff, an ineffective and corrupt purchase and disbursement system, a non-functioning rotating/disbursement fund and petty cash system for the 10 Agencies, internal and inter-institutional frictions and factions working against project success, and the lack of an incentive plan for staff motivation.

As this report is being written, the entire country is undergoing another upheaval. Practically all businesses, schools, and private organizations are on strike. Many constitutional privileges have been suspended, and the Director and Coordinator of the ATT Project have been removed. Replacements are for political reasons, aimed at more restrictions and controls rather than Project support.

II. ACTIVITIES AND ACHIEVEMENTS

Often when we are discouraged and frustrated with trying to "get things done", it's helpful to make an objective review of where we started and how much we have advanced. This project is a good example. In reviewing project activities in preparation for writing this report, I was pleasantly surprised with our accomplishments.

With the numerous set-backs and crises, it is still premature to measure and report on outputs--jump up and down and clap our hands. But, as Dr. Charles Schultze, famous economist, once stated, "If you can't measure output, then you measure input". Also, if we apply the first law of bicycling, "No matter which way you ride, it's uphill and against the wind", we can be proud of the project's advances.

I'm hopeful that, with the recently completed new work plans, staff changes and a tentative agreement on an expanded technical assistance package to continue until September 1989, the inputs already made will result in significant outputs before (and long after) the end of the Project. Considerable data has been, and continues to be, collected. Someone said that "It's useful to have a record of data--it indicates that you've been working". We know that numerous farmers have benefitted from project activities. However, an impressive report with good estimates of numbers and percentage of increased profits will have to be produced later.

Major project advances, with significant contributions by the T.A. Team and short-term consultants, may be summarized as follows:

1. Improved Work Plans, Budgetting, and Implementation Plans, including several workshops for preparing work plans and project management systems.
2. Long-range and short-range training plans prepared and assistance provided on implementation. After numerous meetings and discussions on realistic Project needs, the final training plan is very different and much improved over early concepts of training requirements.
3. Infrastructure. Seven out of ten agency new headquarters have been constructed. Plans are ready for the central headquarters expansion and remodelling. (It required more than two years to obtain clear title on land where MIDA buildings are located so that construction could begin).

All vehicles have been purchased plus audio-visual and office equipment, field implements, tools, and

machinery. Still lacking are printing equipment, another computer, and some office/library equipment.

4. Design and field testing of a "hybrid" extension model for Chiriqui, with modifications for Parita and Los Santos. Separate documents have been written describing the extension models. Some modifications may still be made as feedback from field testing continues. Appendix D gives the basics of this extension model in diagrammatic form with a brief description.
5. Training Courses. More than 20 training courses, workshops, and seminars (2 days to 2 months duration) plus several field trips, two of which were to Costa Rica and Colombia. The field trips were for both farmers and extensionists.

Subjects on training included: communication/audio-visual/radio/video/photography, marketing, precautions in use of pesticides, soil fertility, fruit production, post-harvest technology, demonstration plots, administration, project management, work planning, and use of special projects.

6. Advances in Agency Strengthening. Over 100 farmer technology promoters were selected and are collaborating on demonstration plots of improved technology. Area surveys to establish farmer problem priority in numerous micro-areas have been completed. Scores of field days and other on-farm meetings were conducted--many in collaboration with IDIAP and other institutions. Training plots for extensionists were established at each agency. Assistance on work planning and activity implementation was provided.
7. Collaborative agreements were developed and are working satisfactorily between the AIT Project and IDIAP, with the Faculty of Agronomy, and the Horticulture Cooperative in Boquete.
8. Setting up of Information Service including farmer/extension bulletins, reference documents, photocopy service, sets of slides and photographs, video cassettes, and computer/word processor diskettes (on reports and field data). Dr. Elizabeth Ruiloba, specialist in communication from IDIAP, is now working with the Project on a special contract basis, and is helping improve the information service department.
9. Special Projects. About 18 months ago we introduced in Chiriqui the concept of special projects, provided training, and prepared guidebooks. In 1986 and this year a special fund was approved in the budgets to allow more flexible use of loan funds to finance on-

farm special projects in improved technologies. A number of these special projects are underway (solar-energy dryers, erosion control, cacao fermentation systems, small-scale mechanization, etc.). This concept is now being adopted in the sub-projects of Parita and Los Santos, and hopefully will be included in the national extension program.

10. Special Contract Personnel. Since the Project was very short on qualified personnel (27 are at present out of the country in advanced training), we made numerous attempts with the government to obtain additional staff and eliminate, through staff evaluations, unqualified and non-productive employees. A few additional personnel were added without going through a selection process, so the project did not benefit. However, we did manage to include in the loan fund budget special arrangements for personal and institutional contracts. Through this method we contracted for seven different Panamanians, plus one Argentinian, and one Guatemalan specialists. Valuable help was obtained in marketing, fruit production, communication/audio-visual, soil conservation/fertility, and solar energy utilization. About 30 person-months were utilized at an average cost of only \$1,800.
11. Use of T.A. Contract Short-term Consultants. Appendix C gives a summary of all T.A. Consultants. In addition to 4 long-term consultants (including Dr. Jeffrey Jones for 12 months), we have utilized thus far 7 short-term specialists. I believe all will agree that this has been a very valuable component of the project. We have received numerous favorable commentaries, plus requests for additional assistance through short-term specialists. Early analysis of project needs convinced us to combine some of the specified short-termers, resulting in better continuity and more effective use of specialists, plus adding a specialist in marketing. With the help of the marketing specialist plus the Panamanian employed for six months, we were able to greatly improve the marketing orientation and activities, set-up a marketing department, initiate radio marketing programs, and provide better farmer services in the marketing aspect of increased farmer profits.
12. Expanded Assistance. At the request of the Minister, project funds were utilized for carrying out a national workshop (one-week) to develop work-plans, budgets, and implementation plans (follow-up) for five other regions. Some assistance is continuing in the form of field trips and field days, training courses, funds for implementing the work plans, and use of the technical

extension model. Chemonics now has the contract for a feasibility study to develop the long-term national extension program, financing package, and technical assistance.

13. Preparation of Manuals, Extension Guidebooks, Newsletters, etc. The writing, publication and distribution of appropriate extension manual, guides, information sheets, and newsletters is considered an extremely important aspect of the project. Although we're far behind schedule on those activities, some progress has been made, and production is increasing at present.

At present we can report on the following achievements:

- Draft of a vegetable production manual
- Completed manual on pineapple production
- Draft of a manual on radio program production
- Completed manual on demonstration plot management
- Work begun on a fruit production manual--scheduled to be completed in later in 1987 by Dr. Saul Camacho
- Work has been initiated on manuals on communication and audio-visuals, photography, area surveys, and appropriate technology. Additional manuals or guidebooks in the planning and writing stages include ones on methodology of technology transfer (appropriate extension models), production systems (practical farming systems), administrative procedures, and project management systems (work plans, monitoring, evaluations, reporting).

III. COMMENTARIES AND RECOMMENDATIONS

A. Disappointments

Along with the pleasures of living and working in Chiriqui Province, making many new friends, and the congenial associations with counterparts and collaborators, there have also been many disappointments. Perhaps, as some have told me, "I have taken my job and myself too seriously". Maybe we should have smiled and laughed more with our troubles and at our adversaries. (Throughout the 30 months it has been obvious that certain individuals and groups were active "contras" to Project and T.A. success).

"You can't tell how deep a mud puddle is until you step into it" (Miller's Law). So we waded into the project puddle with both feet, and discovered numerous surprises. After getting muddy and thrown for a loss several times, we finally took the approach that, "If at first you don't succeed, try something else". We found that it was impossible to follow many of the initial project paper guidelines and concepts. Besides times had changed, along with political and economic winds. So a lot of re-planning and re-orientation had to be made.

Major disappointments can be summarized as follows:

- o The difficulties of close collaboration with IDIAP in the early phases of the Project. Laws had been changed, there were personality problems, conflicts over use of resources, institutional jealousies.
- o Poor or ineffective communication among staff, institutions, and with farming sectors. I believe that effective communication, in its broadest sense, is an essential component in assuring the development of useful farmer services, including the transfer (and acceptance by the farmers) of usable appropriate technology.
- o Too much instability and comingling of MIDA's highly politicized activities with the extension projects--including MIDA's over-socialized personnel system that provides little incentive for excellence in performance. These factors make it extremely difficult to improve the credibility gap with the farmers and to integrate activities with IDIAP.
- o MIDA's continued emphasis on a top-down agricultural production model in which farmers are instruments to meet production targets of national planners. This is in direct conflict with the ATT Project's objectives--to design an extension model for developing locally-

planned, farmer-oriented technology transfer activities toward increasing agricultural productivity and farmer profits.

My tongue-in-cheek new formula for productivity is:

$$\text{Productivity} = \frac{(\text{No. of extensionists x speed of jeep}) + (\text{per T.A. Consultant})}{\text{No. of farmers hiding in the corn fields}} + \frac{(\text{Size of Loan Fund (\$)-overhead})}{\text{corruption factor}} \times \frac{\% \text{ enthusiasm}}{\text{meters of red tape}}$$

You will notice that when enthusiasm is 1% or higher and red tape is 0, productivity per consultant becomes infinite.

- o Because of the highly politicized conditions, it became impossible to help form local agricultural committees (CALs), and, at times, even meet with producer associations, or to have any participation in project staff changes. MIDA still seems not to recognize the necessity of separating the technical (farmer service) functions from regulatory and political objectives.
- o Once we realized how short the Project was on qualified staff and that MIDA was not willing to evaluate the staff and make necessary changes, we strongly suggested reducing the size and scope of the Pilot Project. This seemed to be a very logical approach to me, but we couldn't even get USAID to support this proposal. It just seemed that no one was listening, no matter how many times we explained the logic. Perhaps we should have followed the law that states "People will accept your idea much more readily if you tell them that Benjamin Franklin (or General Torrijos) said it first". Many times I felt alone and that no one was willing to break with social/political traditions, be innovative, consider the farmers real needs, select out non-performing staff and provide incentives to those willing to work, or be serious about meeting our objective.

B. Summary of High-Priority Recommendations
(Principally to USAID officials)

1. My first and strongest recommendation is that all concerted effort be given to provide an increased level of technical assistance to the Project through September, 1989. The level of T.A. should be at least that recently discussed in AID

with Dr. Preston Pattie and Ing. Bejarano. The Project staff is not nearly experienced enough to proceed without strong support. Now that progress is being made, momentum should be kept up and support should continue even stronger. If at all possible, grant funds should be provided to cover the T.A. package.

2. Support the proposals for a well-chosen board of directors for the Project. I am convinced that a balanced group of directors, with 2-3 year appointments, both from the public and private sectors, would help bring about better collaboration and guarantee more stability, regional support, and higher credibility to project activities. See my paper No. 15 (Appendix list) for more details.
3. Continue to support, but in a more forceful manner, farmer/private sector participation. With the present politicized environment, this is difficult since so many farmers are members of opposition parties. But every effort should be made. It is extremely important that the farmer help decide what problems are to be resolved, the form and methods to be used, how progress will be evaluated, plus participate in the validation, adaptive and diffusion process. It is now well known that without a strong marketing link and profit incentives, farmers in general will not be motivated to change existing cropping/production practices.
4. Help keep the project concept and support as flexible as possible, without too rigid restrictions on methodologies, but with strong back-stopping support. Extension must be part of a flexible, dynamic, progressive system which adjusts its activities and structural patterns to changes in clientele demands, market requirements, technology advances, and to changes in the rural communities.
5. Help to bring about the semi-professionalizing of the extension services. Many planners still seem to assume that change-agents or extensionists in countries such as Panama are administratively competent and technically capable to introduce sound, new (often high-tech.) practices to experienced farmers. In actual practice we find that most extensionists don't know how to farm, but only know "bits and pieces" about profitable farming.

A well-trained corps of extension specialists is critically important. And an extension project to be successful, cannot wait until the 7th year to build up its specialist staff.

6. Along with No. 5 help develop, and insist on, staff incentive plans, staff selection and reduction in number--in other words, push for a performance-oriented personnel management system.

7. Keep insisting that MIDA provide greater autonomy to the AFT Project, by improving the flow of resources, and increasing the project's ability (and authority) to develop and carry out its work plans without political interferences (like constant turnovers of upper level staff and siphoning off of scarce resources).
8. Along with No. 7, continue to insist that MIDA place top priority on getting financial bottlenecks solved and budget management system operating satisfactorily and in a timely manner. The government's claim that this problem has been solved is still a farce. Too many promises have been broken and still too much of the project's resources are diverted to other uses. Until this critical problem is solved, the project will not be able to progress at any acceptable level.

APPENDICES

- A -- MEMORANDUM OF RECOMMENDATIONS - GIVEN TO
THE NATIONAL DIRECTOR OF AGRICULTURAL EXTENSION
- B -- PAPERS AND WORKING DOCUMENTS WRITTEN BY
JACK DEE TRAYWICK, 1985 - 1987
- C -- SUMMARY TABLE OF LONG-TERM AND SHORT-TERM
TECHNICAL ASSISTANCE FOR THE ATT PROJECT
OCTOBER 1985 - JULY 1987
- D -- MODELO TECNICO DE TRANSFERENCIA
DE TECNOLOGIA AGROPECUARIA - ABRIL, 1987
- E -- BRIEF REPORT OF ACTIVITIES OF T.A. CONSULTING
TEAM, APRIL 1 - SEPTEMBER 30, 1985
(Example of Report)

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APPENDIX A

MEMORANDUM

TO: LIC. ISOLDA JAEN,
National Director of Agricultural Extension

FROM: JACK DEE TRAYWICK,
Team Leader, CHEMONICS Consultancy for
Technical Assistance in ATT Project

SUBJECT: CONCLUSIONS AND RECOMMENDATIONS CONCERNING THE IMPROVED
FUNCTIONING OF THE TTA PROJECT AND FOR AN EXPANDED
NATIONAL PROGRAM

DATE: JUNE 15, 1987

Since December 19, 1984 I was contracted by the Chemonics International Consulting Division in the position of Jefe de la Consultoria para Asistencia Tecnica y Especialista en Administracion de Extension in the ATT Project in Panama. My scope of work included providing leadership and assistance in the overall planning, development, and implementation of a functioning pilot project in technology transfer in Chiriqui (with two small, area-specific, sub-projects in Parita and Los Santos in Azuero). Specific responsibilities included:

- The design and carrying out of contractor and project work plans, operational plans and procedures.
- Assisting on staffing, reporting, evaluation methods and principles. Preparing and presenting contractor reports.
- Helping in the development of concepts and methodologies (with field testing) for an extension focus leading to a functional extension model.
- Supervising and coordinating the activities of all contractor specialists, negotiations and activities among USAID, MIDA, IDIAP, other appropriate agencies, and the contractor.

Along with my team members, I have tried to implement the terms of reference, goals and objectives of the ATT Project, and help develop a functioning extension pilot project. As you know it is hoped that this project's Extension Model can be utilized (modified or adapted) for other regions in Panama.

Although you were only recently named National Director of Extension, you and many other friends and associates in MIDA and

other institutions have been very supportive to our effort. I appreciate very much being able to discuss our problems and activities with you. Since I will soon be leaving the Project, I wanted to thank you for your collaboration and support, and to wish you success in the future. As you know, other team members from Chemonics are continuing, and we're hoping for increased participation until the end of the Project in 1989.

Also, before my departure I wanted to make the following recommendations in an effort to help improve the ATT Project operations and other regional or national programs:

1. Follow the recommendations in my paper "An Extension Focus or Approach Concept Proposed for Implementation in 1986 and Beyond" (with Ing. F. Rodriguez). An Advisory Board for the Project (and for all Extension Projects) is highly recommended and discussed in this paper. It is felt that such a board, composed of both public and private members would help bring about better collaboration and guarantee more stability and regional support. A copy of this paper is being sent to you.
2. During the past few months earlier descriptions of a proposed Technical Extension Model (for Chiriqui) have been revised and refined. Enclosed is a copy of a brief description. Other documents have been prepared, explaining in detail the functioning of the demonstration plot concept, use of multi-media. Also a number of manuals and guidebooks are being prepared to support the implementation of the Extension Model.

I recommend that you and your staff study the operation of the TTA Project in Chiriqui, Parita, and Los Santos plus the documents describing the Extension Model and how it is being field tested. I'm certain it will have nationwide applications, with some modifications depending upon regional and micro-area conditions and requirements. Of course we all realize that some aspects of the project management system still need considerable improvement, but these are outside of the technical extension model.

3. Increased inter-institutional collaboration pays big dividends. As you are aware, the recent closer integration with IDIAP of project planning and activities in Chiriqui, Parita, and Los Santos helps improve overall farmer services. Additional collaboration with the Faculty of Agronomy and with producer cooperatives and associations are also beneficial. I recommend that a greater effort be made to improve this participation. More production/marketing cooperatives and agro-industry coops., plus other farmer groups should be encouraged.

I would even suggest the consideration of semi-autonomous development corporations and/or service foundations which

could be partially self-supporting to help reduce extension program costs and improve extension professionalism and credibility. (Refer to the two evaluation team reports and page 21 of October 1986 Quarterly Report for more details).

4. Better staff selection, evaluation, up-grading, and staff permanency is encouraged. As you know this Project has had a constant turnover of staff--5 Coordinators, 6 Sub-Coordinators, 6 Administrators plus too many changes in other positions. As we have suggested many times, an effective staff incentive plan should be initiated, along with plans to adequately utilize and guarantee the permanency of the 27 staff members now studying for advanced degrees.
5. A well-trained corps of extension specialists is of utmost importance to technology transfer projects. The ATT Project always has been very short on qualified extension specialists. Of course many of the returning becarios fill these positions, and better collaboration with IDIAP will help.

These extension specialists are vital in training extensionists on applying new technologies, solving higher-level problems, provide in-field training to farmer-leaders, and help coordinate the integration of applied research/validation/adoption activities.

6. Information Services needs considerable improvement. At present Dr. Elizabeth Ruiloba from IDIAP is helping in Project on improved training, communications, and information services. Numerous documents have been collected and at present several manuals and guidebooks are being prepared. There are several well-trained technicians in Panama, and various facilities are available. A coordinated effort is needed to provide a first-class information service for extension programs.
7. More effective use of resources is badly needed, including better cash flow, timely provision of budgetted funds, more rapid reimbursements, better use of petty cash accounts, improved purchasing, handling, distribution of fuel and supplies, better control of vehicles with an effective maintenance and repair system. Without a well-functioning logistic support for extension projects, they will not succeed.
8. More direct attention to project operations and problems is needed by you and your staff. I would suggest that you visit the Project every two months and allow time for field trips on each visit. Also it would be extremely helpful to review the recommendations in each of our Quarterly Reports, meet with the top staff about ten days after these reports are

mailed out, and act on each recommendation. I personally feel that this could greatly improve project operations.

9. Improved use of various international services is suggested. There are numerous organizations world-wide with good experience and specialists who could assist in many aspects of operating extension programs. Many of these services are free, and others are available at very low costs. I have been involved in other projects where up to one-half of technical assistance was obtained free or at a minimum cost. Organizations such as the 12 International Institutions (CIAT, etc.), World Neighbors, Rodale International, IICA, and national volunteer groups from the USA, England, Canada and Germany should be contacted after careful analysis of needs with proposals have been prepared.
10. Better collaboration and special projects on natural resource conservation is recommended. Poor management of Panama's natural resources is rapidly resulting in serious erosion problems, pollution of the environment, lower production, and reduced standard of living. In this project we have encouraged more conservation farming, stricter controls on toxic pesticide use, and self-sustaining farming practices. But, in reality, up until now very little progress has been made. Some of these types of programs have been successful in other countries such as Honduras. They should be studied. More programs in agro-forestry, soil conservation, community and home gardens, use of organic fertilizers, regenerative farming practices, and a drastic reduction in toxic pesticides should be incorporated into all extension projects.

Once again, I appreciate being able to participate in this project and the cordial association with you and many other officers. Good luck in your endeavors to help provide better farmer services throughout Panama.

Attachment

cc: Dr. Ivan Gonzalez
Ing. Alfredo Henriquez
Ing. Damaris Chea
Ing. Cayo Julio Rodriguez

Appendix B

List of Papers Written by Jack Dee Traywick
while with ATT Project 1985-87

1. Participation in International Conference on "Global Perspectives on Agro-Ecology and Sustainable Agriculture. October, 1986.
2. Summary of Recommendations after a Two-Year Period of Short-Term Consultancies of Dr. James Heinzen, Admin./Management Specialist. October, 1986.
3. ATT Project. Indicators of Technology/Knowledge Transfer and Progress/Performance: Internal Evaluations (Summarized by JT). December, 1986.
4. ATT Project. Summary of Project Paper Design, Methodology, and Recommendations Compared with Present Orientation and Operational Approach. October, 1986.
5. Eight Quarterly Reports on Project Activities, Major Problems, Recommendations and Appendixes.
6. Additional Professionals and Technical Staff Needed in the ATT Project. July 1, 1986.
7. An Extension Approach for the Chiriqui Province ATT Project: Early Stages of Application. July, 1986.
8. Crops and Commodities Considered for Improvement or Introduction and Testing in Chiriqui (ATT Project). July, 1986 (Revised List). Table form.
9. Proposed Twelve-Month T.A. Work Plan, Methodology and Strategy. January, 1985. T.A. Team.
10. Progress Report on T.A. Project Activities. February, 1985. T.A. Team.
11. Long-Range A.T.T. Project Training Plan. Draft. April, 1985. T.A. Team.
12. ATT Project Long-Range and Annual Work/Operational Plan Proposal. (Developed during 3½ day Workshop with 36 Project Participants). April, 1985. T.A. Team.

Appendix B. - Cont'd

13. Additional Technical Staff Needed in A.T. Project. Memorandum form. Jack Traywick. June 1985. (Detailed justification for 20 more technical staff).
14. Critical Issues to be Resolved Between Responsible Parties - ATT Project. August, 1985.
15. An Extension Approach Concept Proposed for Implementation in 1986 and Beyond. Jack Traywick and Francisco Rodríguez. September - Revised December, 1985.
16. Summary of Reasons Why the Present Method or System of Technology Transfer in Chiriqui is Not Successful. September, 1985.
17. Brief Progress Report of ATT Project Activities. September, 1985.
18. Proposal for Establishing a Center for Information, Communication, Education, and Extension (CICEE). T.A.Team. September, 1985. Revised JDT, December 1985.
19. The Maize Crop in Chiriqui - History, Present Status and Constraints Beyond Production Technology. December 1985.
20. Brief Summary of ATT Project Status, Constraints and Proposed Action for Goals Implementation. October, 1985.
21. NOTICIERO PTTA - Nos. 1 & 2. ATT Project Newsletter - JT member of Editorial Committee. (Note: Because of expenditure and operational problems, no other newsletters were published).
22. Making Agricultural Extension Programs More Effective. March, 1987.
23. Strategy for Implementing the Agricultural Technology Transfer Process in Chiriqui Region No. 1 - ATT Project. February, 1985.
24. Levels and Stages of Technology--How to Measure, Recommend Stages and Record Forms. March, 1987.
25. ATT Project Training Plan for Last Half of 1985. With Eng. Francisco Rodríguez. July, 1985.

APPENDIX C

A.T.T. PROJECT - CHEMONICS CONTRACT

LONG-TERM & SHORT-TERM TECHNICAL ASSISTANCE
OCTOBER 1985 - JULY 1987 (With Projections)

Name and Specialty	Starting Date	Ending Date	Person Month*	Comments Notes
1. Dr. Jack Dee Traywick, Team Leader & Specialist in Extension Administration	Dec.19/84	Jun.19/87	30	
2. Ing. Francisco Rodríguez, Extension Training Specialist and Deputy Team Leader	Oct.25/84	Dec.31/86	27	Terminated 30-month contract early to accept position in Peru
3. Dr. Jeffrey Jones, Area Surveys, Data Collection/ Analysis, CALS, Training Specialists	Jan.1/85	Jan.1/87	12	Classed as short-term con- sultant. Combined two short-term positions: Program Development Spec. Community Development Spec.
4. Dr. James Heinzen, Administrative/Management/ Fiscal Affairs Specialist	April/85	May/85	1½	Combined 3 short-term po- sitions: Project Mgmt., Administration and Fiscal Affairs Specialist (Plus 2½ special assignmen
	July/85	Aug./85	1½	
	Oct./85	Nov./85	1½	
	Apr./86	May/86	1½	
	Aug./86	Sept./86	1½	
			7½	
5. Omar Seritella Audiovisual Communication	May 1/85	May 15/85	½	
6. Dr. Jairo Cano, Communication/Audio visual Specialist	Dec./85	Dec./85	3/4	New short-term position-- Later augmented by Pan- amanian specialist
	Jan./86	Feb./86	1	
			1 3/4	
7. Dr. Charles Atlee, Horticultural Production Specialist (Vegetables)	July /86	Sept./86	1 3/4	May return in 1988 for one more month
	June /86	Aug./86	2	
	Apr./87	May/87	1	
			4 3/4	
8. Dr. Saúl Camacho, Horticultural Production Specialist (Fruits)	July /86	Sept./86	2	Programmed
	July/87	Sept/87	1	
			3	
9. Bruce Michener, Marketing Specialist	Aug./86	Sept./86	1	
10. Dr. Rafael Diez, Management/Fiscal Affairs Specialist	Dec./86		3/4	Continued work of Dr. J. Heinzen and helped improve Project Management Systems
	Feb./87	March/87	3/4	
	April/87		3/4	
	May/87		½	
			2-3/4	
11. Ing. Washington Bejarano, Extension Training Specialist	Dec./86	Dec./87	12	It was proposed that Ing. Bejarano continue at least until September 1988.

MODELO TECNICO DE TRANSFERENCIA DE
TECNOLOGIA AGROPECUARIA

Este modelo se basa en la existencia de una estrecha interacción entre el investigador, el extensionista y el agricultor, desde el inicio hasta el final del proceso. El modelo tiene los siguientes pasos:

1. Es aplicable para áreas geográficas específicas, en los sistemas de producción más relevantes y con grupos homogéneos de agricultores. Por lo tanto se inicia el trabajo con un sondeo o diagnóstico del área, el cual proporciona un conocimiento adecuado sobre la forma y el medio en el que realiza el agricultor sus actividades.
2. Este diagnóstico permite la identificación de los problemas que tramitan la productividad de los sistemas de producción y determinación de los factores que afectan negativamente la producción del área.
3. Luego se realiza el diseño (conjuntamente entre investigadores, extensionistas y agricultores) de las alternativas tecnológicas de solución a los problemas del agricultor, para que las instituciones de investigación generen o adapten la tecnología requerida, por medio de la investigación básica y de la investigación aplicada realizada en fincas de productores.
4. En este paso, las tecnologías desarrolladas por la investigación como soluciones potenciales al problema del productor, son sometidas a una prueba (validación) en comparación con la práctica tradicional, por un grupo de agricultores en sus propias fincas, bajo el manejo directo del productor.
5. Finalmente la tecnología que demuestra en la validación, que es factible técnicamente (manejo del productor), viable económicamente (con recursos del agricultor), que tiene factibilidad económica (mayor beneficio) y presenta menor riesgo; pasa a la fase de transferencia, en donde el productor la pone en práctica y la evalúa con su capacidad de manejo, para luego adoptarla o rechazarla.

AREA DE TRABAJO CON ESTE MODELO

Este sistema de transferencia se pondrá en ejecución en las agencias de Progreso, San Andrés, Concepción, Volcán y Río Sereno, en las cuales están representadas las cuatro áreas ecológicas en las que se dividió la Provincia de Chiriquí para la ejecución del Proyecto.

AGRICULTORES DE CONTACTO

Las cinco agencias mencionadas tienen 6,000 fincas, por lo tanto los agricultores que recibirán capacitación para adoptar las tecnologías recomendadas serán 4,000, que representan el 65% del total establecido por el proyecto

RUBROS CON LOS QUE SE TRABAJARA

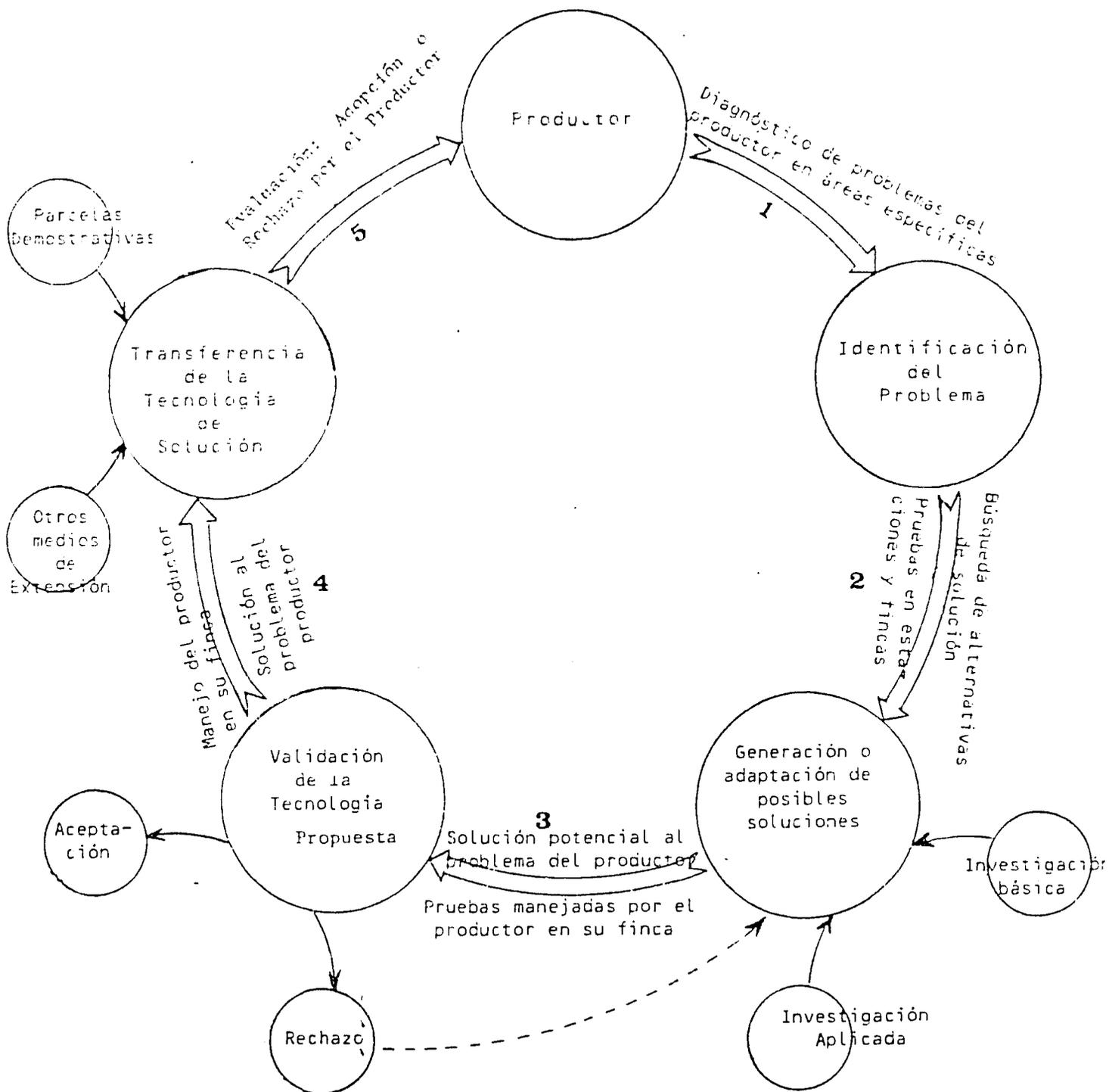
Se trabajará con los rubros más importantes de cada una de las agencias:

Progreso:	Arroz Maíz Sorgo Plátano Cacao	Volcán:	Papas Cebolla Hortalizas Maíz Frijol
San Andrés:	Maíz Frijol Frutales Ganado vacuno	Río Sereno:	Café Maíz Frijol Plátano Ganado Vacuno
Concepción:	Maíz Frijol Frutales Ganado Vacuno		

NUEVO MODELO DE TRANSFERENCIA DE TECNOLOGIA AGROPECUARIA

PTTA - CHIRIQUI

(Modelo productor-investigador-extensionista-productor)



AN OPERATIONAL AGRICULTURAL TECHNOLOGY TRANSFER SYSTEM DEFINED.

APPENDIX E

(Example of Report during the 30-month period)

AGRICULTURAL TRANSFER OF TECHNOLOGY PROJECT - CHIRIQUI

Brief Report on Activities of
Technical Assistance Consulting Team
April 1 - September 20, 1985

September 20, 1985
David, Chiriqui, Panama

Jack Dee Traywick
Team Leader, PTTA Project
CHEMONICS International
Consulting Division

INTRODUCTION

The first Quarterly Report was presented in March. As a result of a series of factors which have seriously affected the Project's orientation and retarded progress, it was decided to combine the second and third quarter activities into one progress report. This report is now being drafted and will be presented at the end of October, after discussions and editing in the headquarters office in Washington.

Meanwhile, we are presenting this brief summary of principal activities by the CHEMONICS technical assistance team, in collaboration with the ATT project administrative and technical staff.

Recently, we prepared two papers dealing with the critical issues that urgently need to be resolved and describing the major reasons why present technology management and extension methods in Chiriqui are unsuccessful. Therefore we will concentrate in this brief report on efforts and activities which are beneficial to the Project's progress.

The different activities listed and described are for the period April 1st until the present date.

PLANNING/PROGRAMMING/ADMINISTRATION

1. International Study Team Assistance

Helping plan and implement the International Study Team for a National System of Agricultural Technology Management. The Team Leader in particular spent more than one month on early proposals, coordinating the preparation of objectives and terms of reference for the Team, preparing for the Team's reference material, interviews, field travel and other logistic support activities. He and other T.A. team members travelled some with the Study Team, assisted in meetings and in reviewing draft documents. Several of the ATT Project staff helped prepare material, present a report of the Project, travels and discussions. Funds to finance this Study Team (about \$130,000) were supplied from the ATT Project's short-term consultant line item.

2. Planning and Arranging for Short-term Consultants

In addition to two full-time specialists, Jack Traywick and Francisco Rodriguez, several short-term consultants were planned for. One consultant in Data Collection Analysis and Community Development, Dr. Jeffrey Jones, is on contract for this calendar year. A second one, Dr. James Heinzen, Specialist in Administration and Fiscal Affairs, has been contracted for several 6-weeks consultancies. Since April he has completed two assignments, and will arrive September 30th for his third period of work. In April, Mr. Omar Serentelly, Specialist in Audio-Visual Training/Communication, assisted the Project for two weeks. Dr. Charles Atlee, Consultant in Horticultural Crop Production Technology, completed a seven-week assignment September 8th. His final report is being distributed. This consultant proved very successful, with excellent feedback and requests for his return.

Three other short-term consultants have been discussed and planned for the last quarter of 1985--a specialist in tropical and sub-tropical fruit production (and farming systems), a marketing economist, and a specialist on audio-visual training. It has been agreed tentatively, subject to approval, that the marketing economist will be provided through the new marketing project. This should provide good coordination between the public and private sectors, and will help conserve scarce short-term funds in the Project.

3. Assistance on Administrative Improvement, Work Plans, and Budget Management

With the help of a short-term consultant, the CHEMONICS Team has assisted with administrative improvement by studying ways to streamline operations, helping train an administrator, and presenting a workshop on administrative procedures. Another 3 1/2

day workshop, with 36 project participants, was given on developing functional work plans.

In addition the short term consultant, Dr. Heinzen, studied Project budgetting and resource control problems and procedures. He made several recommendations for improving the efficiency of fiscal affairs activities.

4. Inter-institutional Collaboration

Six half-day seminars were conducted with the help of several specialists outside of the Project, in an effort to improve collaboration among different institutions involved in farmer-service activities. Specialists included: Dr. Andrade and Dr. Ruiloba from IDIAP; Ing. Arturo Vasquez and two experts from MIPPE and the Faculty of Agronomy, as well as Ing. Humberto Tapia, National Director of SENEAGRO.

Also brief meetings were held with several leaders in the private sector plus participating in two regional agricultural meetings (CAR).

In the field and at Agency headquarters, other contacts were made and discussions held with agricultural input supply companies, bank credit persons, farmer group leaders, etc.

5. Review of Staff and Project Personnel Requirements

One of the most critical limitations of the Project is the shortage of well-qualified specialists and technicians. Detailed studies of staff needs have been made and recommendations for additional staff were made to the Director in June. Recently a new study was made by an 11-member working group. New proposals are being prepared. This remains a major issue.

6. Preparation of Work Plans

In April and July, comprehensive annual work plans were prepared with some participation from Project leaders and technical staff. However, much difficulty has been experienced in getting a functional Work Plan finalized and approved. Numerous staff changes and lack of experience on developing and following work plans have delayed this work.

During the past week, another 2 1/2-day workshop was conducted by the 11-member working group in order to complete two work plans, one for October-December 1985, and the other for 1986 calendar year. These two plans will be presented for approval around October 1st.

7. Expanded Office Facilities

During the first several months, the T.A. Team, three secretaries

and trainees were crowded into one room. Finally, with some Project funds and \$600 of Chemonics overhead funds, three additional offices were renovated and furnished. One of the offices is used as a meeting room and mini-library. The extra space has greatly facilitated project staff working together, computer training and use, and work efficiencies.

8. Job Descriptions

Numerous attempts have been made to encourage the preparation and use of job descriptions, especially following the reorganization of staff in May. Some sample job descriptions were written.

With adequate and realistic job descriptions, much better staff efficiency and evaluation could be obtained.

Finally, in the most recent workshop, it was decided to draft proposed job descriptions and request Dr. James Heinzen, who returns September 30th, to help finalize these. It is hoped that these job descriptions will be put into practice at an early date.

9. Mini-Library Started

The Project is desperately in need of more reference material on appropriate production techniques and many other aspects of farmer services. Recently a small library was started with about 130 documents. Efforts are being made to collect several hundred more publications from consultants, public institutions and various private organizations. Once the Center for Information, Communication, Education and Extension (CICEE) begins to function, this library will be turned over. Hopefully it would be expanded into a full-scale information service.

10. New Extension Model

It has been apparent for some time that many innovative changes are needed to develop an effective method of technology transfer in Chiriqui and all of Panama. A different orientation should be made towards exportable crops/commodities/agricultural produce with competitive advantages as well as producing for reducing imports. The T.A. Team has been developing innovative concepts and methodology for a new extension model or approach. We have had a few small discussion groups and are continuing to improve the draft proposals. Hopefully within the next two months after this new innovative approach has been presented for consideration and discussed, it will be approved and implemented for 1986.

Agency, Farmer-Service Development and Training

11. Field trip to Sur de Veraguas, Parita and Los Santos

Six members of the ATT Project Staff travelled with Ing. Tapia to three other extension projects in Veraguas and Azuero. This was a valuable field trip, with excellent interchange of ideas, field evening discussions. Although the field trip was in late March, some follow-up discussions were held with five extensionists from Sur de Veraguas, now studying in Chiriqui for Ingeniero Agronomo degrees. Also attempts are still underway for six Jefes de Agencias to spend at least one week with the Project in Sur de Veraguas, in a learning-by-doing training exercise.

12. Field Days

The CHEMONICS T.A. Team and a few of the Project staff have participated in four field days sponsored by IDIAP and MIDA.

13. Seminar on Horticultural Crops

A very successful 3 1/2-day seminar, including field trips, was conducted by Dr. Charles Atlee, Consultant on Horticultural Crop Production. Twenty-eight participants from extension, IDIAP, farmer cooperatives and private farmers took part in this field day. This seminar should set an example for other consultants to follow. It is planned for Dr. Atlee to return next year and devote another two months to helping other areas, establish more effective vegetable production and extension programs.

14. A Comprehensive Training Plan

A long-term training plan was drafted in April and has recently been brought up to date. This is being studied and we are waiting for approval and funds for implementation. USAID will prepare a PIL (Project Implementation Letter) to be approved by the Minister of MIDA, so that funding and support can be assured, and so that progress can be monitored. Hopefully, more integration of training activities with other organizations can be accomplished.

15. Working Agreements

Proposed collaborative agreements have been prepared to work more closely with IDIAP, FAUP and MIPPE. Hopefully, all of these can be put into effect soon for more effective training. With the Faculty of Agronomy, besides short-term training efforts, proposals have been made to allow 10-12 ATT staff to complete their Ingeniero Agronomo degrees with a specialty in Extension (audio-visual, communication, teaching, farm management, etc.). The cost is only about \$50/month per student, or a total of \$25,000. We consider this an excellent concept, perhaps better than MSc training for most of the staff.

16. Data Collection, Analysis and Use

Several different sub-projects and activities have been carried out. Some of them are still continuing. These include:

1. Development of baseline documents for agency planning and setting priorities on commodity programs. More than 1,000 farmer interviews have been computerized and the material analyzed.
2. An evaluation framework for the project is still being finalized.
3. A technology catalog, or a computerized data base, that can be continually up-dated, has been developed.
4. A mini-sondeo scheme, tied in with priority crops sub-projects, is being implemented. The first two sub-projects are pineapple production, and a multi-project including improving milk quality, calf production and pasture management.

Summary

The Team and at least some of the Project staff realize that, due to many constraints, many planned activities have not been completed thus far this year. Major efforts are being made to restructure the Project for more direct control and better use of resources, improve project personnel and team spirit, develop more incentives, do a better job of coordinating work plans, and carrying out of planned training activities, and incorporate the participation of many other public and private groups. If the constraints can be removed, and if the recommendations for new innovative approaches are accepted, the Project should show dramatic progress during the next year.