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# COMMUNICATION FOR TECHNOLOGY TRANSFER IN AGRICULTURE PROJECT
(AID/S&T 936-5826)

# CTTA

# Final Report

# Honduras Agricultural Research Foundation (FHIA)

**October 1985 - June 1988**

This report summarizes the activities and plans completed during this period. Contributors include:

PRIME CONTRACTOR:
Academy for Educational Development

SUBCONTRACTOR:
Cornell University College of Agriculture and Life Sciences

The Communication for Technology Transfer in Agriculture (CTTA) Project is jointly managed and funded by the Offices of Education, Agriculture, and Rural Development of the Bureau for Science and Technology of the United States Agency for International Development in collaboration with Regional Bureau Technical Staff and the USAID Mission at each collaborating site. Technical services are provided by the Academy for Educational Development under Contract No. DPE-5826-C-00-5054-00.

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# I. Executive Summary

The Honduran Agricultural Research Foundation (FHIA), a private, autonomous research organization, in La Lima, Honduras, was founded when United Brands Company closed its Tropical Research Center for banana and plantain. United Brands donated the research facilities to the new Foundation with the condition that funds be found to support its activities.

FHIA's founding mandate was to help Honduran farmers increase their agricultural efficiency and output. In addition to research-based activities, two support units had to be created 1) a communication unit that would enhance dissemination of information about agricultural technologies from the research station to its multiple audiences; and 2) a development/ fundraising strategy and division to promote FHIA activities and attract operation funding.

The Communication for Technology Transfer in Agriculture (CTTA) Project received funding in 1985 through USAID/Tegucigalpa to help FHIA build these capacities. The Academy for Educational Development (AED), with major assistance from Cornell University, guided development of these capacities from October 1985 through project end in June 1988.

When the project started, virtually no communication or development staff, facilities, or equipment existed. By project end, a communication and training center had been renovated and equipped which consists of administrative offices, a library, a public relations unit, a radio/television studio, audiovisual storage space, a printshop, a graphic arts unit, a photography unit, and writing and editing facilities.

Cornell University contracted a senior agricultural communication advisor and a development advisor to work with FHIA to staff and develop the units. Throughout the three-year contract, Cornell also supplied advisors who assisted with needs assessments and development of communication strategies and plans, facilities design, equipment purchases including complete computer systems, and desktop publishing and information dissemination software.

CTTA advisors also trained FHIA staff in skills such as printshop procedures, library documentation and organization, and graphic techniques for publications. A series of in-house seminars was designed and are continuing to stimulate exchange among FHIA scientists. Furthermore, these seminars laid the groundwork for scientists' participation in professional networking and exchange activities. Also, publications such as technical bulletins and general FHIA promotional materials, and graphic and audiovisual materials are routinely prepared and produced in-house.

As the communications and training components were being introduced there was an equally strong initiative to establish a development division to organize public relations and fundraising activities. It was crucial that FHIA's activities be documented and presented in a format that would quickly attract donors and therefore assure funding for high-quality research and dissemination activities.

During CTTA, FHIA produced a Development Prospectus suitable for presentation to ambassadors and other potential donors, a series of English and Spanish promotional brochures, and the first FHIA Annual Report, in Spanish and English. In addition, an important public relations coup was realized when articles about FHIA appeared in Discover and Time magazines. These and other public relations and development efforts during CTTA substantially enhanced FHIA visibility and helped demonstrate FHIA's potential contribution to improve Honduran agriculture.

When summing up CTTA support of FHIA development and communication activities, Blair Cooper, USAID/Tegucigalpa, said, "The CTTA activity with FHIA has succeeded in establishing a dynamic Communication Department in FHIA."

# II. Project Objectives

The Honduran Agricultural Research Foundation (FHIA) was created in 1984 to help farmers improve their agricultural output with the objective of increasing exports of traditional and nontraditional crops and providing adequate domestic food supplies for Honduras. In 1984, FHIA was the only private, autonomous agricultural research organization in Honduras and Central America.

The major impediments to expanding agriculture in Honduras were identified as low productivity and a weak technology transfer system for supporting and broadening the existing crop base. Beginning with these facts, FHIA was designed to support development and expansion of agricultural research to benefit small and middle-sized farms in Honduras and promote technology transfer that considers the constraints faced by Honduran farmers.

FHIA's goals are to

1. develop agricultural technology that supports and advances the productivity of traditional and nontraditional products for export
2. provide specialized agricultural technical services to producers and private and public organizations
3. assist government and private programs that increase production of staple foods
4. share with farmers and other users technical information that contributes to the planning and development of agriculture.

# III. CTTA Scope of Work

As a major funder to FHIA, USAID divided the above objectives into blocks of needs, one of which was to improve communication and fundraising/public relations capabilities. In 1985, USAID awarded a contract to the Academy for Educational Development that contained three interrelated goals:

- to develop a communication unit to support technology dissemination from FHIA research staff to government extension officers, cooperatives, and farmer organizations, and farmers
- to supply the unit with communication equipment and computer hardware and software to support its activities
- to create a development/fundraising strategy and division to support FHIA financial needs

AED, with major input, through a subcontract, from Cornell University, implemented this contract through the CTTA Project. Primary funding was provided through buy-ins to the centrally funded project by USAID/Tegucigalpa. USAID managers during the three years of project activities were Dr. Gordon Straub, Mr. Richard Owens, and Mr. Blair Cooper. Project CTOs during the period were Dr. Anthony Meyer, AID/ S&T/ED; Dr. Clifford Block, AID/ S&T/ED; and Dr. Chloe O'Gara, AID/S&T/ED.

# IV. Accomplishments

CTTA set about achieving the above-listed goals concurrently, first with short-term, and then with long-term advisors to support development/ fundraising and communication activities.

## A.Communication Division

A major challenge and high priority of CTTA was to develop a comprehensive communication plan that would support the FHIA mandate to establish a functioning communication division containing communication, library, and training sections. The tasks of these sections would include supporting FHIA staff needs, providing training support for work with extension workers and farmers, disseminating information about technologies developed by FHIA scientists, and sharing information with national and international agricultural research institutions.

## 1. Selecting, Preparing, and Equipping Facilities

To accommodate the required communication and development functions of FHIA, new facilities had to be renovated near the existing FHIA compound. William B. Ward, Agricultural Communication Specialist, Cornell University, and H. James Miller, Architect, Arbis, Ltd., travelled to Honduras in October 1985 to examine architectural plans for the FHIA Communication Unit. Appropriate facilities were essential for implementing CTTA activities.

The four FHIA units in need of facilities were training, communication, library and information services, and development and public relations. Ward and Miller recommended that all four be accommodated in the proposed Communication Center because of the need for daily interaction between them. Several proposals were considered and accommodations were eventually developed on a one-acre plot immediately adjacent to the FHIA administrative offices. Throughout the project, Ward and Miller continued to visit FHIA and advise on facilities design and use, fire and other safety issues, and communication installations.

Fully equipped facilities now exist for administration, public relations, training, and communication (including radio/television studios, audiovisual storage, a printshop, a graphic arts facility, a photography unit with darkrooms, and writing and editing facilities). The library remains on the top floor of the FHIA Administration Building, but soon will be moved to a renovated building adjacent to the communication facility.

Major effort went into identifying, purchasing, and shipping communication equipment and vehicles to support FHIA activities. Early in the project, Gary Hermance, Florida State University, prepared a comprehensive list of computer, printing, and audiovisual equipment to be purchased to support the communication unit. His suggestions were expanded upon by assistance from Howard Ray and Edwin Tout, Academy for Educational Development, who refined the lists with FHIA staff. Approximately $160,000 of equipment was purchased and shipped to FHIA through Franklin Export Trading Company, Inc. (See Appendix II).

In addition to helping choose and purchase equipment, CTTA provided short-term technical assistance to install the more complicated equipment and train FHIA staff in its use. For example, Christopher Pelkie, Cornell University, travelled twice to FHIA to configure computer equipment and train staff in its use. FHIA had three different computer groups -- IBM, Wang, and Macintosh -- and several software packages, and computer needs varying from routine wordprocessing to desktop publishing and data base management. Pelkie worked with FHIA staff to interface the groups and software and provided training in a variety of computer applications.

## 2. Developing Communication Capabilities

For FHIA's research to have the desired impact, it must have an effective communication and outreach program, which requires having professionals in positions of authority who can carry out a communication plan. It was the responsibility of CTTA long- and short-term advisors to staff the Communication Division and to help section heads set objectives for, design, and implement communication programming.

Cornell University began its responsibilities to the FHIA Communication Division by identifying and selecting a senior agricultural communication advisor, Dr. Jairo Cano. With his posting in Honduras, Cano became the coordinator of communication support to FHIA from Cornell and the Academy, and the chief organizer of the Communication Division. He was assisted in strategy development by staff from Cornell, including William Ward and Royal Colle.

Major tasks included setting Division goals and defining operating philosophy, systems, and procedures; identifying, hiring, and training communication staff; and installing equipment.

Royal Colle visited FHIA several times to help FHIA develop operating strategies of the Communication Division to support the FHIA mandate. These strategies emphasize an integrated research and communication design, and include interactive components to support the transfer of technology at the farmer, agribusiness, and exporter levels. The plan was designed complement FHIA commodity and disciplinary research, and calls for establishing small satellite communication units in commodity production areas.

These units, if developed, would be located at FHIA experiment and demonstration farms and incorporate various components of an outreach program that would include producers and agencies and institutions involved in agribusiness, cooperatives, research, credit, exports, and information dissemination.

Other activities CTTA identified and supported as necessary to develop a strong communication capability included

- reviewing and commenting on FHIA's Integrated Action Plan (William Ward, Cornell University);
- arranging visits by FHIA staff (Fernando Fernandez, Christopher Millensted) to Cornell University and AED to familiarize them with the types and levels of services they could expect from the subcontractor and contractor;
- studying FHIA's computer hardware and software to recommend future development directions for equipment and training (Charles McCulloch and Christopher Pelkie, Cornell University);
- systematizing the information contained in FHIA's computer databases (Charles McCulloch);
- helping prepare job descriptions and review candidates' qualifications for a biometrician and a specialist in computerized information services (Charles McCulloch);
- reviewing and recommending communication support equipment and production arts hardware (Gary Hermance, University of Florida);
- initiating inventory and distribution procedures for FHIA communication products and services; and
- providing short-term technical assistance in writing and editing technical publications (Victor Hugo Porras, Universidad de Costa Rica and Christina Kessler, private consultant), and communication strategies (William Ward and Royal Colle, Cornell University).

## 3.Expanding Library Capabilities

Another CTTA objective was to help FHIA expand its library services to reflect the Foundation's expansion into research on vegetables, cacao, and citrus fruits. This was partially achieved by recommending acquisition of a broad range of publications in different agricultural research disciplines and by improving documentation services.

The scientific library administered by the Communication Division currently contains 4,500 books, 4,400 bound journals, and 10,000 pamphlets, some of which are in five languages. During the contract, the FHIA library staff, under the direction of head librarian John Moran, prepared all the complete volumes of unbound journals for binding (200 volumes) and circulated a list of previously and currently received journals for review by professional staff. Based on the review, an order list will be prepared and contracted to a subscription agency.

During the contract, CTTA provided consultants to train and advise library staff in modern, efficient documentation procedures, and database management and equipment needs. Howard Curtis, Cornell University, identified the following areas challenges for the FHIA library: collection development, document delivery services, under-utilization of scientific information resources by researchers, cataloging backlog, space planning, internal library management, and maintenance of FHIA document archives. For each, he described key issues and recommended solutions.

In summary recommendations, Curtis wrote

> *To improve its role in support of the research process and to enhance its credibility with the research community, the FHIA Library must make a measured but solid commitment to improving its collection of scientific journals, institute a competent document delivery service, grow more proactive in its interactions with FHIA researchers, solve its technical processing problems, improve and modernize its information*

*services to researchers, and upgrade the skills of its staff.*

### 4.Training/Networking Activities

The training/networking component of the CTTA contract accomplished considerable transfer of skills and initiated several successful networking activities that will contribute substantially to FHIA's knowledge base and expand its dissemination capabilities.

As noted in the *Prospectus* prepared by FHIA's Office of Development,

> *FHIA has no intention of going it alone....One of the Foundation's unique characteristics is its desire and ability to establish and maintain strong linkages with pertinent research, training, and communication efforts both within and outside Honduras.*

Honduras already had related agricultural dissemination activities in the Ministry of Natural Resources (MNR) and the National in Agrarian Reform Institute (INA). FHIA needed to solidify its relationships with these two groups in order to disseminate its own research information through established channels such as demonstrations, on-farm trials, technical publications, newspapers, and other media. Efforts would also be required to train extension personnel and others as part of the research dissemination process.

Before establishing the Training and Network Unit, internal seminars were given by CTTA short-term advisors to FHIA staff on how to obtain information for planning and establishing such a unit. Topics included training needs assessment; types of training; duration, audiences, and purposes for training; participation of internal and external personnel as instructors; budgets; trainee selection; and formative and summative evaluation.

By the end of CTTA activity with FHIA, short-term technical advisors had helped Communication Division personnel establish sound relations with INA and the MNR. CTTA also had helped establish a Training Department and assembled a staff which developed and carried out a series of technical training sessions including field days and training courses for producers and extension workers. A field day for the citrus program, a workshop on agricultural diversification, and cacao production courses for producers were also offered by the Training Department. Further dissemination and networking activities included presentations by Fernando Fernandez, FHIA Director General, and four FHIA scientists at a scientific conference at the University Center in La Ceiba.

Scientific publishing is another means of effective networking and disseminating research findings. During CTTA, FHIA prepared and distributed *paginas divulgativas* on army worm and cacao, *fasciculos* on citrus and cacao, and *informes tecnicos* on citrus and soya.

Equally important in the training component was the establishment of inhouse seminars to stimulate scientific consultation and to create a supportive internal network of fellow scientists. For example, the Communication Division organized a series of monthly scientific seminars, the first of which was entitled *Produzca Cacao de Calidad y Entre an un Mercado Mas Seguro y Rentable*. Some seminars were recorded and distributed as technical bulletins.

## B.Development Division

United Brands Company closed its Tropical Research Center at La Lima and donated its facilities and world-renowned banana research center to FHIA on the condition that the Foundation would raise funds to support the center and maintain the facilities.

USAID/Tegucigalpa provided $20,000,000, over 10 years, to FHIA as seed money. The Foundation also determined that during the same period $7,000,000 would need to be raised from the private sector and other donors. From the beginning, strong reservations were voiced as to FHIA's ability to attract donor funds and the unrealistic goals set for such a new institution. Although CTTA made good progress in developing both communication and development capabilities, active fundraising activities did not actually start until early 1987.

Under CTTA, Cornell University identified, contracted, and posted G. Christopher Millensted as long-term development advisor; developed a series of English and Spanish

promotional brochures for FHIA; prepared and distributed FHIA Annual Reports; and generated Annual Technical Reports, Workplans and Budgets, and newspaper releases (See Appendix IV).

Capturing a mass audience was one important goal of the fundraising effort. This was realized when two articles were carried on the FHIA program in *Discover* and *Time* magazines. Meanwhile, several other international magazines have been contacted regarding possible articles on the Banana and Plantain Breeding Program.

Other CTTA initiatives in support of fundraising activities included letter solicitation of all Foundation Board members, which resulted in receipt of donations from Honduran sources; sponsorship of study tours by development staff to Cornell University, where the advisor met with fundraising experts from the university foundation, and to Winrock International where staff members received training in fundraising and development administration; and fundraising trips to New York, Washington, and Michigan.

In 1987-88 the Development Division, with assistance from William Ward, completed a *Development Prospectus* which will be used for fundraising purposes worldwide. Ward was primary author of the Prospectus and was assisted by Royal Colle in monitoring its production. The current strategy of the Development Division is to first seek financial support from the private sector in Honduras, and then expand fundrasing activities to include outside sources. Thus FHIA will be able to show strong in-country support while raising funds from sources in other nations. A prominent Honduran banker and agriculturist, Jorge Bueso Arias, is leading a team of four Honduran volunteers in fundraising activities in Honduras for FHIA. Additional documentation of FHIA's mandate, financial situation, and sustainability also was prepared.

Promotional and lobbying activities have already proven effective on the national government level, coming in the form of support to the banana breeding program. It was recently announced that FHIA would receive part of a Honduras government tax on banana exports. The Union of Banana Export Producers and Ecuador also have agreed to contribute to FHIA programming. Additionally, ambassadors of several countries were approached for support of FHIA's core budget and of special projects. Countries contacted include Italy, Germany, the United Kingdom, and Japan.

# APPENDIX I
## Technical Assistance and Trip Reports

### Technical Assistance Schedule

| Consultants/Authors | Task | Date |
|---|---|---|
| **1985** | | |
| Howard Ray<br>Susan Saunders<br>Dennis Foote<br>Kerry Byrnes<br>Gerald McCart | Implementation Plan | 10-26-85 |
| William Ward<br>James Miller | FHIA Facilities Plan | 10-28-85 |
| **1986** | | |
| Royal Colle | Cornell Management | 02-05-86 |
| Gary Hermance | FHIA Equipment List | 02-13-86 |
| Kerry Byrnes | Citrus Grower Study | 02-16-86 |
| Howard Ray | AED Management | 03-14-86 |
| Edwin Tout<br>Edward Williams | Fundraising Materials | 04-13-86 |
| Cristina Kessler | Fundraising Materials | 07-10-86 |
| William Ward<br>Edwin Tout | FHIA Communication and Development Units | 08-28-86 |
| **1987** | | |
| William Ward | Integrated Action Plan | 01-23-87 |
| Charles McCulloch | FHIA Computerization | 01-24-87 |
| Edwin Tout | FHIA Equipment | 02-14-87 |
| James Miller | FHIA Fire Safety | 02-16-87 |
| David Thurston | Scientific Networking | 03-29-87 |
| Howard Ray | AED Management | 04-02-87 |
| William Ward | Development Prospectus | 08-27-87 |
| Victor Porras | Scientific Publication | 12-01-87 |
| Howard Ray<br>Gail McClure | AED Management | 12-05-87 |
| William Ward | Development Prospectus | 12-17-87 |
| Chris Pelkie | FHIA Computerization | 12-23-87 |
| **1988** | | |
| Chris Pelkie | FHIA Computerization | 06-25-88 |
| Howard Curtis | FHIA Library | 07-01-88 |

## Trip Reports

# COMMUNICATION FOR TECHNOLOGY TRANSFER IN AGRICULTURE
# TRIP REPORT

**CONTRACT NUMBER:** DPE 5826-C-00-5054-00

**COUNTRY:** HONDURAS

**TEAM MEMBERS AND DATES**

| | |
|---|---|
| Howard E. Ray, AED | October 1-6 and 15-19, 1985 |
| Susan Saunders, AED | October 1-25, 1985 |
| Dennis Foote, ACT | October 1-25, 1985 |
| Kerry Byrnes, Consultant | October 1-25, 1985 |
| Jerry McCart, Consultant | October 1-25, 1985 |

## PURPOSE

The purpose of the technical assistance mission was to initiate project start up activities at the primary pilot site. The primary activities included:

1. Selecting the location of the site for the pilot project;

2. Developing and negotiating the Letter of Understanding between the Agency for International Development (USAID), the Agricultural Communication Unit (ACU) of the Ministry of Natural Resources (MNR), and the Honduras Agricultural Research Foundation (FHIA); and

3. Developing the life of project Implementation Plan with the ACU and Regional Directorate of the MNR and FHIA.

## SUMMARY OF ACTIVITIES

1. Site Selection

Two regions were considered as potential locations for the pilot project site: Danli and Comayagua. Following brief visits to each site, Danli was selected as the site on a provisional basis. After more in-depth work in Danli, several major questions arose regarding the appropriateness of this location as the pilot project site. As a result, Comayagua was selected as the site. The site selection criteria and analysis are presented in Appendix A.

2. Letter of Understanding

A Letter of Understanding was prepared which describes the project purpose, components, inputs, and responsibilities. The Letter of Understanding has been agreed to by USAID, the MNR CU and Regional Directorate, and FHIA. There was no opportunity to review the Letter with the Minister of Agriculture since he was out of the country. The Letter will be presented to the Minister of Agriculture during the week of September 28, 1985. All parties hope to have the Letter signed by the end of the first week in November. Appendix B contains the Letter of Understanding.

3. Project Implementation Plan (PIP)

The life of project implementation plan was prepared with the support of the MNR AC and regional directorate and FHIA. Appendix C contains the draft PIP.

## NEXT STEPS

The following list contains the proposed next steps for each component of the Honduras CTTA project.

### 1. FHIA

November/December 1985

- o Recruit, select and obtain approval for the resident advisors
- o Develop equipment specifications for communication equipment

January/February 1986

- o Resident advisors move to Honduras
- o Procurement plan developed and initiated
- o Evaluation plan completed and initiated
- o Meetings held with representatives from new government

March/April 1985

- o Target audience analysis and developmental investigation initiated
- o Integrated work plan developed based on results of investigation

### 2. MNR/Pilot Project

November/December 1985

- o Recruit, select, and obtain approval for resident advisors
- o Develop equipment specifications for communication equipment

January/February 1986

- o Resident advisors move to Honduras
- o Procurement plan developed and initiated

March/April 1985

- o Integrated work plan developed

## OBSERVATIONS

Honduras is holding national elections in November, and as a result there will be a new Minister of Natural Resources. This may have a major impact on project start-up and timing of key events.

## SCHEDULE OF KEY ACTIVITIES

September 30, 1985, Monday

Travel to Tegucigalpa, Honduras

October 1, 1985, Tuesday

Orientation meetings with USAID (Gordon Straub and Richard Owens), MRN (see attached list of contacts) and Minister of Agriculture.

October 2, 1985, Wednesday

Travel to Danli to meet with MRN regional personnel (see attached list of contacts) and review potential as project site.

October 3, 1985, Thursday

Honduran Holiday. Project team briefing with AED team members (Ray, Saunders, Foote, Byrnes, and McCart).

October 4, 1985, Friday

Travel to San Pedro Sula; project review meeting with FHIA (see attached list of contacts) and tour FHIA facilities.

October 5, 1985, Saturday

Travel to Tegucigalpa; project review meeting with MRN's Communication Unit personnel (see attached list of contacts).

October 6, 1985, Sunday

Expand outline for implementation plan and select writing responsibilities.

October 7, 1985, Monday

Travel to Comayagua; meet with MRN regional personnel (see attached list of contacts) and review potential as project site. Visit Cooperativa San Isidro and visit with coop member farmers.

October 8, 1985, Tuesday

Project review meeting with USAID (Gordon Straub and Richard Owens) to discuss potential of Danli and Comayagua as pilot project sites; work on writing assigned sections of implementation plan; meet with MNR to finalize site selection criteria.

October 9, 1985, Wednesday

Meetings with Pedro Vasquez, Jefe, Extension and Geraldo Reyes, Jefe, Investigation, (MRN/Central); project review meeting with Misael Bueso to discuss

advantages and disadvantages of the potential project sites and draft Letter of Understanding; work on writing implementation plan, review meeting with USAID re status of project development.

October 10, 1985, Thursday

Travel to Zamorano to meet with Keith Andrews regarding technologies for control of bean slug. Travel to Danli; project review meeting with regional director Roger Vasquez and personnel of Departmento de Desarrollo Rural (see attached list of contacts) re department's activities in "enlace tecnologico" and communications, and investigation staff.

October 11, 1985, Friday

Travel to Zamorano to meet with Dr. Jefrey Landsdale, Extension Program Coordinator, and Juan Jose, soil scientist at EAPA to discuss soil management technologies. Followed up on potential technologies for beans and the extension program of MNR on pesticides. Travel to Danli; discuss draft Letter of Understanding and responsibilities of parties; meeting with Juan Jose Osorio ("enlace tecnologico") re potential collaborating institutions and organizations in Danli, and Sra. Emily Vasquez re "Don Frijolito" simulation game; work on writing implementation plan.

October 12, 1985, Saturday

Work on writing implementation plan.

October 13, 1985, Sunday

Meeting to plan for visit to FHIA in San Pedro Sula.

October 14, 1985, Monday

Travel to San Pedro Sula; project review meeting with Fernando Fernandez, re: draft Letter of Understanding, implementation plan; reconaissance meetings with FEPROEXAAH and the Universidad de San Pedro Sula (see attached list of contacts); work on writing implementation plan. Worked with Mario Contreras, Carlos Rivera, and Carlos Zacarias of FHIA relative to agricultural technologies applicable to the Danli and Comayagua regions.

October 15, 1985, Tuesday

Drafted FHIA component Letter of Understanding and discussed next steps for project; Meeting with representatives of FECORAH, CDC, and regional office of MRN (see attached list of contacts); project review meeting with Ray. Visited with Dr. Phillip Rowe and Dr. Zantua, cropping systems and soils, respectively, relative to available technologies in their areas of specialization.

October 16, 1985, Wednesday

Revised Letter of Understanding; meet with USAID to discuss site selection issues and review Letter of Understanding; work on writing implementation plan; project review meeting with Fernando Fernandez.

October 17, 1985, Thursday

Meet with ACU to discuss Letter of Understanding, site selection issues; meet with Roberto Villeda Toledo, special advisor to the Minister, on key aspects of project. Work on writing implementation plan and preparing trip report and summary list of contacts.

October 18, 1985, Friday

Interviewed potential candidate for FHIA Communication Advisor position. Travel to Danli for interviews; work on writing of implementation plan.

October 19, 1985, Saturday

Work on writing implementation plan.

October 20, 1985, Sunday

Work on writing implementation plan.

October 21, 1985, Monday

Honduran Holiday. Work on writing implementation plan.

October 22, 1985, Tuesday

Travel to Comayagua; discuss Letter of Understanding and responsibilities of parties; collect additional information on potential new pilot project site.

October 23, 1985, Wednesday

Meeting to review Letter of Understanding and implementation plan between FHIA, MNR, ACU, USAID, and AED; work on revision of implementation plan.

October 24, 1985, Thursday

Meet at MNR with MNR/RD (Comayagua) staff to review draft implementation plan; discuss potential technologies; revise implementation plan; discuss MNR ACU and RD budget

October 25, 1985, Friday

Revise draft implementation plan. Meet with M. Bueso and E. Navarro for review of previous day's discussions, and review budget.

October 26, 1985, Saturday

Travel to Washington, D.C.

## PERSONS CONTACTED

USAID/Honduras

- Anthony Cauterucci, Mission Director
- Gordon Straub, Deputy Director of the Office of Agricultural Development
- Richard Owens, Office of Agricultural Development
  Small Farmer Agricultural Development Project
- Barry Lennon, Office of Agricultural Development
- Luis Coronado
- Richard Martin (monitoring AID support of El Agricultor)
- Emil Falk, Project Officer
- Julio Zepeda, Project Officer
- Orlando Hernandez, AID Evaluation Officer

Ministerio de Recursos Naturales (MRN/Tegucigalpa)

- Lic. Miguel Angel Bonilla Reyes, Minister
- Lic. Roberto Villeda Toledo, Special Assistant to the Minister
- Wilfredo Diaz Arrazola, Director of Agriculture
- Guillermo Diaz, Special Assistant
- Lic. Misael Bueso Gomez, Jefe, Unidad de Comunicacion Agricola
- Pedro Joaquin Vasquez, Jefe, Extension
- Luis Alonso Fuentes, Jefe, Relaciones Publicas
- Conrado Gomez, Comunicador Agricola
- Ramon Nuila Coto, Asistente Audiovisuales
- Ricardo Ortiz, Responsable Audiovisuales y Fotoguato
- William Antunes, Responsable Produccion Audio
- Geraldo Reyes, Jefe de Investigacion Agricola
- Antonio Silva, Depto. de Investigacion Agricola

Ministerio de Recursos Naturales (MRN/Danli)

- Ing. Roger Vasquez, Regional Director, Region de Oriente
- Sra. Emily Vasquez, Entomologist
- Nery Jesus Rodas R., Departamento de Desarrollo Rural
- Rafael Bados C., Division de Comunicacion
- Juan Jose Osorio, Division de Enlace Tecnologico
- Carlos Duron, Division de Capacitacion/Investigacion Socioeconomica
- Sonia Gamero, Departamento de Planificacion (assists in Investigacion Socioeconomica)
- Mario Carias, Director, Departamento de Planificacion

Ministerio de Recursos Naturales (MRN/Comayagua)

- Ing. Eliseo Navarro, Regional Director
- Alba Ninfa de Velasquez, Seccion de Comunicacion Agricola
- Juan Ramon Cartagena, Planificacion Agricola
- Angel Osman Barcenas, Investigacion Agricola
- Samuel Quan, Encargado Proyecto Soya
- Mario Renan Funes, Encargado PRODIVERSA
- Jose Luis Izaguirre, Encargado Interino Depto. Reigonal Ganadero
- Bertulio Castellanos, Encargado del Enlace Tecnologico
- Elias Abdala Nazar, Encargado Depto. Reucrsos Hidricos

- Jorge Luis Trejo Escoto, Jefe, Depto. Extension
- Mario Caceras, Recursos Humanos
- Roberto Hernandez, Produccion de Semilla
- Gerber Yanez, Unidad de Desarrollo y Adaptacion (UDA)
- Alejandro Colindres, Sanidad Vegetal
- Cristina de Bonilla, Unidad de Cooperacion Tecnica con la Mujer y Joven Rural

Ministerio de Recursos Naturals (MRN/San Pedro Sula)

- Ing. Victor Manuel Leva Bulnes, Director, Direccion Regional Norte

Fundacion Hondurena de Investigacion Agricola (FHIA)

- Dr. Fernando Fernandez, Director
- Dr. Mario Contreras, Director of Research
- Charles Young, Business Manager
- Carlos Miguel Zacarias, Economista Agricola
- Carlos Rivera House, Asistente Agronomia
- Charles Oberbeck, AID/Honduras
- Dr. Pablo Sota, Entomologist
- Dr. Mauricio Rivera, Plant Pathologist

San Pedro Sula

- Ing. Arnold Bueso, FEPROEXAAH
- Lic. Jane Martel, Presidente, Universidad Privada San Pedro Sula
- Sr. Leonardo Gutierrez, FECORAH office in El Progreso
- Arq. Alejandro Diez Zelaya, Sub-Gerente, Citrus Development Corp. of C.A.
- Mr. Daryl Smart, Manager, CDC

# TRIP REPORT

## CONTRACT NO. DPE-5826-C-00-5054-00

COUNTRY: Honduras

TEAM MEMBERS: Dr. William B. Ward
Mr. H. James Miller

DATES: October 19-25, 1985

PURPOSE: To work with FHIA staff in review and revision of architectural plans for the FHIA Communications Unit.

## INTRODUCTION

The attached reports were submitted by the team of Dr. William B. Ward, Agricultural Communication Specialist, and Mr. H. James Miller, Architect. The team arrived in Honduras on October 19 for a one-week consultancy to examine architectural plans made for the FHIA Communications Unit. Activities, findings and recommendations are covered in both of the attached reports, along with illustrative architectural drawings and plans.

18'

GRADUATE TEACHING AND RESEARCH CENTER
DEPARTMENT OF COMMUNICATION ARTS
NEW YORK STATE COLLEGE OF AGRICULTURE AND LIFE SCIENCES
A STATUTORY COLLEGE OF THE STATE UNIVERSITY,
CORNELL UNIVERSITY
640 STEWART AVENUE
ITHACA, NEW YORK 14850

607-256-6500

OCT 30 REC'D

October 28, 1985

Dr. Howard Ray
Academy for Educational Development
1255 23rd Street N.W.
Washington, D.C. 20037

Dear Howard:

By working closely together, Jim Miller and I have what we consider a functional plan for the new communication building for the Honduran Agricultural Research Foundation. It was a pleasure for me to be with him again after our "India days".

Our first step on Sunday, October 20, was to go to La Lima to walk through the site for orientation purposes and take photographs of the arrangements of the existing buildings. On Monday I prepared a draft of "Space Requirements in Relation to Program" (copy enclosed), and Jim started to translate those requirements into tentative diagrams.

The next day (Tuesday) we met with the Director General to show him our suggestions and get his reactions and his ideas. As a result, we "went back to the drawing board" to include his ideas, the principal one being the inclusion of his office and certain other administrative offices in the new building. He agreed that the auditorium should be redesigned into a smaller one-story unit for 100 persons. (With a movable, flexible wall in the center and folding tables and chairs to make the space more usable for smaller meetings and for training.)

The Director General also agreed that the TV studio should be smaller than originally drawn and only one story. With both the auditorium and the TV studio limited to one story, additional space became available which could accommodate administration and other functions. The radio space as originally conceived by the local architect was also changed to more closely fit program needs -- mainly the writing of scripts and taping of programs.

Space requirements for training have also received more careful consideration in the new diagrams.

It is our understanding that the Director General and the Director of Research would prefer to leave the library in its present location. Incidentally, I suggested that the name

"Information Services" in the library organization chart be changed to "Documentation Services." The "Information Services" designation could be confused with the functions of the Communication Unit. There appeared to be no objection to this suggestion.

In the Conference with the Director General and other key Foundation officers, Jim recommended that they consider an alternative site for the building -- the land to the right of the entrance which now is the recreation club area for the labor union syndicate. Both the Director General and the foundation's Business Manager consulted with a labor union official about the possibility of the union selling the land to the foundation, and he promised to take up the matter with the appropriate parties involved. Actually, this space at the entrance area would be preferable, leaving the other space and buildings for the present research program and for expansion of that program in the future.

As you suggested, I spent some time with Dr. Cano and will talk with you about this at the first opportunity. I am looking forward to seeing you in Washington on November 5.

Sincerely,

Bill

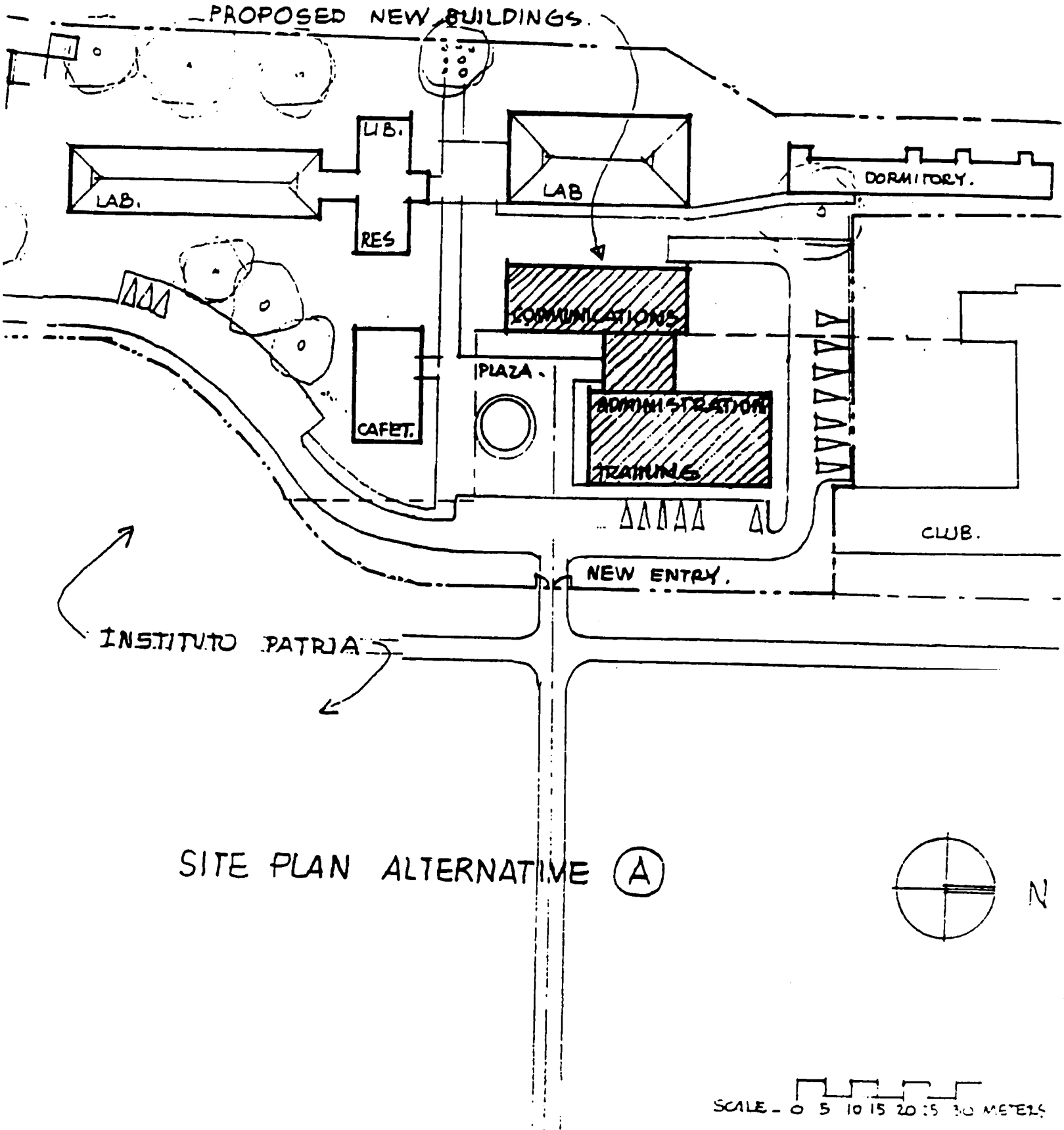
William B. Ward
Cornell Professor and
AED Advisor

P.S. of course, Jim will send a report to you and copies of his diagrams for the proposed building.

cc: Professor James Miller
Professor Roy Colle

20

# FHIA COMMUNICATION, TRAINING & ADMINISTRATION

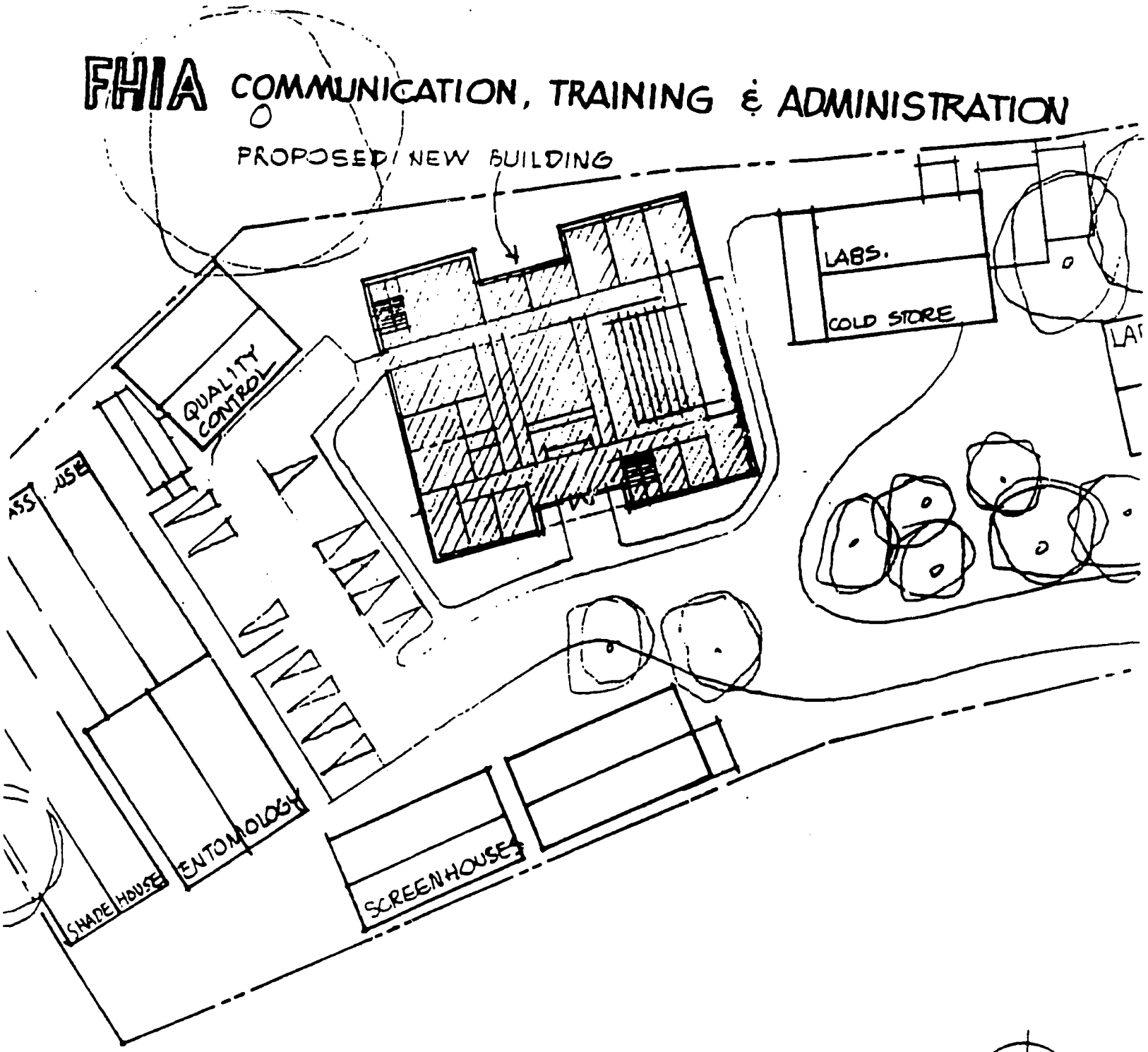



SITE PLAN ALTERNATIVE (A)

ACADEMY FOR EDUC. DEV - H. JAMES MILLER - ARCHITECT CONSULT. 24/10/

21'

# FHIA COMMUNICATION, TRAINING & ADMINISTRATION




SITE PLAN ALTERNATIVE (B)
(AS PROPOSED BY PRATS ARQUITECTOS)

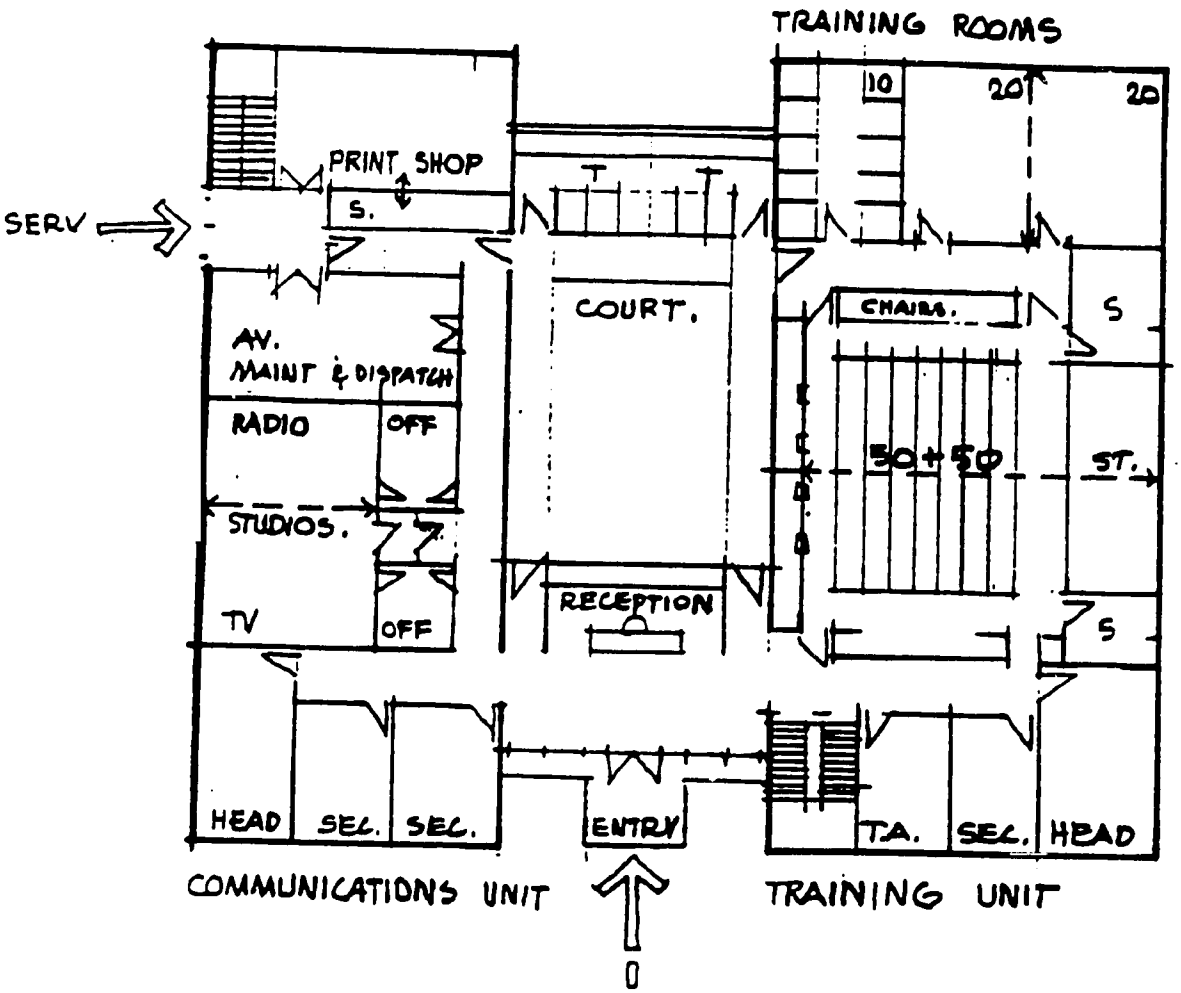
N

SCALE 0 2 4 6 8 10 15 20 METERS

ACADEMY FOR EDUC DEV- H. JAMES MILLER - ARCHITECT CONSULT. 24/10

22

# FHIA COMMUNICATION, TRAINING & ADMINISTRATION.



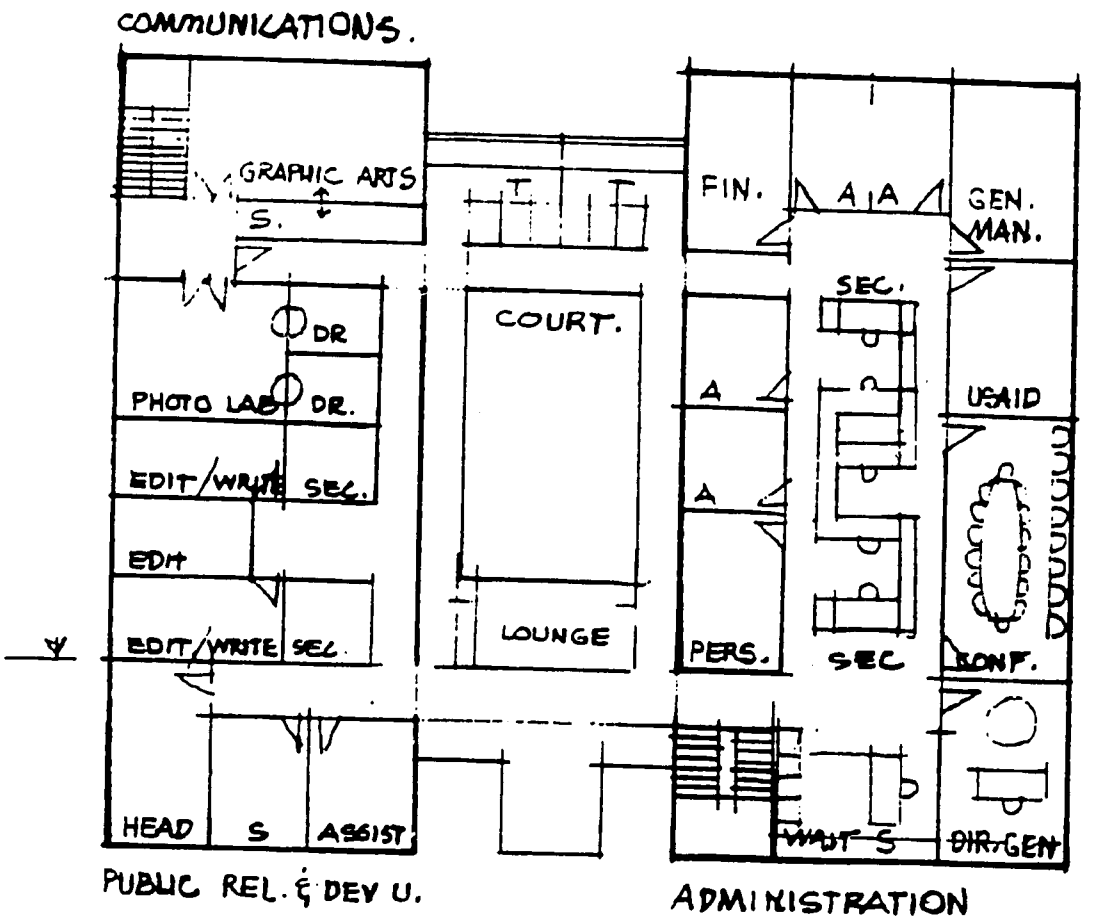

GROUND FLOOR PLAN. (Diagram Only)

- APPROX TOTAL FLOOR AREA - 2000 $m^2$ (Both floors)
  COMPLETELY AIR CONDITIONED

SCALE 0 1 2 3 4 5 7.5 10 METERS

ACADEMY FOR EDUC. DEV - H. JAMES MILLER, ARCHITECT CONSULT. 24/10/85

# FHIA COMMUNICATION, TRAINING & ADMINISTRATION.




SECOND FLOOR PLAN. (Diagram only)

SCALE 0 1 2 3 4 5 7.5 10 METERS

ACADEMY FOR EDUC. DEV - H. JAMES MILLER, ARCHITECT CONSULT. 24/10/

24

OCTOBER 22. 1985
SAN PEDRO SULA,
HONDURAS, C.A.

(PRELIMINARY DRAFT)

# SPACE REQUIREMENTS IN RELATION TO PROGRAM

NEW BUILDING

FOR

COMMUNICATION AND DEVELOPMENT DIVISION

OF HONDURAN

FOUNDATION FOR AGRICULTURAL RESEARCH

-o-

(PREPARED BY WILLIAM B. WARD, PROFESSOR OF COMMUNICATION
ARTS AT CORNELL UNIVERSITY AND A SENIOR ADVISOR TO
ACADEMY FOR EDUCATIONAL DEVELOPMENT)

## FOUNDATION ADMINISTRATION

(1)

| SPACE | NUMBER OF PERSONS USING SPACE | A C T I V I T I E S | FREQUENCY OF USE | EQUIPMENT TO SUPPORT ACTIVITIES |
|---|---|---|---|---|
| Office for Director General | 1 | Administration | Full time | Desk, chairs, files, bookshelves, etc. |
| Small conference room | 20 | | Part time | Table and chairs. |
| Secretary for Director | 1 | | Full time | Desk, electric typewriter, files etc. |
| Other support staff: Finance Office, Personnel Office, etc. | | | | |
| Office for Short-term Technical Assistance personnel (Consultants) | 2 | Working with Foundation personnel | Part time | Desks, chairs, small conference table, typewriter, files. |
| USAID Liaison Officer | 1 | --- | Full time | Desk, chairs, files. |

26

**FOUNDATION DEVELOPMENT AND PUBLIC RELATIONS UNIT** (To be attached Director General's Office?)

(Incomplete information provided on activities, staff, equipment; material to be provided by Ted Williams?)

| SPACE | NUMBER OF PERSONS USING SPACE | A C T I V I T I E S | FREQUENCY OF USE | EQUIPMENT TO SUPPORT ACTIVITIES |
|---|---|---|---|---|
| Office for Head of Unit | 1 | | Full time | Desk, chairs, conference table, dictating equipment, desk calculator. |
| Office for Secretary | 1 | | | Electric typewriter, photocopier, microcomputer and printer. |

## FOUNDATION COMMUNICATION UNIT (FCU)

| SPACE | NUMBER OF PERSONS USING SPACE | A C T I V I T I E S | FREQUENCY OF USE | EQUIPMENT TO SUPPORT ACTIVITIES |
|---|---|---|---|---|
| Office for Unit Head | 1 | Administration of Unit | ll time | Desk, chairs, small table for conferences, filing cabinets, dictating equipment. |
| Office for Secretaries | 2 | Normal secretarial duties plus preparing texts on electronic composer for printing. | Full Time | Desk, chairs, filing cabinets, word processor, electric typewriters (2), photocopier. |
| Evaluation Office | 2 | Pre-testing and conducting impact evaluations. | Full time | Desk, chairs, filing cabinets, microcomputer with printer. |
| Office for Technical Liaison Officer | 1 | Liaison with Foundation Research Division; checking message content for technical accuracy | Full time | Desk, chairs, small conference table filing cabinets. |
| Writing and editing | 2 | Assist Foundation staff in writing for publication and for other media; write original texts; participate in training. | Full time | Desk, chairs, filing cabinets, table 1 electric typewriter and 2 word processors. |
| Photography | 1 | Production of black & white photographs, color slides; processing negatives. | Full time | Small office with desk & special filing cabinets for negatives, prints & slides; photographic laboratory wi darkroom; special lighting in small space for taking photos of scientifi material (plants, etc) from the fie |
| Graphic Arts | 2 | Preparation of graphic visuals for publications, posters, flip charts, small exhibits. | Full time | Special lighting for art studio; 2 large drawing tables, light table, several files for graphics (flat 5-drawer files); storage unit for poste exhibits; other small graphic arts equipment such as a Headliner. |

FOUNDATION COMMUNICATION UNIT (FCU) CONTINUED....



| SPACE | NUMBER OF PERSONS USING SPACE | ACTIVITIES | FREQUENCY OF USE | EQUIPMENT TO SUPPORT ACTIVITIES |
|---|---|---|---|---|
| Audio/Video production (incl. Radio/TV taping operation) | 3 (Three full time persons; others invited from time to time to participate in radio and video productions in the studios) | Prepare radio scripts and tape radio programs; prepare video scripts and tapes; edit both types of productions; synchronize sound with slides. | Office use generally full time; studio use part-time. | Electric typewriter for office; desks, chairs, filing cabinets, word processor; 2 small studios equipped for making radio and video tapes. (Production, editing, and duplicating equipment.) Provision for sliding wall panels to separate the two studios making it possible to use a larger space when needed for video programs and for video/radio training. (Note: radio studio can be considerably smaller than the video studio.) TV monitor, video cassette recorder & player |
| Print Shop | 3 | Operate and maintain offset press and associated equipment for printing publications. | Full time | Offset press, plate maker, stitcher, stapler, power paper cutter, collator, folder, paper and other printing supplies and air conditioned storage space for paper; mimeograph; silk screen facilities; electronic stencil cutter; 2 photocopiers. |
| Audio/Visual Maintenance and Repair Shop | 1 | Maintain and keep in good repair the inventory of audio/visual equipment for use of various divisions and units of the Foundation; this equipment to be checked out and returned after use. | Full time | Slide projectors, overhead projectors opaque projector, 16 mm projector, projection screens, portable audio cassette recorders, portable public address system. |

## FOUNDATION TRAINING UNIT

| SPACE | NUMBER OF PERSONS USING SPACE | ACTIVITIES | FREQUENCY OF USE | EQUIPMENT TO SUPPORT ACTIVITIES |
|---|---|---|---|---|
| Office for Unit Head | 1 | Administration; develop training strategies; prepare work plan. | Full time | Desk, chairs, conf. table, filing abinets; dictating equipment. |
| Office for Secretary | 1 | Same as for Division Director's Secretary. | Full time | Desk, filing abinets, electric typewriter. |
| Office for training assistants | 2 | In-service training, logistics, preparation of training aids, assist in coordination with MNR training. | Full time | Desk, filing abinets, electric typewriter. Desks, chairs, filing abinets. |
| Training Rooms (2) | 15-30 | Training small groups. | Fairly regular | Movable, flexible wall; tables, chairs, audio/visual equipment; shelving for training manuals, etc. |
| Room for 10 Teaching Carrels | 10 at any one time | Individual review of training materials. | Regular | Audio/slide projector, small tape recorders. |
| Auditorium | 100 | Conferences, group meetings, lectures, training classrooms. | Fairly frequent | Flat floor; [redacted] removable(flexible) sliding walls on [illegible] tracks; folding chairs and tables for 100 people; audio/visual equipment in projection room in rear; permanent screen and chalkboard on tracks in front of auditorium; 2 TV monitors; speaker's stand and microphone. |

ARCHITECTS and PLANNERS 214 WEST MAIN STREET URBANA, ILLINOIS 61801

October 28, 1985

FHIA COMMUNICATIONS, TRAINING and ADMINISTRATION FACILITY
AED CTTA Project 2750 H.James Miller Contract No. DPE-5826-C-00-5054-00

This is a report of activities, observations, and recommendations stemming from a one week assignment to La Lima, Cortez, Honduras to review proposed plans for a new communications and training facility for the Honduras Agricultural Research Foundation. The building is to be an essential tool for implementation of the USAID sponsored CTTA project. (Communications for technology transfer in Agriculture) The assignment was conducted for AED as a team effort with William Ward, Professor of Communication Arts at Cornell University.

The professional consultants' review was requested by AED because the plan proposed by a local Honduran Architect appeared inappropriate in many ways for the programs that it was intended to serve. The purpose of the assignment then was to "review the architectural work, determine necessary modifications, and or additions, and submit a plan for future architectural activities." The contract also requested "to work with Bill Ward and equipment specialist in comprehensive planning of FHIA Communications Unit facilities and equipment planning." Since an equipment specialist was not part of the team, only space requirements and a proposed overall functional building arrangement were worked out.

Additionally, it became apparent that the siting of the building (location) should also be evaluated. Alternatives were considered, and initial observations and recommendations regarding the total FHIA campus are a part of this report.

Since several issues are still pending, the recommendations of this report are not final. For example, "Site Plan Alternative A" requires the acquisition of nearly one acre of land at the front of the campus. At this time there is no definite answer as to whether the land may be available.

Depending upon which site is finally utilized, the building configuration, and even the building uses would be affected.

Follow up work will be necessary to establish equipment requirements and the best arrangements for individual specialized spaces. Use of special consultants is dependant upon the level of expectation for the quality of the facility.

Schedule of Assignment Activities

Fri. Oct. 18 - Contract agreement signed, project paper and proposed plan diagrams available for review.

Sat. Oct. 19 - Travel from Champaign, Ill. to San Pedro Sula, Honduras 0600-1740. Stay in Grand Hotel Sula for seven nights.

Sun. Oct. 20 - 0730-1130 - Visit FHIA campus at La Lima, conduct visual and photographic reconnaissance. Discussed strategy with Bill Ward, agreed on format for Bill to prepare space requirements. Afternoon rest at hotel, see city center.

Mon. Oct. 21- National Holiday - Discussions with Bill Ward regarding appropriateness of proposed facility and his ideas for modification of uses. Utilizing Bill's tentative space requirements, re-worked floor plans to use in discussions with General Director Fernando Fernandez. Prepared several pages of questions for discussions with FHIA staff.

Tue. Oct. 22 -0730-1600 - To La Lima for all day discussions with General Director and his staff, brainstorming FHIA operational concepts and how they could best be supported by new facilities. Discussed local Architects proposed plans and our proposed modifications. Discussed alternative sites for proposed facilities.

Wed. Oct. 23 - Devoted the day to obtaining site data for whole campus, investigating the potential of alternative sites, and generating studies for new floor plan configurations. Discussions with Bill Ward.

Thur.Oct. 24 - Interviewed two local Honduras architect-engineers to learn about the local practices for architectural and construction services, building processes and costs. Good information and advice was obtained from the discussions.

Floor plan diagrams were completed, including site plan alternatives, and land acquisition plan.

Fri. Oct. 25 - Bill Ward departed early morning. I spent most of day at La Lima in FHIA offices completing assignment. Wrote summary of observations for Dr. Fernandez and transmitted copies of drawings. Held final discussions with Mario Contreros and with Dr. Fernandez. Met third architect and had discussions about architectural practice and building costs. Began writing assignment report.

Sat. Oct. 26 - Leave 0915 for States, arrive Champaign 2200 hrs.

Mon.Oct. 28 - Refine drawings, writing assignment report.
Tue.Oct. 29 - Complete assignment report
Wed.Oct. 30 - Mail report to AED.

Evaluation of Plans "CENTRO DE COMUNICACIONES" by Prats Architectos

A set of nine preliminary line drawings were prepared by Prats Architects of Tegucigalpa for the Proposed Communications Center. The drawings show a site location plan, floor plans and elevations for a two storey, dual wing facility separated by an open courtyard. One wing is totally occupied by an auditorium, capacity 200, with stage, dressing rooms and bar. The lower floor of the other wing contains recording studio for radio and TV plus rooms for graphic arts, photography and other related spaces. The second floor provides a series of eight undesignated office spaces, an office for the Director, and secretarial spaces. Toilets are provided just off the central courtyard on both floors. The drawings call for the building to be totally air conditioned. The dimensions and floor area of the building are as follows:

| | | | |
|---|---|---|---|
| Auditorium wing | 15X35 | = | 525m² |
| Communication wing | 12X35X2 | = | 840m² |
| Court link | 10X10X2 | = | 200m² |
| Total | | | 1,565m² |

The new building is proposed to be located in place of four existing timber structures designated for demolition near the west end of the FHIA campus. One is a comparatively large two storey building containing a shop and maintenance facilities, as well as storage. A second single storey building is used for storage. The third building is a single open air shelter utilized for vehicle maintenance. The fourth building is a small yard office structure, currently not in use.

The source of directives to the Architect that provided the rationale for the proposal is unclear. There was no opportunity during this assignment to speak to the Architect; and the staff of FHIA could not locate any written program of requirements for the facilities. Apparently the directives were verbal and not of sufficient depth for the Architect to provide a plan meeting the real needs.

The building site was determined by a process of elimination. There is no open site available for this scale of building anywhere on the existing campus. Therefore, it was proposed to demolish the most expendable buildings to provide sufficient open space.

Considering that the choice of a site was of necessity by default, and the directives to the Architect were apparently inadequate, the Architect's proposals are relatively well conceived. The division of the building into two parts connected by a courtyard achieves several things. It manages to separate two very different structural requirements of a large high space from two stories of a number of small spaces. It breaks down the scale of what otherwise would be a large building into two smaller ones, more in keeping with existing buildings. The courtyard introduces light and ventilation into the building.

However, when the building needs were made clear by Dr. Bill Ward in the context of other facility needs for FHIA, the proposal was seen to be seriously inadequate and the site location far from optimum. A detailed criticism of the proposed facility would serve no purpose. Suffice it to say there is no need for an auditorium for 200 with a stage and bar. Instead there is a need for a series of smaller, flexible meeting rooms for training programs. There is no need for a large TV recording studio, with separate radio studio and control room. Instead, there is a need for smaller more flexible spaces for editing materials that would largely be produced in the field. There are specific needs for other communications laboratories and office spaces, and offices for development and public relations. There was no provision for a library and information service.

The proposed site, which requires removal of the storage and workshop facilities is not optimum for the following reasons:

1. The facility is still too large and bulky for the space available, and at times it will generate unwelcome traffic through the campus.
2. The existing buildings proposed for demolition could be useful even in their present condition for operation and maintenance, for central stores, and for other supportive service functions.
3. The site provides the only good potential for long range needs for expansion of campus facilities.

In view of the above criticisms, it was important to investigate alternatives for locating the facility; and it was necessary to propose a new plan configuration meating the real needs of the Communications and Development Division of FHIA.

Building Space Requirements (Ref: Dr. William B. Ward Report)
The four units of the FHIA Communications and Development Division are functionally interrelated, and it would be advantageous for all of them to be physically accommodated in the new Communications Center. The four units are:

Training
Communication
Library and Information Service
Development and Public Relations

Currently, there is virtually no provision of space on campus for training activities. The nature of training programs and the best place for them to occur is still undecided. There is a strong feeling that major training programs should occur at regional centers, and for various reasons it would not be best to have large long term training programs on the campus. The idea of dormitories for trainees of any kind was considered inappropriate. The facilities proposed for training are therefore simple, relatively compact and flexible.

There is no provision of space on campus for communication arts. The predominant need for facilities in the new building is to support these important activities.

Currently, a small research support library exists on the top floor of the Administration Building. Observation and discussion revealed the possibility of the library expanding where it is to at least three times its current size, by utilizing the whole top floor. Because of its importance as a resource for the research division of FHIA, it would be reasonable to expand it in its present location as one alternative. The other alternative is to locate it in the new facility.

The activities of development and public relations are not fully defined, except that offices for the Unit Head, perhaps an assistant, and a secretary would be needed, and there should be a close operating relationship with the General Director's office.

There was considerable discussion about additional facilities needed for FHIA administration. Space available in the existing building will soon be inadequate. Since it was not possible to separate planning for a new communications facility from assessing the needs of FHIA as a whole, requirements were also established for administration. The following chart summarizes the space requirements:

Administration

| Designation | Floor area requirement | |
|---|---|---|
| Office for General Director (including small conference). | 35m² | |
| Conference Room for 20 people ..... | 50m² | |
| Secretary for Director ..... | 20m² | |
| Office for General Manager ..... | 30m² | |
| Office for USAID Liason ..... | 30m² | |
| Office for Finance Officer (Comptroller) ..... | 24m² | |
| Office for Accounts (2) ..... | 30m² | |
| Office for Personnel Officer ..... | 24m² | |
| Office for Assistants (2) ..... | 32m² | |
| Open office for reception, waiting and secretarial pool .. | 180m² | |
| Total net floor area..... | 455m² | 455m² |
| | | |
| Office for Director of the Division ..... | 24m² | |
| Secretary for Director ..... | 16m² | |
| Building receptionist ..... | 20m² | |
| Entry lobby ..... | 40m² | |
| Total net floor area ..... | 100m² | 100m² |

## Public Relations Unit

| Designation | Floor area requirement | |
|---|---|---|
| Office for Head of Unit | 28m² | |
| Assistant to Head | 20m² | |
| Secretary to Head | 20m² | |
| Total net floor area | 68m² | 68m² |

## Communications Unit

| | | |
|---|---|---|
| Office for Head of Unit | 28m² | |
| Offices for secretaries (2) | 40m² | |
| Radio and Television combined studios | 63m² | |
| Audio Visual storage, dispatch and maintenance | 50m² | |
| Printshop and storage | 65m² | |
| Receiving area | 15m² | |
| Graphic Arts and storage | 65m² | |
| Photo Lab and Dark rooms | 50m² | |
| Writing, editing, secretarial group offices | 90m² | |
| Total net floor area | 466m² | 466m² |

## Training Unit

| | | |
|---|---|---|
| Office for Head of Unit | 28m² | |
| Secretary for Head | 20m² | |
| Office for Training Assistant | 20m² | |
| Large divisible training room for 100 (50+50) | 200m² | |
| Storage for chairs, tables | 36m² | |
| Small training rooms (2) divisible 40 (20+20) | 70m² | |
| Small training room with 10 carrels | 35m² | |
| Total net floor area | 409m² | 409m² |

| | |
|---|---|
| Total Building net floor area | 1,498m² |
| Service spaces, stairs, toilets, corridors | 500m² |
| TOTAL BUILDING FLOOR AREA | 1,998m² |

Please note that space in the new building for the Library and Information unit is not included in the summary, nor in the drawings of this report. However, it can be assummed that FHIA administrative offices would be interchangeable with the Library, depending upon which site is finally selected for the building. (Refer to building floor plans, and site plan alternatives A & B.)

Site Plans

"Site Plan Alternative A" is the recommended optimum location for the new Communications Center. As stated earlier, implementation of this plan is dependant upon acquisition of nearly one acre of land now utilized for recreation by a local club. Among many advantages of this site plan are the following:

1. The new building can serve as a catalyst for developing a new entrance on axis with the street and moving away from the entrance to Instituto Patria.
2. Administration can be right at the front door of the campus where it should be.
3. Accessibility to the facilities is much easier and less disturbing to the campus.
4. Space is generated for a much needed cafeteria.
5. Other disadvantages of site plan alternative B are overcome.

This plan would leave the Library to expand in its existing location on the top floor of the existing administration building.

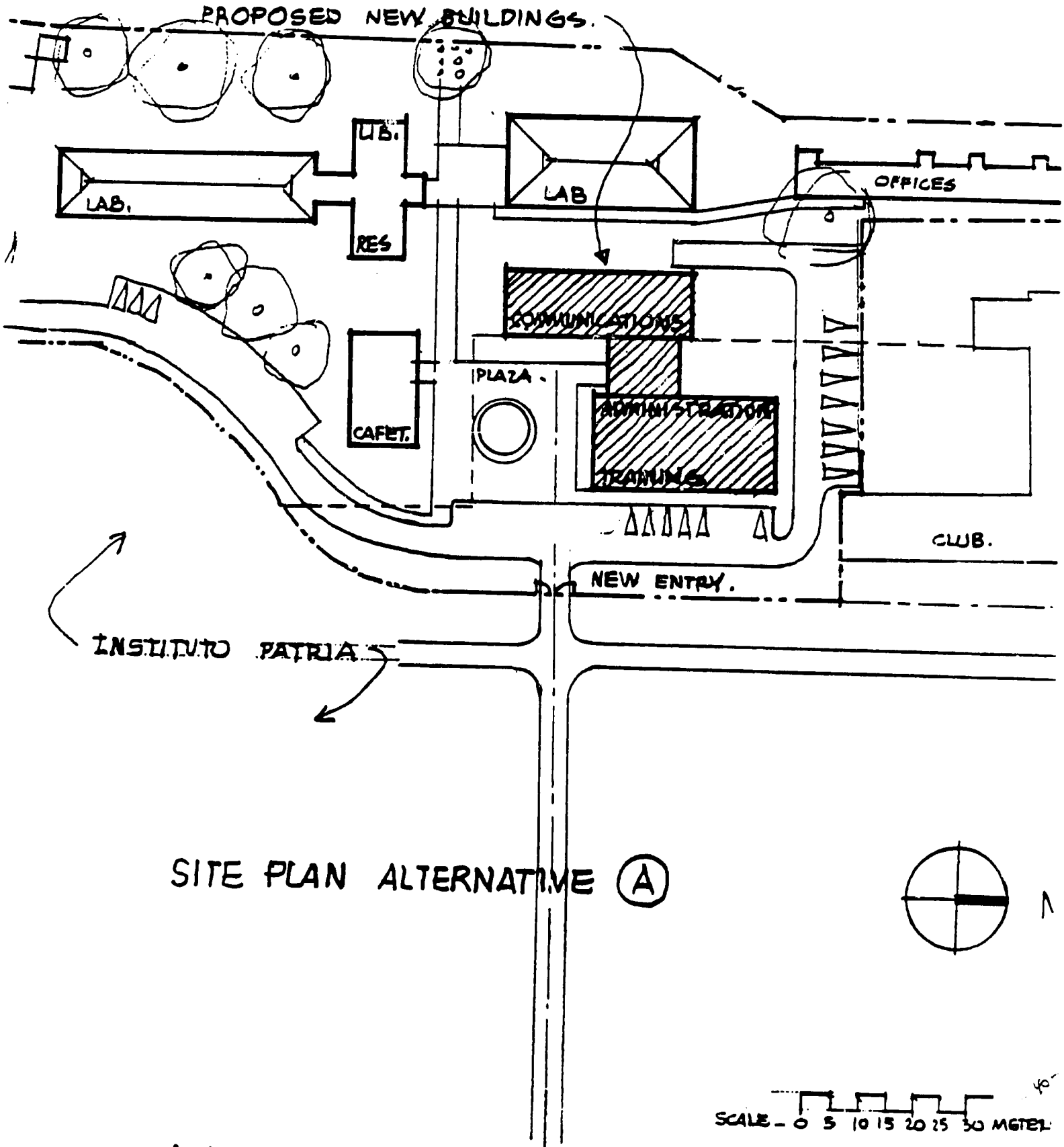
If it proves to be impossible to obtain the proposed land, then "Site Plan Alternative B" is the only other option. This would be a default second choice, with disadvantages as described earlier. Other configurations on this site are possible, and should be studied, if it becomes necessary to locate there. Should this location become the only solution, it is recommended that the Library be located in the new building in place of administration, and that the existing Administration Building be converted fully to administrative offices for the FHIA.

## Planning Procedures and Costs

Interviews with three different Honduran Architects and Engineers indicated that there probably is sufficient local expertise to do the project, depending upon the level of qualitative expectations for the performance of the facility. Evidently, some form of collaboration would be welcomed in establishing design concepts. The choice of local architect is a critical one, and there was strong concurrence as to which firms are best. The choice should be made very carefully on a merited reputation basis.

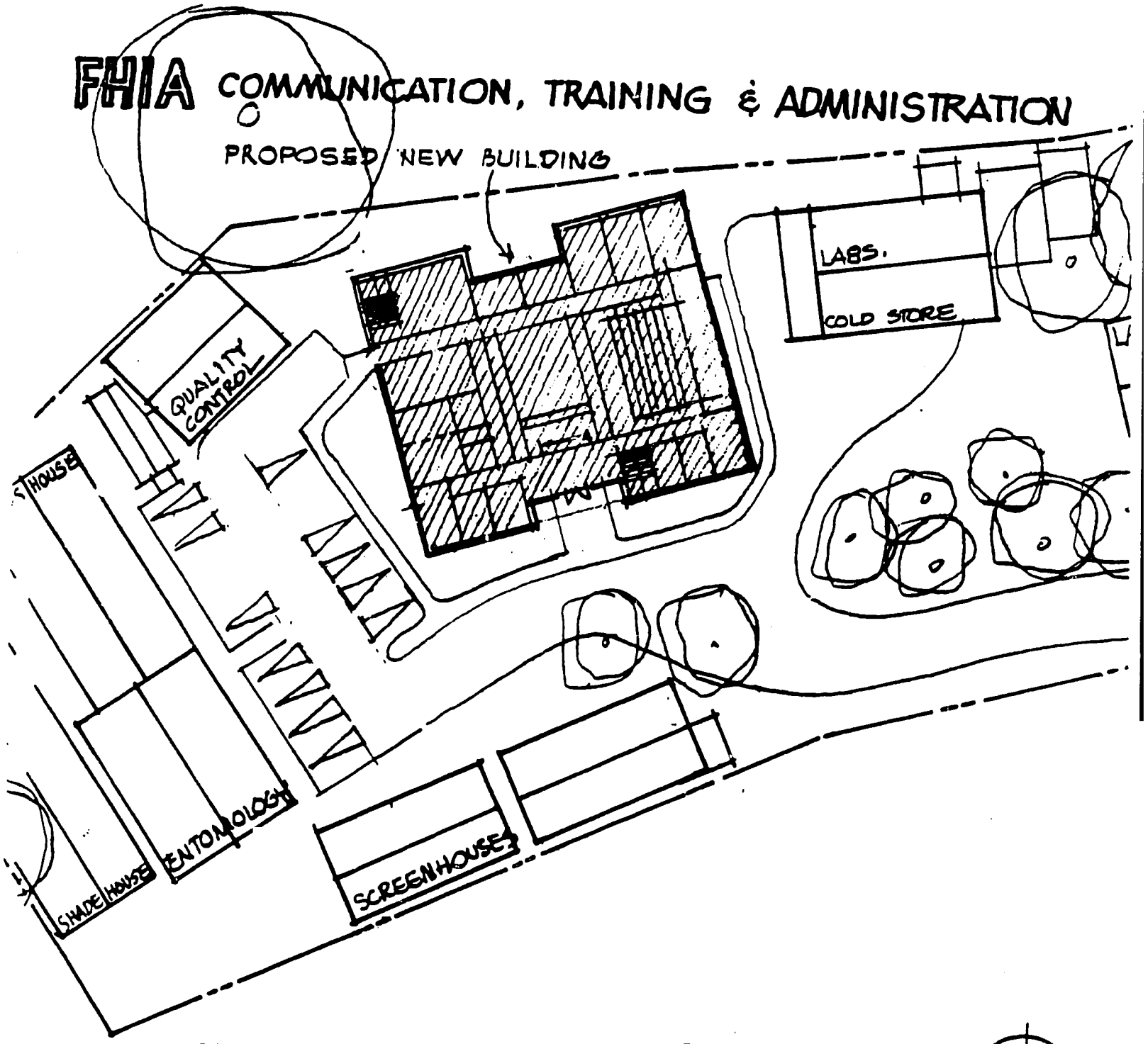
Finally, there was concurrence that a facility of this nature could be built for approximately $\$500/m^2$, including site development and equipment. Rough estimated total cost would then be $\$500 \times 2{,}000m^2 =$ U.S. $1,000,000.

# FHIA COMMUNICATION, TRAINING & ADMINISTRATION




ACADEMY FOR EDUC. DEV - H. JAMES MILLER, - ARCHITECT CONSULT. 10/2

# FHIA COMMUNICATION, TRAINING & ADMINISTRATION



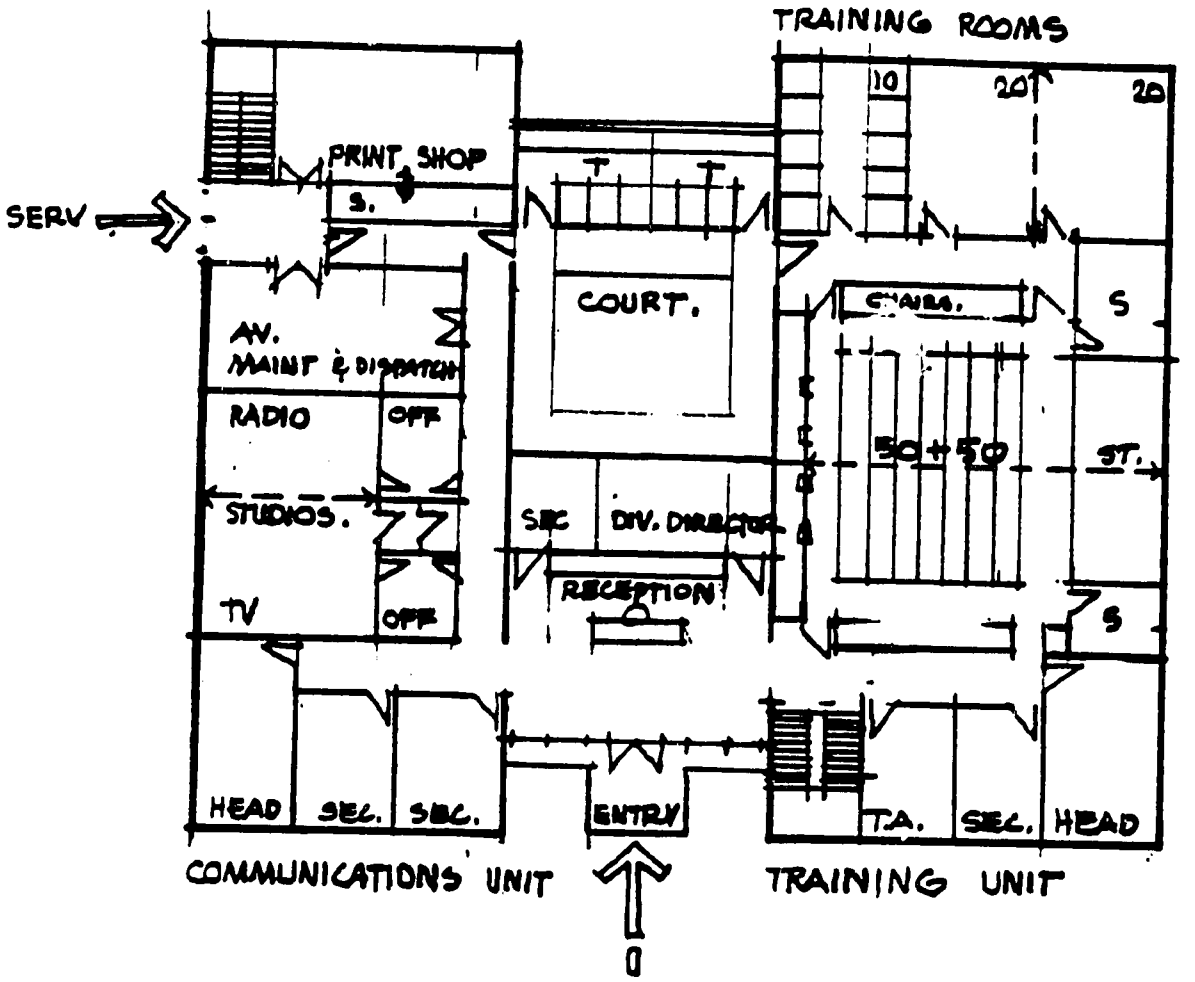

SITE PLAN - ALTERNATIVE (B)
(AS PROPOSED BY PRATS ARQUITECTOS)

N

SCALE 0 2 4 6 8 10 15 20 METERS

ACADEMY FOR EDUC. DEV. - H. JAMES MILLER - ARCHITECT CONSULT. 10/24

# FHIA COMMUNICATION, TRAINING & ADMINISTRATION.



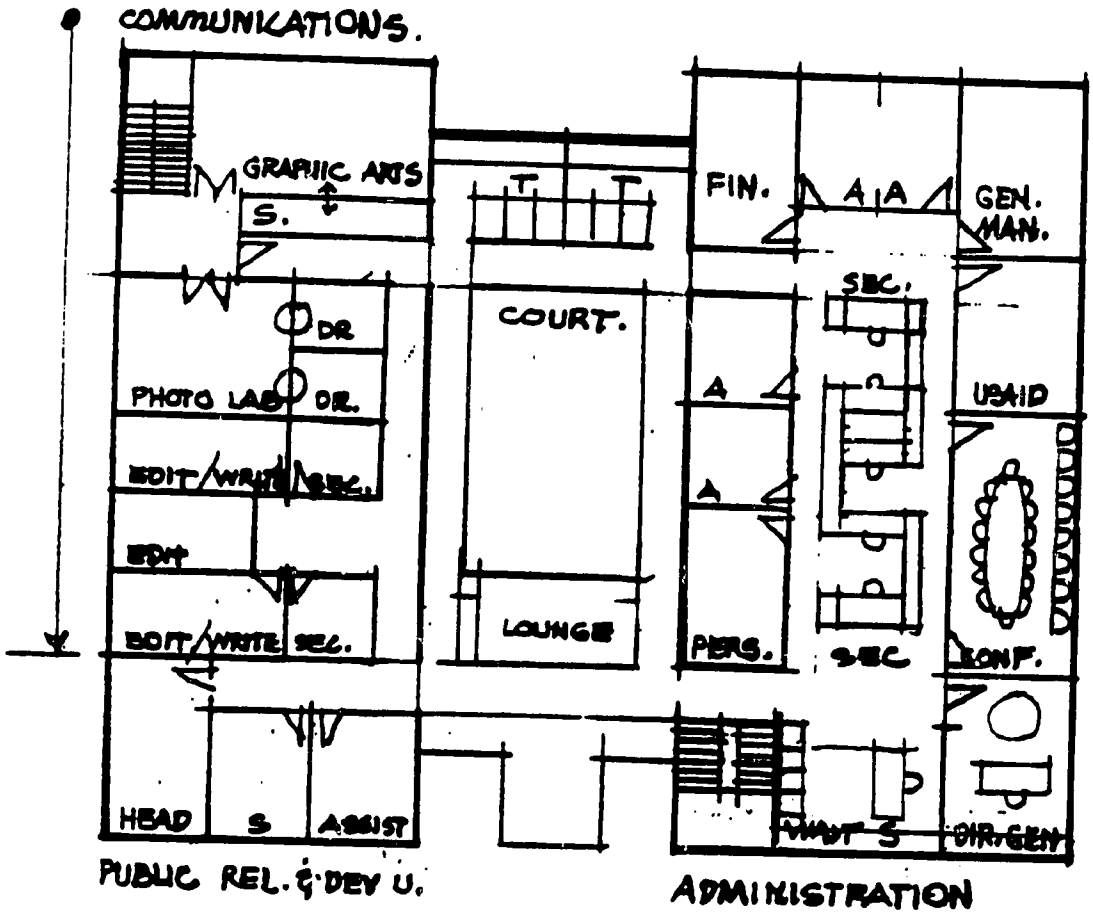

GROUND FLOOR PLAN. (Diagram Only)

- APPROX TOTAL FLOOR AREA – 2000 $m^2$ (Both floors)
  COMPLETELY AIR CONDITIONED

SCALE 0 1 2 3 4 5 7.5 10 METERS

ACADEMY FOR EDUC. DEV – H. JAMES MILLER, ARCHITECT CONSULT. 10/24

# FHIA COMMUNICATION, TRAINING & ADMINISTRATION.




SECOND FLOOR PLAN (Diagram only)

.45

SCALE 0 1 2 3 4 5 7.5 10 METERS

ACADEMY FOR EDUC. DEV - H. JAMES MILLER, ARCHITECT CONSULT. 10/24/

February 5, 1986

TRIP REPORT FOR CTTA - R. D. Colle

San Pedro Sula, Honduras
Honduran Agricultural Research Foundation
January 20-22, 1986

Overview: The purpose of this visit to the Foundation was to discuss Cornell's relationship with the Foundation and to work out details concerning technical assistance advisors. In addition, the visit was to provide an opportunity to confer with Gary Hermance on equipment identification.

Principal contacts: Fernando Fernandez, Director General; Mario Contreras, Director of Research; Chris Millenstead, USAID Contract Advisor and one of the key "designers" of the Foundation; Gordon Straub, USAID/Honduras agricultural officer; Gary Hermance, graphics specialist, University of Florida.

Report:

The following items were discussed with Dr. Fernandez and Gordon Straub:

1. The agricultural communication advisor would serve in a line and advisory capacity for the first year of the three year assignment. The line position would be Director of the Communication and Development Division. FHIA would recruit a person to fill that line position as soon as possible after that initial year of the advisor serving in that capacity.

2. The Development Unit will be removed from the C&D Division and will operate out of the DG's office. Thus, the Development advisor will function at this level.

3. FHIA has a strong immediate need for someone to prepare development-like brochures. We discussed the possibility of Bill Ward going to FHIA when he returns from his current assignment--perhaps in June. Dr. Fernandez would like to explore the possibility of getting a short term development advisor, prior to the appointment of a full time person. Ted Williams (Winrock) was suggested as a possibility.

4. We agreed on June 1 as a target date for getting the communication and development advisors on the job. Colle was to call Larry Zuidema with the results of the discussions so that the job descriptions could be accurately written for the recruiting advertisements. [Colle relayed the essence of these discussions to Zuidema on January 23.]

5. In a choice between Dr. Cano and Dr. Rincon as the agricultural communication advisor, Dr. Fernandez expressed a preference for Dr. Cano, although he indicated that he could accept either. Dr.
Fernandez feels that Cano is more the strategist, and Rincon more the media person.

6. FHIA has two candidates for head of the Communication Unit. One is a Honduran and the other a Mexican. Dr. Fernandez feels that the person in this position should have very strong editing capabilities.

7. Straub suggested Frank Benbana, who works in the USAID-Honduras agricultural office, be considered as a candidate for the Development Advisor position. Fernandez welcomed the idea. Colle indicated that an advertisement would be sent to him. [Send as follows: USAID/Honduras, APO, Miami, Florida 34022.]

8. Dr. Fernandez indicated a need to identify a person to head the Vegetable Department of FHIA. [Key vegetables: cucumbers, onions, melons, carrots, cauliflower.] Colle agreed to check with Elmer Ewing, head of Vegetable Crops at Cornell, for suggestions. [The name that emerged--but not communicated to FHIA by Colle: Wes Kline, currently stationed in Ecuador.]

9. There are no specific plans for recruiting a person to head the Training Unit.

10. FHIA is recruiting for the Library Unit and has possibilities of a local candidate. [Colle raised the question of the possibility obtaining short-term (e.g., 14-15 weeks) training under the CTTA project for a person to strengthen capabilities in "information science." Syracuse University has a program that would fit FHIA's needs.]

General observations: FHIA has some excellent space to house the Communication Division temporarily and has the resources to remodel it to fit its needs. Dr. Fernandez estimates that it will be a six month remodeling job once it is started. Gary Hermance prepared a list of equipment that will fit both the temporary and future faciltities.

There may be some ambiguity in the relations with the Ministry regarding collaboration in the production and diffusion of communication materials. While this does not rise to the level of being an "issue", it may be desirable to monitor this relationship.

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As Cornell takes up its role of working with FHIA, it seems as if having a copy of the Project Paper would be useful. questions came up during our meetings that seem to be dealt with in the project paper in detail, but are not available in other documents that Cornell currently has concerning the FHIA component.

It is useful to know that Dr. Fernandez sees the public relations function taking place in Development activities, with "wholesale"* and "retail"** technology transfer functions taking place in the Communication Division.

It is also refreshing to see the Foundation being led by a person who has a keen sense of the importance of communication throughout the FHIA operations. This ranges from the decor of the buildings--and the message it conveys--to the quality of the explicit information program, whether aimed at farmers or international visitors.

*for example, with extension agencies and cooperatives' training people

**for example, with farmers and others in the growing/marketing chain

GARY HERMANCE
TRIP REPORT
FHIA - JAN 86

FHIA Communications / Rationale for Equipment Proposed

The communications unit at FHIA will need to provide support services for the Foundation for disparate clientele through several media. Review of the CTTA proposal, combined with candid discussion with the FHIA administration, suggests that a full range of equipment will be needed to achieve appropriate goals.

To this end, it is recommended that effort be made to procure items on the attached list. Though some glaring omissions exist, excellent capabilities are realized in several media. Considerations have been based on proposed objectives, anticipated staff capabilities, current costs of hardware, compatibility with existing hardware, and alternatives to purchasing.

The foreseen unit will have excellent equipment for its own efficient office management. The easily operated and flexible typewriters and word processor facilitate professional handling of text for both correspondence and publication. The office copier is perfectly suited for both convenience copying and as a supplement for offset printing demands. In addition, the copier has features in enlarging and reducing that will assist the graphics production group in numerous situations.

The audio production studio is specifically designed with a goal of producing cassette tapes. Several factors suggest that much use will be made of audio tapes. Mass communication is best realized via radio in Honduras. Numerous current and proposed communication methods suggest good information available on cassette tape will be extensively used. Cassette tapes to accompany slide shows, tapes for individual tutorial efforts, tapes for use in radio broadcast, and tapes used in demonstrations are in high demand. The equipment proposed allows for high quality production of tapes. The sophistication of broadcast editing equipment has been avoided because it is not essential to stated goals and is cost prohibitive.

Similarly, the video production unit falls short of broadcast quality video. It does, however, have excellent capacity for providing video tapes ranging from use in a large educational forum to a personal appeal to an individual. Lectures and seminars are well suited for this equipment. Appeals for program support to financial donors and policymakers will be well suited for this medium, too. As specifically requested by Fernando Fernandez, the proposal includes a high quality video projection unit for use in the large auditorium.

A very basic set of tools is proposed for the production staff in graphic arts. Emphasis is given to capacity in publication layout and titles for slides and video. Abilities in illustration, of course, will vary according to skills of individuals hired. It is strongly recommended that sources of clip-art be located and purchased as needed as part of the ongoing operating expense of FHIA. This, however, is not a part of the initial purchase of equipment.

The exorbitant costs in developing an offset duplication center make this effort a challenge. Budget limits insist on establishing print formats and operating within strict parameters. This unit will have excellent capacity for reproducing 8½" x 11" pages in high volume, at a low cost, in short time. Maximum sheet size is 11" x 17" and only two color work is feasible. Note, however, that printing, collating, folding, and binding options are very good. This highly mechanized configuration requires the absolute minimum in labor. Good quality halftones can be reproduced with the process camera specified, which can also double as a stat machine for the graphic arts staff. The omission of a large light table for masking and stripping is intentional. One can cheaply and easily be manufactured with resources already present at FHIA. Full color printing, when justified, can be purchased commercially through local resources.

Provisions are also made to provide FHIA with an excellent data base computer. This will benefit the entire Foundation and is not intended for exclusive use of the communications unit.

Finally, the audio/visual equipment is proposed for wide and flexible use. This equipment is adequate for use in conducting programs both in and away from the FHIA grounds. This equipment, while frequently used by communicators in performing their tasks, is also the kind of support equipment to be used by scientists, administrators, and educators in public presentations. The various projectors, duplicators, recorders, etc., are obvious in intent and cover the most basic and broadest range of needs.

No provisions for photographic equipment are included. This is, in part, due to the unforeseen demands for video equipment and the subsequent impact on this budget. (Early proposals had incorrectly presumed that an inventory of video equipment existed.) The availability and affordability of cameras in Honduras, the existence of some darkroom equipment already at FHIA, and the access to processing services in San Pedro Sula all result in giving lowest priority status to this unit. This, however, is only a reflection of budget limitations. The importance of photography and the need for visual aids at FHIA cannot be overstated. FHIA, in fact, should be requested to make appropriations to equip this unit as soon as staff is in place.

It should also be stated that all of the proposed physical space for the communications staff is well planned and appropriate for all stated goals.

# EQUIPMENT RECOMMENDATIONS FOR FHIA/HONDURAS

A. Communications management

1. (2) IBM Wheel Writer III

   15½" carriage; continuous underlining feature; automatic centering; caps/lock to enable use of numeral keys while using all caps shift; semi-automatic paper feed; correcting key;

   GSA pricing / GS-00F-69-279 (2) @ $556 = $1112.00

   IBM Corporation – Attention: GSA
   1 Culver Road
   Dayton, New Jersey 08810

2. Word processor (IBM or compatible)

   5150174 PC, w/64K Ram, dual disk drives (360KB), serial interface keyboard;
   1504900 monitor, printer, adapter interface for LBM-E200D;
   5151001 Monochrome display, green phosphor;
   6024120 program, DOS 2.1
   CLND-C1234 memory chips (add 3 for 64 K each);
   5152002 graphic capability printer; cables needed;

   IBM should be cited as sole source because of limited access to service in Honduras. Investigation during on-site visit revealed that insufficient training of service personnel in Honduras for computer hardware makes IBM the only vendor capable of installing and maintaining equipment as specified. It is worth noting, however, that manufacturers of computer equipment meeting above specifications market their products considerably cheaper than the IBM equipment. Zenith, Wang, and Apple can all meet these specifications with very reliable, minimal maintenance equipment.

   estimated cost $2500

   IBM Corporation – Attention: GSA
   1 Culver Road
   Dayton, New Jersey 08810

3. Office copier

   Xerox 1038 photocopier zoom processor
   zoom reduction/enlargement; automatic size sensing of originals; multiple 11 x 17 copying; job interrupt and recovery; single-sheet bypass; 25 copies per minute (8½ x11); automatic density control;

   Xerox should be cited as a sole source because of the critical need for regular maintenance and repair of this kind of equipment. Presently, only Xerox has personnel trained to work on equipment that meets the above specifications. FHIA currently operates a Xerox 1038 as specified and is very satisfied with the performance of the machine and their access to service.

State and local government pricing — Amendment 4 $3795

Xerox Corporation — Attention: Susan Landon
1616 North Fort Myer Drive (9th Floor)
Arlington, Virginia 22209

B. Audio production studio

1. 7" reel to reel recorder

TEAC X-300R 7" reel to reel recorder with auto reverse; DBX noise reduction; pitch control; dual capstan drive; auto reverse and bi-directional record;
estimated cost $375

Tascam Production Products Division
TEAC Corporation of America
7733 Telegraph Road
Montebello, California 90640

2. 70 watts integrated amplifier RMS AM/FM receiver

Technics SA 121
Features 35 watts per channel into 8 ohms from 40 Hz — 20 kHz; under 0.5% THD; tape monitor; flywheel assisted tuning;
estimated cost $100

Technics Corporation
Matsushita Electric Corporation of America
One Panasonic Way
Secaucus, New Jersey 07094

3. Numark DM-500 mixer/pre-amp

Two stereo inputs switchable for phone or line level; mic input; talkover switch; headphone jack; cue monitor;
estimated cost $75

NOTE: below minimum order from manufacturer. Recommend purchase from mail order catalog.

Stereo Discounters Electronic World, Inc.
6730 Santa Barbara Court
Baltimore, Maryland 21227

4. Cassette recorder

TEAC R-555
Real time auto reverse stereo cassette deck; Dolby B,C; 2-DC motor system; IC logic tape transport memory; blank scan; output level control; digital LED tape counter with 30 Hz — 20 kHz frequency response;
estimated cost $165

Tascam Production Products Division
TEAC Corporation of America
7733 Telegraph Road
Motebello, California 90640

5. Studio turntable

Technics SL 1200

Quartz direct drive manual turntable; brushless DC motor; aluminum die-cast platter; 33 1/3 rpm and 45 rpm and pitch adjustment; electronic braking system; high torque for rapid start-up; high sensitivity, low mass, gimbal suspension tonearm;

estimated cost $275

Technics Corporation
Matsushita Electric Corporation of America
One Panasonic Way
Secaucus, New Jersey 07094

6. Stanton 680 EL cartridge

Essential component for operation of Technics SL 1200 turntable;
order two (2) estimated @ $75 each;

estimated cost $150

Stereo Discounters Electronic World, Inc.
6730 Santa Barbara Court
Baltimore, Maryland 21227
1/800/638-3920

7. Component speakers

Kenwood LSK-301W speakers
Two-way dynamic bookshelf speaker system; air suspension design;
8" woofer, 75 watts maximum input;
order two (2) estimated @ $40 each

estimated cost $80

8. Microphone (studio type)

Electro Voice EV 635A

estimated cost $90

Electro-Voice Inc.
600 Cecil Street
Buchanan, Michigan 49107

9. Microphone stand (studio type)

AKG Model 201

estimated cost $30

AKG Acoustics Inc.
77 Selleck Street
Stamford, Connecticut 06902

10. Headset (studio type)

AKG K-141 headset

estimated cost $50

AKG Acoustics Inc.
77 Selleck Street
Stamford, Connecticut 06902

11. (2) Battery operated cassette player/recorders
Hitachi AVA-150
Monaural playback, record; plays monarual dual track cassette; speed 1 7/8 IPS; Response at 100 Hz to 8000 Hz +-5dB; microphone and remote microphone inputs; headphones and external speaker outputs; one internal at least 3½"; needs built in condenser microphone; 120V and/or batteries; order (2) estimated @ $43;
estimated cost $86

Hitachi Sales Corporation of America
401 West Artesia Boulevard
Compton, California 90220

12. Cassette tape duplicator
Telex Copyette 1 & 3
Duplicates from cassette master to three slaves in self-contained cabinet; speed: master 30 IPS / slaves 30 IPS; 16:1 speed ratio; S/N ratio: 45 dB; duplicates two tracks per pass, half-track monaural; rewind and auto stop on single push button operation:
estimated cost $1100

Telex Communications Inc.
9600 Aldrich Avenue, South
Minneapolis, Minnesota 55420

C. Video production studio
1. Stereo Video Cassette Recorder with Editing
SuperBeta HiFi Sony SL – HF900
Stereo audio recording frequency range of 80 dB; MTS stereo broadcast reception; 12-segment LED peak level meters for stereo recording; detail switch to bypass noise suppression circuitry during video playback; main/SAP switch for reception of 2-channel stereo or either channel independently; edit switch to maintain picture definition during edit; high speed (up to 15X) picture search; linear time counter; crystal-clear freeze frame; crystal-clear slow motion search; super search jog dial providing bi-directional variable speed control from freeze to 2X speed and 1/5 normal speed;
estimated cost $940

NOTE: The Beta format is essential in order to be compatible with existing video equipment at MNR. Also, the Beta format is almost exclusively used in Honduras.

SONY Corporation of America
Attention: Edna Stone
5001 Forbes Boulevard
Lanham, Maryland 20706

2. Betamovie portable one-piece video camera/recorder

Sony BMC - 660K or NEC CCD auto-focus Betamovie camera
Records directly on standard ½" Beta video cassettes; power requirements: DC, 9.6V, supplied with BC-300 multi battery recharger, NPH rechargeable battery, CR-2025 lithium battery for clock;
Camera section: pickup device 2/3" interline transfer; charge couple device (CCD); 510 (H) X 492 (V) picture cells; lens f 1.4, 6:1 power zoom; manual and auto focus; auto white balance; LED indicators for low light, white balance, low battery, tape run, auto focus; viewfinder through lens optical, color, with left/right reversible;
Recorder section: monaural audio track with built-in microphone; data displays for date, time, tape counter, elapsed battery time and warning indicators; external DC output; earphone output; low-impedance microphone input;

estimated cost $900

SONY Corporation of America
Attention: Edna Stone
5001 Forbes Boulevard
Lanham, Maryland 20706

or

NEC Home Electronics (USA), Inc.
1401 West Estes Avenue
Elk Grove Village, Illinois 60007

3. 19" portable television

Any portable 19" color tube with audio internal speakers; video input/output, 8-pin connector outlet and cable; power 120 V 60 Hz:

estimated cost $350

Minimal specs — check for federal contract first.

RCA Service Company
Route 38, Building 203-3, Department 1614
Cherry Hill, New Jersey 08358

4. Video projector — Beta

Sony DPH - 722Q
Rear projection type with options for desktop, ceiling, or floor mount; 5.5" high bright picture tube with liquid color filter; 200 lumens brightness; 400 lines video resolution, 600 lines RGB; connectors: audio/mini; video BNC, 8-pin; Input signals: NTSC/ NTSC 4.43/ PAL/ SECAM/ RGB; built-in speaker; power: 120V 50/60 Hz;
GSA pricing available GS-00K-85A GS - 007A cost $4797

Plus options: SU - 722 projector pedestal
GSA pricing (same contract as above) cost $369
Plus 72" high gain curved screen VPS - 72 HG1
GSA pricing (same contract as above) cost $590

SONY Corporation of America
Attention: Edna Stone
5001 Forbes Boulevard
Lanham, Maryland 20706

D.Graphic arts prouction

1. (2) 4-post steel drafting tables 38" x 60"

   Heavy gauge steel tubular legs with high-impact molded plastic ferrules. Enamel finish. Table height from floor 37"; one long drawer, and one locking tool drawer, both of which operate on ball bearing rollers. Table surface of cellular core (warp-proof) with cross laminated face and surface of softwoods. Top must tilt to 40 degrees from horizontal position. Locking steel hinges.

   (2) @ $340 each estimated cost $680

2. (2) Mayline E-Z grip straight edge parallel rules 60" for wood surface table.

   Side guides; transparent edges; 1¼" with 5/16" thick beveled finger lift; blade attachment, ball bearing pulleys, cable, and mounting instructions;

   (2) @ $62 estimated cost $124

3. (2) upholstered tilt stools

   Fully adjustable with forward tilt, back rest, foot ring, and seat height. Tubular steel frame, fabric upholstery with vinyl boxing on seat; ball-bearing casters. Gray or black frame with black upholstery;

   (2) @ $208.50 estimated cost $417

4. (2) LEDU combination lights

   Spring activated 42" steel arm reach, with touch control for swivel, stretch, raise, and bend; clamp on base; separate controls for each of one 60-watt incandescent and one 22-watt fluorescent bulb. Double insulated shade with reflector surface; black finish;

   (2) @ $98.60 estimated cost $197.20

5. Portable tracing box

   Heavy gauge steel with (3) 15 watt fluorescent light tubes; 16" x 20" glass surface with light diffuser to eliminate glare; gray or black finish:

   estimated cost $154

6. Five-drawer unit modular flat files with base

   Foster cabinets in heavy gauge steel in ebony; drawers glide on ball bearings; special protective hood at back and hinged flap at front of each door to protect materials; two handles per drawer; stackable modular units; drawer size: 50½" x 38½" x 2 1/8"
   Unit in ebony @ $500
   w/ ebony base @ $107

   estimated cost $607

7. Metal double-door cabinet

   36" x 18" x 72"; inside door hinges; chrome handles; tamper-resistant lock; four adjustable shelves; paint finished in black

   estimated cost $152.80

8. Paper trimmer, 30"

   Replaceable self-sharpening hardened tool steel blade; red safety guard rail; safety spring for handle; handle lock; slide guide; metal rule in 1/16" calibrations; permanently machined ½" grid; top squaring guide morticed below table surface; green lacquer finish; wood base;

   estimated cost $188.80

9. Maple top steel work bench, 60" x 30" x 1¾"
   Welded heavy gauge steel legs 32" high with flared feet for stability; drilled holes for floor mounting; laminated hardwood top of kiln-dried, air-seasoned maple 1¾" thick, coated with multiple coats of hot lacquer; top span overhangs span across legs 1½" each side; legs connected and braced by heavy gauge steel stringers; include all steel utility shelf; black or gray finish;

   estimated cost $224.90

10. (2) Rapidograph humidified revolving selector sets
    Technical drawing pens numbered points of 00, 0, 1, 2, 3, 4; complete with three pen holders, bottle of ink, bottle of pen cleaner, board clamp, nib keys, and humidifier;

    (2) @ $64.80 estimated cost $129.60

11. Ultrasonic pen cleaner, one pint capacity

    estimated cost $105

12. (10) Rapidograph cleaning concentrate, 8 oz. bottles

    (10) @ $3.90 estimated cost $39

13. Professional lettering set, Leroy or equivalent
    Twelve (12) templates with upper/lower case Gothic letters and numbers, sizes 1/16" to ½"; adjustable scriber; scriber stand; 8 lettering pens 000 through 5; drawing ink; reservoir pens size 6, 7, 8; pen holder; point key; case;

    estimated cost $144.80

NOTE: Items number 1 through number 13 are available through any art supply catalog or outlet. Most government agencies can benefit from discounts and/or GSA pricing through the regularly used vendor below:

Dick Blick Graphic Art Materials
Box 1267
Galesburg, Illinois 61401
309/ 343-6181

14. Lettering machine

| | |
|---|---|
| Kroy 80 electric lettering machine | estimated cost $417.90 |
| (1) typefont 36 pt. Helvetica Medium | estimated cost $26.08 |
| (1) typefont 18 pt. Helvetica Regular | estimated cost $26.08 |
| (1) typefont 36 pt. Century Schoolbook | estimated cost $26.08 |
| (1) typefont 18 pt. Century Schoolbook | estimated cost $26.08 |
| (1) box Kroy 100 Photo quality tape | estimated cost $47.99 |

GSA pricing GS-00F - 69300 Total cost for Item No. 14 $570.21

Kroy Inc.
5701 - D General Washington Drive
Alexandria, Virginia 22312
703/ 642-1050

E. Offset print shop

1. A. B. Dick Model 9810 standard printer, chain delivery
   12 roller ink/water system for high quality reproduction of images up to 12½" x 17½", sheet size range from 3" x 5" to 13½" x 17¾";

   GSA pricing GS-00F-69841 — cost $11,475

   A. B. Dick Company
   5700 West Touhy Avenue
   Chicago, Illinois 60648
   312/ 647-8800

2. A. B. Dick special order programmed SUPER — 30 bin collator
   Model 7830 PS (AC)
   Includes doubles detector, variable speed control, feeder head lifting control, receding stacker, offset jogger, miss detector, two stage programming, fixed collection bin; collates sheet sizes from 5" x 8" to 13" x 8"; collates 36,000 sheets per hour;

   GSA pricing — cost $20,544

   Plus option: 7802 (AC) double stitcher — cost $7435
   Plus option: 7815 (AC) folder — cost $6531

   GS-00F-69841 — total cost GSA pricing on Item 2 $34,510

3. A. B. Dick 157 Electrostatic Platemaker
   19" x 30" copyboard; enlargement to 110% and reduction to 60%; image sizes up to 15" x 17"; front loading of original; high resolution graphic arts lens; fixed position lighting; toner flow design with heat set fusing of image; multiple exposure capability; power 120V, 60 cycle AC;

   GSA pricing GS-00F-69841 — cost $7915

   Plus option 166 converter GSA pricing as above — cost $403

   Total cost for Item 3 $8318

4. Flip-top mercury lamp platemaker
NuArc FT-18V - 1

17" x 22" size inside blanket beading; 1000 watt mercury lamp; 120V; built-in integrator digital dial; photo detector for measuring light output; one piece rubber blanket; solid state power supply; light seal around frame;

GSA pricing GS-00F-69774

cost $2065

NuArc Company, Inc. International Division
6200 West Howard Street
Niles, Illinois 60648-3404

5. 14" x 18" vertical process camera
NuArc VVE 1418 or equivalent
High quality color-corrected lens; timer need 8-channel integrator, with one second intervals; fully backlit copyboard; manual size and focus adjustment; enlarge to 300%, reduce to 33 1/3%; four 420 watt quartz lamps; final image size 14" x 18"; copyboard 16" x 20"; 115V 60 Hz.

estimated cost $2965

GSA price pending with NuArc. If not available, request bids from:

NuArc (address under Item 4) &

Goodkin, Inc.
140-146 Coit Street
Irvington, New Jersey 07111 &

Buckingham Graphics, Inc.
1414 Roscoe
Chicago, Illinois 60657

6. 26½" power paper cutter w/ power clamp
Challenge Model Diamond "26"
26½" with power clamp; two hand knife controls; two knives; four plastic cutting sticks; must provide necessary tools; two hand clamp control; 208 V, 60 Hz; split backgage for booklet trimming;

estimated cost $7794

Challenge Machinery Company
1433 Fulton
Grand Haven, Michigan 49417

7. Table top folder 14" x 20"
   Ultrafold 714
   Must fold 14" x 20" sheet, right angle option, scoring, perforation, friction feed; fold 5400 feet per minute;

   GSA pricing GS-00F-77030 cost $2155.50

   O & M Folders, Division of Baumfolder Corporation
   1660 Campbell Road
   Sidney, Ohio 45365
   1/800/ 543-4091

8. Commercial punch and bind machines
   (1) GBC electric 16" punch Model 111PM cost $1751.75
   (1) Manual 16" binder Model 16DB cost $486.50
   Black binders as listed:

   500 ¼" @ 7.61/C
   500 ½" @ 13.01
   500 ¾" @ 19.76
   500 1" @ 26.96
   100 1¼" @ 36.59
   100 1½" @ 37.76 total binders cost $411.05

   GSA pricing GS-00F-69793 total cost Item 8 $2649.30

   GBC TeleCenter
   One GBC Plaza
   Northbrook, Illinois 60062
   1/800/ 342-5422

9. Electric stapler
   Faber Castell Model 100E
   Flat stitcher only;

   estimated cost $192.50

   Faber Castell
   Corporate Office / Export
   Number 4 Century Drive
   Parsippany, New Jersey 07054

F. Microcomputer with peripherals

IBM compatible PC – XT
256K Ram expandable
1 disk drive (360 KB)
10 MEG Hard disk and serial interface;
1501002 co-processor, 8087 math option;
1504900 monitor, color, graphics, adaptor interface;
1505200 printer adaptor, centronics parallel;
1502074 serial interface, RS–232;
NEC 350 printer;
6024120 program, DOS 2.1;
CLND-C1234 memory chips (each chip adds 64K)
need 3 for each PC and 2 for each XT
cables for printers;
Lotus 123 with symphony;

estimated cost $4500

It should be noted that IBM is the only available vendor with capacity to service and maintain the equipment in Honduras. If vendors of compatible equipment (Wang, Apple, Zenith, and Epson are all acceptable) can certify their ability to provide reasonable service, they should be considered because their pricing is far more competitive.

G. Audio/Visual Equipment

1. (2) slide projectors – silent 2" x 2"

Kodak AF2 with case
capacity to project 80 and 140 slides per tray of 2" x 2" slides;
manual slide changer;
automatic timed intervals variable from 3–15 seconds; semi-automatic push button on projector; remote control for forward/reverse, focus;
automatic focus with auto-focus on/off switch;
dark screen shutter latch;
300 watt, fan cooled lamp;
Power 120V 60Hz, UL listed;

(2) projectors @ $396 and (2) cases @ $49.75 estimated cost $891.50

Eastman Kodak Company
343 State Street
Rochester, New York 14650
1/716/ 724-4689

2. 2" x 2" sound slide projector

Kodak Ektagraphic 460 audio viewer/projector
Both front and rear projection of 2" x 2" slides;
must accept all carousel and ektagraphic 80 and 140 trays;
pushbutton, remote control;
sound: cassette and endless loop cartridge 1 7/8 IPS;
record and play 150 Hz program stop, 1000 Hz visual advance for synchronization, separate track;
lamp: DDM 80 watt fan cooled;
built -in speaker and screen (9" x 9");
projector cover

estimated cost $737

3. (2) overhead projectors

3M- 213 AKD, case included
10" x 10" image stage;
lamp: ENX 360 watt, fan cooled;
14" (355mm) lens;
power: 105-130V 60 Hz;
lamp changer and indicator;
fold down post;
articulate head;
lamp intensifier;
optical color tuning;

(2) projectors @ $700 estimated cost $1400

3M Company
Audio Visual Division
3M Center, Building 225 – 3NE
Saint Paul, Minnesota 55144

4. (2) portable projection screen 60" x 60"

Da-Lite Vidio Hilo Model
Tripod; push button operation; automatic fabric lock; leg-lock; wide range height adjustment; mounting: spring roller with metal case, metal Camlok roller system; screen surface; mat white on fiberglass with masking borders;

(2) screens @ $125.50 estimated cost $251

Da-Lite Screen Company, Inc.
PO Box 137
Warsaw, Indiana 46580

5. 16mm movie projector

Kodak Ektagraphic CT 1000 / or Bell and Howell 2580
slot threading; 2000' reel size; speed: sound; lamp; 250 watt; amplifier 10-20 watts; power: 120V 60 Hz, UL listed;

estimated cost $1250

Eastman Kodak Company
343 State Street
Rochester, New York 14650

or

Bell and Howell Company
Visual Communications Group
7100 McCormick Road
Chicago, Illinois 60645

6. (2) portable audio cassette recorder

Morantz PMD-220 / or Bell and Howell 3185 / or Sony TCM 6DX
power by either/or 120V 60Hz or batteries; pause and tone control; review, auto, stop, cue;
2X counter; electret microphone; record/battery indicator;
speed: 1 7/8 IPS;
plays monaural cassettes;
input: microphone;
output: speaker, headphone;
lightweight;

(2) recorders @ $80 estimated cost $160

Bell and Howell Company
Visual Communications Group
7100 McCormick Road
Chicago, Illinois 60645

or

Sony Corporation of America
Communications Products Company
Sony Drive
Park Ridge, New Jersey 07656

7. SuperBeta HiFi video player recorder

Sony SLHF 400
Stereo audio system with 80dB dynamic range;
wireless remote control;
BetaScan; Beta SkipScan; freeze-frame; pause; tape direction indicator; pulse auto rewind; express tuning; up/down channel selector; cable compatible; 118 total channels; MTS stereo broadcast reception; quick timer; program 6 events in 7 days; stereo audio input/output; VHF-UHF input/output; 2-speed recording, 3-speed playback;

System must be Beta format for compatibility with other equipment in Honduras and for local maintenance access.

estimated cost $440

Sony Corporation of America
Communications Products Company
Sony Drive
Park Ridge, New Jersey 07656

8. 19" color television

Any portable monitor or television receiver with video input/output jacks

estimated cost $350

Sony Corporation of America (address above)

or

Panasonic Industrial Company
Audio-Video Systems Division
Matsushita Electric Corporation of America
One Panasonic Way
Secaucus, New Jersey 07094

or

RCA Service Company
Route 38, Building 203-3, Department 1614
Cherry Hill, New Jersey 08358

9. Portable public address system

Portasound Model 231A
Lectern, table top type; 17" x 13" reading surface; one dynamic microphone; four built-in speakers; built-in amplifier with auxiliary for 2 microphones, 1 auxiliary in, 1 auxiliary out, 2 external speakers;
fluorescent reading light; protective cover;

estimated cost $585

Portasound Division, Sound-Craft Systems Inc.
Route 3
Morrillton, Arkansas 72110

10. Professional slide duplicator

Radmar 1601B Dupe Pro slide duplicator
Photographic type for making duplicate 35mm slides from existing slides; enlargement and reduction capacities needed; horizontal position adjustment; magnification adjustment; complete with single lens reflex (SLR) matching camera with 55mm 5/1.7 lens; color correction filters second stage below slide; tungsten holagen illumination with foot pedal control;

estimated cost $650

Radmar, Inc.
1263-B Rand Road
Des Plaines, Illinois 60016

11. Slide viewing and editing system

Elden Enterprises, Lowdia Slide System
16" x 20" viewing screen, illuminated by two lamps
functions: viewing, editing, filing, retrieving, enlarging, projecting 2" x 2" slides;
capacity: 34 screens of 80 slides;

estimated cost $520

Elden Enterprises
PO Box 3201
Charleston, West Virginia 25332

12. Transparency maker

3M model 4500
Heat transfer for making transparencies for projection; will handle translucent or opaque originals in single sheets;
copy size 8½" x 14";
wide entrance gap to accommodate preframed transparencies;
automatic heat compensation;

estimated cost $860

3M Company
Audio Visual Division
3M Center, Building 225-3NE
Saint Paul, Minnesota 55144

## MNR Communications / Rationale for Equipment Proposed

The numerous audiences and vastly diverse educational levels of these audiences served by the MNR require a tremendous range of media support and a perceptive, flexible communications staff.

The existing offset printing facility is a major strength of the unit as exists. Consequently, it is difficult to justify expense for additional equipment in this medium in light of all other deficiencies. The unit could improve its capacity considerably with the purchase of filters and processors enabling them to produce color separations internally. The demand, however, for this capacity, and the relative ease of purchasing this service when justifiable makes it a very low priority. It would be far wiser to install air conditioning units in the print shop facility to better protect paper and supplies.

The expressed desires of the communications administrator call for purchase of conventional audio/visual equipment, addition of specific video equipment to complement and complete existing equipment and render same functional, procurement of graphic arts production tools, and the addition of equipment to fill voids in audio production. A visit at the regional MNR communications office supported the notion that these items were priority ones to fulfill regional needs as well.

The regional communications staff asserted that the overwhelming need is in audio production. This emphasis is apparently the result of client needs, measured and perceived success in current efforts, as well as the expertise of present staff.

With these observations, CTTA objectives, and the compatibility of equipment with FHIA inventory in mind, a proposed list of equipment is offered below. The obvious intention would be for the regional unit and the central unit to have compatible media capacities with some reliance on the central unit to provide production assistance where needed. This would be particularly true with print media because of the enormous expense in developing a new print shop as well as the aforementioned excellence of the existing central print shop.

There are urgent considerations needing to be addressed long before any equipment purchases will have impact on effective communications, however. Proposed space and physical facility for the regional communications center is adequate. Assuming air conditioning will be installed there, no problems are foreseen. If air conditioning is not installed, sensitive and sophisticated equipment as proposed cannot function. This should be a prerequisite to installation of the equipment. If this is not possible, it is mandatory that estimates for installation of air conditioning be sought and an equivalent dollar amount be substituted from this proposed equipment. Appropriate climate control is essential for the operation of this equipment.

A far more serious problem is the space for the communications central unit at MNR. Current space is inadequate and unacceptable. At least 1500 total square of air conditioned space is required for efficient production of staff and equipment. Sound proofed rooms for audio and video production are necessary, as well as separate rooms for office management and graphic art production. Space should also include storage areas for all of the audio/visual equipment.

In the following list, items, 1,2,8,10,19,27,28, and 33 are intended specifically for the regional office. Items 35 and 36 are intended only for the central unit. All other items allow for duplicates and will be installed at both central and regional offices.

13. Front projection screen, wall/ceiling, 84" x 84"
DaLite Vidio B
Spring roller with metal case; lock system to prevent fabric from pulling off roller;
mat white on fiberglass with masking borders;

estimated cost $154

Da–Lite Screen Company Inc.
PO Box 137
Warsaw, Indiana 46580

Equipment Recommendations for MNR/Honduras

1. A. B. Dick Mimeograph Model 555 DH

High friction dual feed rollers; adjustable feed roll pressure; 500 sheet feed system; rising feed table; paper stock from 16 pound bond to 110 pound index; sheet size from 3" x 5" to 9" x 15"; variable speed from 65 to 130 copies per minute; vertical adjustment 18 typewriter line spaces; angular and ¼" lateral adjustment; duplicating image up to 7¼" x 14"; automatic copy counter with automatic shut off; clamps for buttonhole-type stencils; fully automatic impression roller when paper fed; paper strippers adjustable; closed cylinder past ink system; cylinder brake; power: 115V 60 Hz; disengaging hand crank;

GSA pricing available GS-00F-69841 $1965.50

A. B. Dick Company
5700 West Touhy Avenue
Chicago, Illinois 60648
312/ 647-8800

2. A. B. Dick Stencil Scanner Model 592

Stencils "ready to print" in five minutes; original layout transformed to mimeo stencil accommodating text, illustrations, and photos; 115V 60 Hz;

GSA pricing available GS-00F-69841 $1435

(A. B. Dick address above)

3. (2) 35mm still camera

Pentax ME Super, chrome body
Shutter speed set during manual override by electronic pulse control, otherwise automatic shutter setting; vertically run metal focal-plane shutter; 1/2000 second top speed; 3-color viewfinder display to give exposure status, auto film winder data, and electronic flash status;

estimated cost (2) @ $249= $498

Brandon's
1819 Kings Avenue
Jacksonville, FL 32207-8787
1/ 800/ 874-5273

( NOTE: SPECIFICATIONS AND VENDORS IDENTIFIED FOR FHIA/HONDURAS PERTAIN ALSO TO THE FOLLOWING LIST OF EQUIPMENT INTENDED FOR MNR/HONDURAS:

4. A-1 (2) IBM Wheel Writer III @ $556= $1112

5. A-3 (2) Xerox 1039 photocopier zoom processor @ $3795= $7590

6. B-1 (2) Teac X-300R 7" reel to reel recorder @ $375= $750

7. B-2 (2) Technics SA 121 70 watt integrated amplifier @ $100= $200

8. B-3 (1) Numark DM-500 mixer pre-amp estimated cost $75

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9. B-4 (2) Teac R-555 cassette recorder @ $165= $330

10. B-5 (1) Technics SL 1200 turntable estimated cost $275

11. B-6 (4) Stanton 680 EL cartridge @ $75= $300

12. B-7 (4) Kenwood LSK-301W speakers @ $40= $160

13. B-8 (2) Electro-Voice EV 635A microphone @ $90= $180

14. B-9 (2) AKG Model 210 mike stand @ $30= $60

15. B-10 (2) AKG Model K-141 headset @ $50= $100

16. B-11 (2) Hitachi AVA-150 cassette player/recorder @ $43= $86

17. B-12 (2) Telex Copyette 1 & 3 cassette tape duplicator @ $1100= $2200

18. C-2 (2) Sony BMC - 660K or equivalent one piece video camera recorder @ $900= $1800

19. C-3 (1) 19" portable color television with video input/output and internal speakers estimated cost $350

20. D-1 (2) 4-post steel drafting tables 38" x 60" @ $340= $680

21. D-2 (2) Mayline E-Z grip straight edge parallel rules 60" for wood surface tables @ $62= $124

22. D-3 (2) Upholstered tilt stools @ $208.50= $417

23. D-4 (2) LEDU combination lights @ $98.60= $197.20

24. D-5 (2) Portable tracing box @ $154= $308

25. D-8 (2) Paper trimmer, 30" @ $188.80= $377.60

26. D-14 (2) Kroy lettering machines (include typefonts and tape as listed) estimated cost (2) @ $570.21= $1140.42

27. E-7 (1) Ultrafold 714 table top folder estimated cost $2155.50

28. E-9 (1) Faber-Castel Model 100E electric stapler estimated cost $192.50

29. G-1 (2) Kodak AF2 slide projectors with case @ $445.75= $891.50

30. G-2 (2) Kodak Ektagraphic 460 audio viewer/projector @ $737= $1474

31. G-3 (2) 3M-213 AKD overhead projectors with case @ $700= $1400

32. G-4 (2) Da-Lite Vidio Hilo Model 60" x 60" portable screen @ $125.50= $251

| | | |
|---|---|---|
| 33. | G-7 (1) Sony SLHG 400 video player/recorder | estimated cost $440 |
| 34. | G-9 (2) Portasound Model 231A portable PA system @ $585= | $1170 |
| 35. | G-10 (1) Radmar 1601B Dupe Pro slide duplicator | estimated cost $650 |
| 36. | G-11 Elden Enterprises Lowdia Slide system | estimated cost $520 |
| 37. | G-12 (2) 3M Model 4500 transparency maker @ $860= | $1720 |

TOTAL $33,575.22

Trip Report

Consultant: Kerry J. Byrnes

Period: January 6-February 16, 1986

Destination: Fundacion Hondurena de Investigacion Agricola (FHIA)
La Lima, Honduras

Purpose: To conduct a characterization study of citrus growers in the Choloma and El Progreso regions.

Daily Activities: Summarized on the attached sheets.

Accomplishments: A sampling frame was designed and interviews were conducted with a random sample of 49 citrus growers in the El Progreso region. The sample was stratified by area planted to oranges, membership in the National Citrus Producers Association (ANACIHO), and whether the grower had sold citrus under contract to the Citrus Development Corporation (CDC). Presented an oral summary of the study's preliminary findings to FHIA. Field support for the study was provided by FHIA (a research assistant and a vehicle) and the CDC (access to a microcomputer for drafting of interview questionnaire and two field agronomists who helped us in locating the sampled growers). Limitations of time and difficulties encountered in collecting data in the Choloma region resulted in a decision to focus this study solely on the El Progreso region.

Followup: A written report on the study is to be prepared by the consultant and is expected to be completed by March 7, 1986.

2/24/86

ACTIVITY REPORT: Kerry J. Byrnes

Week 1 (January 6 - 10, 1986)

1/6: Travelled from Reston, Virginia to San Pedro Sula, Honduras

1/7: Initial meeting with Dr. Fernando Fernandez, Director, FHIA, to review consultant's scope of work. Meeting with Mrs. Blanca Rivera, Personnel Officer, FHIA, to discuss consultant's requirements for an assistant and review resumes of possible candidates for this position. Continued reading secondary material on citriculture.

1/8: Met with Mr. Richard Owen, USAID/Honduras, to brief him on the objective of the consultancy and projected schedule of activities. Began reading two studies on citrus growers in Choloma and Progreso. These studies were conducted in June 1985 by FHIA's agronomists. Candidate for assistant position failed to appear for interview. Returned early afternoon to hotel to rest due to illness. Prepared list of questions about FHIA's citrus grower studies.

1/9: Met with Lic. Carlos Zacarias, Agricultural Economist, FHIA, to discuss my impression of the 2 citrus grower studies and learn his views on questions that might be addressed in a characterization study of citrus growers in the Choloma and Progreso regions. Obtained and began reading additional studies which Lic. Zacarias has conducted on the world citrus market and the citrus situation in Honduras. Interviewed one candidate for the assistant position.

1/10: Completed review of studies which FHIA has completed to date on the structure of the Honduran citrus market. Met briefly with Lic. Zacarias to get his reactions to some possible approaches to doing the characterization study. Lic Zacarias made arrangements for us to meet on 1/13 with members of the Agronomy Dept. who had worked on FHIA's citrus grower studies. Went to the plant of the Citrus Development Corporation (CDC) to meet with Arq. Jose Alejandro Diaz Zelaya, Sub-Gerente, to review the consultancy objective, possible approaches to conducting the characterization study, and possible ways in which CDC could assist in the development of the study (e.g., providing access to CDC records on farmers who have sold citrus to the CDC).

1/11: Reviewed and consolidated notes. Read additional background material on contract farming. Reviewed INTERPAKS methodology for leads on possible indicators and measurement approaches for citrus growers characterization study.

Week 2 (January 13-18, 1985)

1/13: Met with Ing. Napoleon Rodriguez, Ing. Santos Lopez, and Lic. Carlos Zacarias to discuss FHIA's citrus growers study. Met with Mrs. Rivera to discuss selection of research assistant. We agreed that Ing. Gustavo Laguna Enamorado would be the bent qualified for the position. Returned to CDC to see if CDC would be able to provide one of the CDC field agronomists to assist in locating sample farmers and conducting interviews; CDC's manager, Daryl Smart agreed to providing this support.

1/14: Visited CDC to meet with two CDC field agronomists (Ing. Eduardo Reinado Sr. Pablo Alvarado Diaz). Discussed objectives and problems of conducting a characterization study of citrus growers. Acompanied Alvarado and Reinado on field trip to meet with a part-owner of a citrus (grapefruit) operation in Macica Atlandida and a "capataz" (farm manager) of an orange farm in Monte Cristo Atlantido.

1/15: Began drafting a survey questionnaire. CDC manager Daryl Smart agreed to to let me use the CDC's Epson QX-10 to facilitate typing and redrafting the questionnaire.

1/16: Ing. Laguna joined the characterization study team on this date and assisted me in carrying out the activities summarized below. Continued drafting questionnaire at CDC. Travelled to El Progreso region to field test sections of draft questionnaire with a "capataz" in Negrito Yoro and a small citrus grower in Camalote Norte, Progreso Yoro.

1/17: Continued drafting questionnaire. Travelled to Choloma area to field test questionnaire with two "capataces". Continued drafting questionnaire at CDC with an interim visit to FHIA to ensure availability of a vehicle for Saturday and beyond.

1/18: Went to CDC to continue drafting questionnaire. Completed a draft questionnaire which can now be reviewed with appropriate FHIA staff. Continued pursuing arrangements to obtain from FEPROEXAAH a list of the citrus growers affliated and not affliated with ANACIHO (national citrus growers association).

ACTIVITY REPORT: Kerry J. Byrnes

Week 3 (January 20 - 25, 1986)

1/20: Went to FHIA for meeting with Carlos Zacarias and Santos Lopez to review questionnaire, then to CDC to work on redrafting questionnaire. Went to FEPROEXAAH to follow up on earlier request for assistance in obtaining a list of the citrus growers. Met with Dona Ilsa Diaz Zelaya who indicated that FEPROEXAAH would provide the requested information; however, she asked that I obtain a letter of introduction from FHIA. Enroute to FHIA stopped to obtain photos for a FHIA ID card.

1/21: Went to FEPROEXAAH to continue working on obtaining an updated list of citrus growers. Went to CDC to pick up Pablo Alvorado and proceeded to FHIA. Met with Chris Millensted to review draft questionnaire. Made photocopies of citrus growers list contained in FHIA reports. Returned to CDC to revise questionnaire and work on developing a sampling frame stratified by area planted to citrus, membership in ANACIHO, and whether farmer sold citrus to CDC. Completed revision of questionnaire and went to XEROX to have some photocopies made of the questionnaire.

1/22: Conducted 6 interviews in the Choloma area with "capataces" (a "capataz" lives on the farm and looks after it). Encountered significant variation among "capataces" in education and degree of participation with farm owners in making decisions about the production and marketing of oranges. It became clear that collecting the required data would require that additional time be allocated to locating farm owners; in the case of these 6 "capataces", four of the owners live in San Pedro Sula (SPS), 1 in Tegucigalpa, and 1 in a nearby town.

1/23: Following a phone conversation with Dr. Fernando Fernandez concerning FHIA's request for FEPROEXAAH assistance, went to FHIA to discuss with Dr. Fernandez the time constraint problem that would be encountered in attempting to track down both "capataces" and farm owners. Dr. Fernandez recognized this difficulty and suggested that the sample be set at a more manageable level (25%-30%) in view of the limited resources available for conducting the study. Went to FEPROEXAAH to meet with Sr. Aramando Boquin to provide information about the objectives of the FHIA citrus growers study and the nature of the assistance that FEPROEXAAH could provide in support of the study. Boquin was tied up in a meeting but his associate Ing. Arnoldo Bueso asked if we could meet with him (Bueso) after lunch. During the interim, attempted to locate several of the farm owners living in SPS. Did locate and interview the son of one of the owners but was not able to contact any of the other two owners living in SPS. Met with Bueso to review the production census of citrus growers that had been conducted

by FEPROEXAAH, procedures used in collecting the data, and the draft (internal use only) report that had been prepared from an initial analysis of the data.

Based on the difficulties encountered during the past two days and the additional information obtained during my discussions with Bueso, I became concerned that the study I was attempting to conduct was overly ambitious and would in some ways duplicate data which had already been collected by FEPROEXAAH. Returned to FHIA to discuss my concerns with Carlos Zacarias and to propose an alternate approach to conducting the study. Lic. Zacarias agreed that it would be advisable to limit the scope of the study to the proposed alternative. This alternative entailed (a) restricting the area covered to that of Progresso (where there is a larger proportion of farm owners who actually live on the farm), (b) limiting the sampling frame to orange growers with 50 manzanas or less of oranges, (c) reducing the scope of the questionnaire (by focusing on the farm as a whole rather than attempting to collect detailed data across citrus lots), and (d) focusing on exploring differences between farmers (identified on the basis of available secondary information) in the following categories:

(1) Members of ANACIHO and Selling to CDC
(2) Members of ANACIHO and Not Selling to CDC
(3) Not Members of ANACIHO and Not Selling to CDC

Lic. Zacarias agreed that these criteria would help give the study a clear focus and would be a practical route to take given limited resources (time, personnel, vehicle). Returned to hotel with Gustavo to design a sampling frame for Progreso and to work on redesigning the questionnaire.

1/24: Went to CDC to revise questionnaire and draw sample. Made arrangements with Pablo Alvorado to go to field on Saturday. Went to XEROX to have copies made of revised questionnaire. Returned to FHIA to discuss revised questionbnaire with Lic. Zacarias and arranged for vechicle to be available on Saturday. Stopped by FEPROEXAAH to provide Ing. Bueso with update on the study but he was tied up in a meeting.

1/25: Conducted 5 interviews in Progeso. Made arrangements to meet with another farmer on Wednesday. One farmer was reluctant to be interviewed and we chalked this up as a refusal. Returned to hotel to screen the 5 questionnaires for any problems in recording of farmers' responses.

**Week 4 (January 27 - February 1, 1986)**

1/27: Conducted 5 interviews.
1/28: Conducted 6 interviews.
1/29: Conducted 6 interviews.
1/30: Conducted 5 interviews.
1/31: Conducted 7 interviews.
2/1: Conducted 2 interviews.

Week 5 (February 3 - 8, 1986)

2/3: Conducted 3 interviews.
2/4: Conducted 5 interviews.
2/5: Conducted 5 interviews.
2/6: Revised codes for coding of questionnaires, coded questionnaires, and began transferring data from questionnaire to tabulation sheets.
2/7: Continued transfer of data to tabulation sheet.
2/8: Began calculation of means and percentages, revised questionnaire so that it includes explanation of codes used in transferring data to tabulation sheets, and began calculation of means and percentages.

Week 6 (February 10 - 16, 1986)

2/10: Continued calculatiopn of statistics and begain rechecking and cross-checking for coding errors and any inconsistencies in coded data.
2/11: Finished calculation of statistics and typed up a summary characterization profile for presentation to and discussion with FHIA personnel.
2/12: Assembled preliminary report to leave with FHIA to expedite feedback of study data to FHIA's citrus and agricultural economics programs.
2/13: Presented report for internal discussions within FHIA.
2/14: Gave a repeat presentation of report to additional FHIA personnel and representatives from CDC. Invited representatives from FEPROEXAAH and ANACIHO did not attend this presentation.
2/15: Began drafting report. Departed San Pedro Sula at 5:30 p.m. to return to Washington, D.C. Arrived Dulles International on 2/16 at 2:30 a.m.

Trip Report
CTTA Team Visit to Honduras
10-14 March 1986

I. Team Composition

| | |
|---|---|
| H. Ray | AED, CTTA Project Director |
| E. Tout | AED, CTTA Associate Project Director |

II. Purpose of Visit

1. To meet with representatives of the new Government of Honduras and reaffirm their support for CTTA Pilot Project activities in Honduras.

2. To review Project and personnel plans with USAID/Tegucigalpa, the Ministry of Natural Resources, and the Honduran Foundation for Agricultural Research.

3. To review proposed communication equipment purchases and Pilot Project Site arrangements with representatives of the Ministry of Natural Resources.

4. To inspect facilities for the communications division to be located at the Comayagua Pilot Site.

5. To review equipment purchases, physical arrangements, and fund raising needs with the Honduran Foundation for Agricultural Research.

III. Results

Representatives of the new Government of Honduras (GOH) reaffirmed support of the Letter of Understanding (LU) and Project Implementation Plan (PIP) drafted in 1985 and concurred on draft budgets for personnel and communications equipment. By 1 June, the MNR will have identified and reviewed the qualifications of candidates for pilot site communications staff.

Plans were made with USAID/Tegucigalpa and the Honduran Ministry of Natural Resources (MNR) for the submission and review of candidates for the long-term agricultural communications advisor to the MNR, and for a possible trip by a MNR representative to the United States in early May to interview candidates for the long-term advisor position and to attend CTTA Project briefings at AED, AID/Washington, and the University of Wisconsin. It is projected that the communications advisor will be in place in August. It may also be possible for Ing. Misael Bueso, MNR representative, to travel to Colombia to attend the CIAT/CIMMYT/CIP Communications Conference and at the same time interview one of the candidates for long-term advisor.

The communication hardware list developed for MNR communications

offices in Tegucigalpa and at the Comayagua Pilot Site by Gary Hermance, AED short-term advisor, was reviewed, revised, and approved by MNR representatives Bueso, Luis Fuentes, Conrado Gomez, and Ramon Nuila. Procurement will begin immediately.

Facilities at Comayagua were inspected and it was agreed with Ing. Migel Soler, regional director, and Bueso that an existing three-bedroom house near the regional center will be remodeled to contain the communications unit, including the long-term advisor. The Regional Communications Director (CTTA regional project coordinator) will have offices within the center. It may be necessary to arrange for an architect to suggest alterations to the facilities.

Proposed communications hardware purchases for the Honduran Foundation for Agricultural Research (FHIA) were reviewed with Dr. Fernando Fernandez, FHIA director general, and approved. FHIA requested assistance in preparing a stock list for a six-month supply of printshop and communications production supplies. Gary Hermance, who prepared the communications hardware list, will be requested to provide stock-list information.

Plans were made to contract consultants Cristina Kessler, freelance communications specialist from Honduras, and Edward Williams, development officer from Winrock International, for short-term technical assistance to produce three promotional brochures for FHIA. The brochures are needed by mid-May for Fernandez' first fund-raising tour, planned for late May and early June. Fernandez also will visit the CTTA contractor team at Cornell University and AED.

At the suggestion of Fernandez, FHIA, and Gordon Straub, USAID/Tegucigalpa, Christopher Millenstead, currently a consultant with FHIA, was recommended to Cornell University as a candidate for the FHIA long-term fund raising advisor.

The possibility of scheduling in Honduras a 3- to 4-day meeting of Honduras and Peru Pilot Project cooperators for CTTA Project orientation was discussed. Straub will approach the MNR and FHIA for their reaction to such a meeting and Ray and Tout will discuss the proposal with Peru and with AID/Washington.

One morning was spent at Zamorano, where promising technologies for transfer to farmers through communications were discussed with Zamorano staff. Scientists in the Entomology Department have identified some potentially valuable pest control technologies and have some data from and experience in using graphic/written communication to provide information to farmers.

Dr. Simon Malo provided insights on the current reorganization of the Ecuadoran Ministry of Agriculture. Malo is a member of an advisory group to the Ecuadoran Minister of Agriculture. Other group members include Fernando Fernandez, FHIA; Bartley P. Cardon, University of Arizona; Norman Borlaug, CIMMYT; Richard D.

Wheeler, former president of Winrock International; Fabian Portilla, World Bank; and Ecuadoran liaison member Jorge Chang.

IV. End of Trip Status

1. There is strong support within the Government of Honduras and the MNR for CTTA Project objectives. Plans will continue for a projected pilot project start-up date of 1 August 1986.

2. The MNR will review the qualifications of local communications personnel for Comayagua Pilot Site initiation, and will make appropriate arrangements for providing physical facilities for the Comayagua communications unit.

3. AED will proceed with procurement of communications hardware for the MNR and FHIA.

4. AED will facilitate contractual arrangements with Cristina Kessler and Edward Williams for short-term contracts to produce fund raising materials for FHIA, and will arrange compilation of a six-month list of communication supplies by Gary Hermance.

5. USAID/Tegucigalpa will work to facilitate Misael Bueso's attendance at the Cali Communications Conference and to develop a plan for a CTTA Honduras/Peru orientation meeting in Honduras.

6. AED and Cornell University will continue recruiting and reviewing candidates for long-term advisor positions at the MNR and FHIA, with the goal of having the MNR advisors in place by August 1986 and FHIA advisors in place by June 1986.

## Contacts Made

**USAID/Tegucigalpa**

| | |
|---|---|
| Gordon Straub | |
| Frank Bendana | Deputy Head, Food & Agriculture Office |

**Ministry of Natural Resources**

| | |
|---|---|
| _____ Montenegro | |
| Roberto Villeda Toledo | Vice Minister |
| Migel Angel Soler | Advisor |
| Misael Bueso | Regional Director, Comayagua |
| Conrado Gomez | CTTA liaison |
| Luis Fuentes | Communications Division |
| Ramon Nuila | Communications Division |
| | Communications Division |

**Honduran Foundation for Agricultural Research**

| | |
|---|---|
| Fernando Fernandez | Director General |
| Christopher Millenstead | USAID Consultant |
| Cristina Kessler | Communications Consultant |

**Zamorano**

| | |
|---|---|
| Simon E. Malo | Director |
| Jorge Roman | Dean |
| Keith Andrews | Professor, Entomology |

## CTTA PROJECT SCOPE OF WORK

**CTTA/Honduras/FHIA 24 March - 10 July 1986**
**Ms. Cristina Kessler**

**Scope of Work**

To meet with Fernando Fernandez, FHIA Director General, to discuss design of three promotional brochures for the FHIA Foundation Development Program. Conduct all necessary research for brochure development. Design, take photographs, write text, and do layout for all three brochures. Work with short-term development specialist on revisions, editing and rewriting text. Supervise printing of camera-ready copy for all three brochures. All work will be carried out under the supervision of Dr Fernandez, with completion date no later than May 20, 1986.

**Brochures produced:**

1. Plantain and Banana Breeding (The International Program) (English & Spanish)
2. El Cuerpo de Paz en Honduras (Spanish)
3. Non-traditional Export Crops (English & Spanish)
4. Plantain Production (English & Spanish)
5. Vegetables (English & Spanish)
6. Cacao (English & Spanish)
7. Citrus (English & Spanish)

6 September 1986

# HONDURAS TRIP REPORT

E. Tout, AED, and W. Ward, Cornell University
21-28 August 1986

## 21 August, Travel

Travel to San Pedro Sula, Honduras.

Telephone conversation with C. Kessler regarding completion of promotional materials for FHIA.

## 22 August, FHIA

F. Fernandez, FHIA Director General
C. Millenstead, nominee for CTTA long-term development advisor

### Communication Unit staff and structure

Following is a preliminary organization chart for the FHIA Communication Unit, as described by F. Fernandez.

COMMUNICATION DIVISION

Director of Communication

Library

Librarian
Assistant
Secretary

Communication Unit

Unit Chief

Editorial
Printing
Audio-Visual
Photography
Graphics
Radio-TV
Public Relations

Training and Conferences

Unit Chief
Secretary

Current status:

### Director of Communication

J. Cano will arrive 1 September 1986.

### Library

Two consultants are working to update the library collection and review library needs. It is anticipated that a permanent librar-



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ian and secretary will be hired by late 1986. An assistant librarian will be employed when needed.

Communication Unit

A photographer and artist are on staff. The Unit Chief arrives 1 September 1986. Printers will be hired when printing equipment is delivered -- late 1986. Radio-TV and Audio-Visual units will be staffed in 1987, and a writer-editor will be hired in 1988. The Public Relations position will be staffed at some later date, although there currently is active public relations activity.

Training Unit

Training is being handled by the chief of the Cacao Research Division. A Chief of Training and Conferences is expected to be identified in late 1987 or early 1988.

Priorities:

- Development of editorial, printing, and graphics capabilities.
- Library development.
- Development of training and conference capabilities, with emphasis on two audiences -- extension and government/private decision-makers.
- Evaluation of level of need for communication support to scientific units.

Long-term library organization:

Library

| Cataloging | Documentation |
|---|---|
| Microfilm | Bibliographies<br>Content pages<br>Abstracts<br>Computer data management |

Long-term training and conferences organization:

Training and Conferences

| Training | Conferences |
|---|---|
| Registrar<br>Instructor<br>Commodity specialists | Conf. officer<br>Secretary |



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## Annual report and research highlights

Scheduling and preparation alternatives for the first FHIA annual report were discussed, and it was decided to prepare two reports. Writing, editing, and production of the first, tentatively titled FHIA: The Beginnings, will begin immediately, with the goal of distributing the report in November 1986. It will highlight FHIA's development and goals and briefly describe research activities during the first months of the Foundation. Substantial resource material already has been prepared.

The second report, the first true Annual Report, will highlight 1986 research activities and be available for distribution in April or May 1987. The format will include "research highlights" for each FHIA program area.

## Cornell contributions to FHIA

Cornell faculty concerns regarding the substantive contribution of Cornell University to FHIA programs were expressed and F. Fernandez was asked to identify FHIA's expectations of Cornell.

Communication:

In the area of communication, Fernandez indicated interest in long-term support of instruction, mass media development and production, a possible internship program, and specific communication media areas, including print, graphics, audiovisual, and radio-television.

Other:

Fernandez also indicated interest in Cornell contributions in agricultural science, particularly in the areas of entomology and plant physiology, and in fundraising efforts for the Foundation in general and for the communication unit.

## FHIA participation in pilot site activity

Both FHIA and Cornell indicated interest in precisely identifying their respective and interactive levels of responsibility in the CTTA Comayagua pilot site activity. Three areas for possible contributions were identified by FHIA and Cornell -- media development and communication research, institutional networking, and agricultural technology identification.

Concern was expressed by both Fernandez and Ward that appropriate linkages of CTTA Pilot Site activities and the FHIA Communication and Research Units have not been clearly identified. Fernandez feels J. Cano, and through him FHIA, should have substantial inputs into Pilot Site activities, and that Pilot Site activities should substantially support the information dissemination goals



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of the FHIA-FEPROEXAAH horticultural technology development/export marketing project in the Comayagua Valley.

FHIA-FEPROEXAAH horticultural technology development/export marketing project in the Comayagua Valley

FHIA and FEPROEXAAH are coordinating a three-year, $1.5 million project in the Comayagua Valley to develop vegetable-growing technologies for a US export market. The technologies to be developed are relatively sophisticated. FHIA will be responsible for the agricultural technology development, product packaging, and information dissemination facets of the project and FEPROEXAAH will conduct marketing feasibility studies.

Although communication strategies for the project have not been developed, it is anticipated that the new technologies will be demonstrated to farmers during group visits and field tours, and that the farm will be open to individual inspection by farmers. FHIA is interested in establishing CTTA linkages with the vegetable project.

Honduras Site Workshop

FHIA staff were updated on plans for the Honduras Site Workshop and FHIA's participation in the Workshop was discussed. It was agreed that FHIA would plan activities for Friday morning, 26 September. Activities might include a tour and briefing on FHIA facilities and agricultural technology development goals and a discussion of networking and institutional linkages between research organizations, technology transfer organizations, and farmers, likely to be developed and lead by J. Cano. Further planning will take place as the Workshop agenda is developed.

Communication unit facilities

Fernandez and C. Young provided updates on FHIA Communication Unit facilities. The old farm building immediately adjacent to FHIA main offices is being renovated as temporary quarters for the Communication Unit. Upstairs partitions have been removed and preparations and an office plan has been designed.

Negotiations are being finalized for the purchase of the adjacent Sports Center as a permanent facility for the Communication Unit. When the purchase is finalized, renovations will begin, with the goal of completion in 1987. A preliminary plan for the Unit has been developed.

Equipment and vehicle purchases

Fernandez, Millensted, and Young were updated on AED progress in identifying a purchasing agent and contracting for the purchase of FHIA communications equipment and vehicles.

Millensted asked that a special request be made that FHIA vehicles include a standard spare tire, tropical kit, and be light in color.

Young indicated that, for customs clearance purposes, he needs to receive a list of all equipment (by name only) and a short description of each piece; and vehicle color, model, serial number, and a list of all specifications at least one month before they are shipped from the United States.

Plans for Cano and Millensted visits to Cornell

One-week visits by Cano and Millensted to Cornell University were discussed and approved by Fernandez. It is tentatively planned that Cano will visit Cornell the second week of October, and will work primarily with the agricultural communication staff. Millensted also will plan to visit Cornell in October, and will visit fundraising staff from various colleges and organizations within the University.

23 August, San Pedro Sula

Discussions with C. Millenstead and preparation of agenda for discussion with USAID/Tegucigalpa and Ministry of Natural Resources representatives.

Telephone conversation with C. Kessler regarding completion of promotional brochures for FHIA. Kessler will facilitate changing the Spanish editions of FHIA promotional publications as Fernandez has requested. Proof copies of revisions of the English versions are being delivered to FHIA today. Kessler anticipates completion of her responsibilities by 15 September.

24 August, Travel

Travel from San Pedro Sula to Tegucigalpa and continued preparation for meetings during the week of 25 August.

25 August, USAID/Tegucigalpa, MNR

USAID/Tegucigalpa:

G. Straub, agriculture mission officer

Clearances

Approvals and travel clearances for CTTA short-term advisors were discussed with G. Straub, and letters formally requesting approvals were prepared and submitted to USAID/Tegucigalpa. The Mission will cable approvals to A. Meyer, AID/S&T/ED.



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Tentatively identified and approved short-term advisors and their responsibilities follow.

V. Barzetti, communications, 4 months beginning 2 September
E. Booth, communications/investigation, 1 month beginning 2 September
J. Carrera, agricultural technology, 2 months beginning 8 September

Tentatively discussed short-term assignments were:

J. Elder, behavior, 2 weeks
G. Hermance, equipment/architecture, 1 week beginning 19 October
J. Miller, architecture, 1 week beginning 19 October

Update on CTTA Pilot Project activities

Straub received an update on CTTA plans for pilot project implementation in Honduras.

Honduras Site Workshop

Straub received an update on plans for the Honduras Site Workshop and reconfirmed his availability to chair the closing session at FHIA on 26 September.

Clearances for the following Honduras Site Workshop participants were requested and verbally approved. A. Meyer, AID/S&T/ED will be notified by cable of the approvals.

| Name | Arrival (Sept.) | Departure (Sept.) |
|---|---|---|
| A. Meyer | 22 | 27 |
| H. Ray | 17 | 28 |
| D. Foote | 17 | 28 |
| E. Tout | 14 | 30 |
| M. Cruz de Yanes | 17 | 28 |
| W. Ward | 17 | 28 |
| D. Thurston | 17 | 28 |
| J. Ignacio Mata | 17 | 28 |
| S. Saunders | 17 | 28 |
| E. Booth | 17 | 28 |
| 4 Peruvians | 21 | 28 |

Ministry of Natural Resources:

M. Bueso, head, communications unit
L. Fuentes, head, Comayagua communications unit



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MNR representatives were briefed on the approval status of short-term advisors that were identified as necessary in M. Bueso's 19 August letter to G. Straub.

Plans were made for a visit to the CTTA Pilot Project site in Comayagua on 26 August and for planning facilities for Comayagua communication unit. Plans also were made to visit the MNR print shop and a review of media production equipment in preparation for drafting a scope of work for the possible visits of an equipment specialist and architect to assist the MNR in planning for equipment purchases and remodelling.

Consultant discussions:

E. Booth, AED/Washington

Tout visited with E. Booth regarding her short-term assignment to assist V. Barzetti in Pilot Project initiation activities, specifically in the area of developmental investigation, and in contributing to presentations during the Honduras Site Workshop. Booth indicated her interest in being involved in Workshop sessions on developmental investigation, communication strategies, and materials pretesting.

## 26 August, MNR, Comayagua

G. Straub
M. Bueso
L. Fuentes
_____, assistant director, Comayagua Regional MNR Office
_____, director, CEDA (Centro Educativa para el Desarollo Agricola

We travelled to Comayagua where we worked with M. Bueso and L. Fuentes to develop recommendations for renovations (See attached plan.) to the house that has been identified for the Comayagua MNR Communication Unit and discussed space requirements for communication staff and equipment. Bueso and Fuentes will begin immediately to arrange for the renovations, and will be assisted, on her arrival, by Barzetti. Certain renovations, such as those required to create a radio/video studio, will be delayed until equipment arrives for the communication unit.

In the afternoon, we met with the director of CEDA to discuss the possibility of using CEDA facilities during the Honduras Site Workshop. CEDA has excellent meeting rooms, overnight and food service accommodations, and equipment. It was agreed that CEDA would be Workshop headquarters while participants are in Comayagua and that Fuentes would prepare an official request for use of the facilities. Arrangements will be completed at a later date.



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Orlando Hernandez

Tout met with O. Hernandez, candidate for long-term evaluation specialist under the ACT Subcontract, to discuss the CTTA Project. It appeared likely that Hernandez would turn down ACT's offer, and continue to work with USAID/Tegucigalpa.

27 August, MNR

M. Bueso
L. Fuentes
C. Gomez, MNR chief of media production
Staff of MNR printing facility

Printing needs

We visited the MNR printing facility, which is about 15 km (25 minutes) from the communication office, toured the facility, and discussed the type of data that are needed in preparation for an evaluation of printing capabilities and equipment and maintenance needs.

It appears that the printing facility, although basically well equipped, is substantially underutilized and undermanaged. To an extent, this is the result of its distance from MNR headquarters. When we were there, one of four presses was running a two-color job, one was printing a black & white form, and there was a mimeograph job. Otherwise, the facility was quiet. There is also a lack of basic supplies, and of the supplies which are available, many are outdated.

There is need for assistance in increasing the use and efficiency of the printing facility, but it is our opinion that the management, maintenance, and supplies aspects should be emphasized rather than the identification of new equipment to purchase.

M. Bueso proposed that the MNR communication office might be moved from its present location to the printing facility, which has some free space. We feel this would be a serious mistake, that would result in virtual total isolation of the communication unit from the scientific and extension sections of the Ministry. It would be far more preferable to move the printing section (even if it were somewhat crowded, and even if one of the presses had to be put in storage) to the central communication unit offices.

As a result of our visit we will draft a scope of work calling for an evaluation of the printing unit with emphasis on relocation, management, maintenance, and supplies. As a part of the evaluation, it may be necessary to review the availability of

funds for and private sector facilities that might serve the printing needs of the Ministry.

Additional facilities for the MNR Communication Unit

We discussed the construction, partitioning, and furnishing of additional facilities for the MNR Communication Unit. Although it is anticipated that construction on a new building will begin in 1987, and that when construction is completed the Communication Unit will move to the ground floor of the old main building, we feel it would be wise to complete a floor above the existing Communication Unit offices and partition it for temporary use.

We do not feel, however, it is necessary to send an architect to assist in the design of the additional space. If and when the Communication Unit moves to the old main building architectural assistance will likely be needed.

Honduras Site Workshop

Arrangements for the Honduras Site Workshop were discussed. The MNR will provide bus transportation for the participants to Comayagua and San Pedro Sula, make arrangements for accommodation in Comayagua, and work with CTTA Honduras Staff to identify suitable audiences for field activities during the Workshop.

Bueso and Fuentes will work together, and with CTTA Honduras Staff, to identify Honduran participants to the Workshop. Bueso will seek funding from USAID/Tegucigalpa for the Honduras participants to attend the meeting (although Straub indicated such funding is unlikely to be approved).

We visited the Hotel Alameda where we checked on accommodations for Workshop participants and meeting rooms. Gladys Funez, hotel representative, confirmed a 15% discount on rooms for participants and indicated that we could rent the conference room, which is large enough to accommodate all the meetings, for Lps 100/day. Barzetti will follow up on room reservations and arrangements when firm arrival times are identified.

Graduate study

Ward visited with Hector Barletta, former MNR employee and now employed by Zamarano, about graduate studies in agricultural communication at Cornell University or the University of Wisconsin.

Communication Unit staff

We were briefly introduced to MNR Communication Unit staff and discussed the Communication Unit Organization Chart. Those offices that currently are filled are identified and names of

persons holding them were given. Ward noted that the MNR Communication Unit organized similarly with that of FHIA.

Susan Saunders

Tout met in the evening with S. Saunders to brief her on meetings with USAID/Tegucigalpa, FHIA, and the MNR. Saunders will arrange introductory meetings at USAID, the MNR, and with other groups and persons when Barzetti arrives in-country.

28 August, Travel

Return to Cornell University and AED, Washington.

# TRIP REPORT

January 18 - 23, 1987

Honduras: FHIA (San Pedro Sula)

William B. Ward, CTTA Coordinator, Cornell University

## January 18 (Sunday)

Left Miami, Florida, 2 p.m.; arrived San Pedro Sula 4:15 p.m. (Accompanied by Dr. Charles McCulloch, head of Cornell's Biometrics Unit.)

## January 19 (Monday)

I reviewed the working outline for the Integrated Action Plan (IAP) for 1987 with J. Cano (Director of the Communication Division/Senior Advisor) and two key staff members (J. Moran, head of the Library Unit and J. Escolo, head of the Communication Production Unit). The outline provided by AED needed to be rather extensively revised because it related more to the pilot project in Comayagua than to FHIA.

By mid-January (1987), the Communication Division had been in existence for only 4 1/2 months with a limited number of staff members. Cano emphasized in our first conference that for 1987 he and available staff members would be primarily involved in communication planning and strategy development for FHIA and the Pilot Project in Comayagua. However, other principal activities planned for the year include preparation and dissemination of an annual report and publishing agricultural research publications and a quarterly news letter. In addition, permanent housing facilities for the Division are being designed and two buildings will be remodeled. At the request of F. Fernandez (Director General) and Cano, I inspected these buildings which will become the permanent home of the Communication Division and its three units. The buildings are adjacent to the present FHIA campus and when remodeled will adequately serve all the space needs of the Division.

Cano and the Director General asked if it would be possible to shift some of the CTTA funds in the 1987 budget for short-term consultants to be used for other needs in the Division because the Foundation would not require the 14-man months for such consultancies. I outlined the procedure for making the request and obtaining the necessary approvals. (The only flexibility in



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the Cornell/FHIA budget is in this category.)

Reviewed page proofs of FHIA's 1985 Annual Report which will be off the press in time for the General Assembly meeting on February 20. (The Assembly of 30 members is the main governing body of the Foundation.)

January 20 (Tuesday)

Consulted with Communication Division staff members on the content for the 1987 Integrated Action Plan.

At the request of the new head of the Library Unit (J. Moran), I reviewed the tentative plans for the remodeling of the building which will house the library and made a few suggestions for improvements, including a display area for FHIA publications and the relocation of a large central air conditioning unit.

Cano, a local architect, and I toured the second building. I made suggestions for office locations, communication production units, and rooms for conferences and training activities. I was surprised that neither Cano or the architect had seen the plans Jim Miller and I prepared more than a year ago for a new communication building which was being considered at that time. Therefore, I asked the Director General's office to locate them for me so I could turn them over to Cano and the local architect. Some of the ideas might be useful in the remodeling of the recently purchased buildings.

I called Dick Owens at the USAID Mission in Tegucigalpa and learned that he could not get to FHIA to talk with me on Wednesday as he had planned. (Also, my scheduled visit to see him in Tegucigalpa on Monday had to be cancelled because the Embassy was closed for the Martin Luther King holiday.) Owens told me on the phone that he thought some (but not all) of the problems mentioned in recent memos and letters were starting to "smooth out."

January 21 (Wednesday)

Conferred with Cano on strategies to develop an information system between the Communication Division and the Research Programs.

Reviewed tentative plans to produce a quarterly newsletter with content originating from the Director General and each head of the Research Programs; discussed content, characterization of audiences, and the building of mailing lists. C. McCulloch participated in this session to obtain information needed to determine the possibilities of using computers in this process.



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C. Millensted and I discussed his strategy for the Development Office operations. It is a sound approach and should be successful. However, we both realize it will be an exceedingly difficult task to obtain the needed future financial support for the Foundation.

Conferred with M. Contreras, Director of Research, and Cano about a short-term consultancy for David Thurston. A letter was prepared requesting his services.

F. Fernandez and I met privately for a good share of the last afternoon of my visit. Topics covered: communications between FHIA and Cornell; Cano's relationships with Ministry personnel; hiring of a Director of the Communication Division by FHIA so that Cano could become a full-time Senior Communication Advisor.

Fernandez and I discussed at some length Cano's present position with FHIA. We did not resolve the issue of his appointment as Senior Communication Advisor and FHIA hiring another person to head the Division. Therefore, I requested that he meet with Richard Peters and Dick Owens at the USAID Mission in Tegucigalpa as soon as possible in an attempt to get an agreement there on this issue and then with Cornell and AED. He promised to do so.

The Director General, Cano, and I met to consider short-term consultancies for 1987. (The budget allows for 14-man months.) FHIA says it does not need this much assistance. Therefore, the Foundation has decided to request a transfer of funds for other uses in the Communication Division. This request, along with justifications and details on how the "transfer funds" would be used, will be sent to Cornell in the near future. The University's recommendations will be sent to AED for appropriate action and by the Academy to USAID.

<u>January 22 (Thursday)</u>

Left San Pedro Sula at 10 a.m.; arrived in Miami at 2:15 p.m. (Stayed overnight in Miami because I could not get air connections to Ithaca.)

<u>January 23 (Friday)</u>

Left Miami 3 p.m.; arrived Ithaca 10 p.m.



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For: Dr. Howard Ray
From: W. B. Ward

## DEVELOPMENT ACTIVITIES REPORT DECEMBER 1986

### FHIA DEVELOPMENT STRATEGY

A document is being prepared jointly by Dr. Fernando Fernandez and the writer that will describe and outline FHIA's development strategy during the next five years. Normal budget preparations have been undertaken during December to which projections have been made for a five-year period to identify the funds that will be required above those covered by AID support and others. This document should be ready within a week and will be mailed under separate cover.

FHIA's expansion has been very rapid during the last year and it appears that an annual growth of more than 10% can be expected over the next 3 to 4 years. This growth will not be possible unless substancial outside funds from donations can be found. Alternatives, such as requesting AID funding to be advanced, might have to be used until the fundraising operations begin to obtain response from efforts during 1987 and 1988 which should begin to show results by 1989.

Facing the "Budget facts" is a very appropriate exercise at this time since, while the scope and nature of the work being accomplished by FHIA has considerable merit, having sufficient funds to support this merit is a reality now being clearly realized.

### INTERNATIONAL PLANTAIN AND BANANA BREEDING PROGRAM

A meeting of the technical committee was called by Dr. Fernando Fernandez which includes member countries interested in participation

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in this program. This was the first committee meeting to be held and during the session the Ecuadorian sub-director of the Ministry of Agriculture, Ing. Davila, was elected president. Member countries present were Honduras, Ecuador and UPEB member countries.

The agenda of the meeting covered the technical and financial aspects of the program. Additional to the US$60,000 for 1987 to be contributed by Ecuador (increase by US$10,000 from that reported in last months report), the UPEB countries signed an agreement that provides $150,000 to the program for the first year (1987). These contributions will increase annually. Other countries are being invited to join the program and committee, such as Belize, and steps have been taken to broaden the scope to Africa, since Black Sigatoka (a serious leaf disease that attacks banana and plantains) is now present in the Cameroons and will soon possibly ravage plantings of both plantains and bananas if no adequate spray protection program is put into effect.

We are optimistic that gradually we will be able to secure all the funds needed for this program by the end of 1987. Since the program is considered to be of both regional and worldwide in scope, it is planned to visit the ROCAP headquarters in Guatemala in early January for the purpose of openning up discussions and exchanging ideas on FHIA's development toward being a regional entity in areas of work where it already has made advanced accomplishments that will have an impact on the region. The Plantain and Banana Breeding Program would be considered as a candidate with this category.



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There are also other areas that might interest ROCAP, such as the fields of communications (training) and Post Harvest Research, both of which it is believed FHIA will have facilities far superior to those presently existing in other parts of Central America.

## FUND SOURCING - HONDURAS

Obtaining donations from Honduran companies and inviduals is a high priority in FHIA's fundraising program, since it is important that we demonstrate that Hondurans are concerned about their country and its political and economic future. Without his demonstration of interest it can hardly be expected that "outsiders" will be overly interested in providing support.

Mr. Boris Goldstein is a member of FHIA's Assembly, is a Honduran (naturalized since his arrival some 50 years ago) and is a successful business man of no mean standards. In 1985 he gave the first cash donation of Lps. 10,000 and has always expressed his support for our work and the needs for Agricultural Research and Development in this country.

In late December, Dr. Fernandez and myself met with Mr. Goldstein to provide him with an update of FHIA's progress and plans for the future. As a result of that meeting it is anticipated that his second donation will be made - this time we hope the amount will be close to Lps. 50,000. This amount would be a small but significant step in the right direction and will be a good starting point when we approach other well-known businessmen in this country.

During the initiation of FHIA in 1984, the Standard Fruit Company (Dole or S.F.Co.) resisted all proposals of support to FHIA and has remained "distant" when approaches were made at later dates. This period coincides with some very difficult years for Standard in Honduras during which it appears to have sustained poor returns on its banana and pineapple operations.

A fresh approach has been made to S.F.Co. in the wake of what might be a change in their attitude toward investing in Honduras, providing the government is prepared to agree to certain proposal and conditions that appear to be quite reasonable on the part of S.F.Co. In view of these possible positive activities, a meeting was held with Mr. Randy Flemming, S.F.Co. General Manager, during which we discussed the substancial progress FHIA is making and its needs in the future for support from all sectors in this country including the multinational companies. I made it very clear to Mr. Flemming that no approach would be made to higher officers of his company unless we had his total support and endorsement. It was made clear to Mr. Flemming that we respected his judgement totally and will be doing all possible to keep him updated about FHIA on a regular basis. I also expressed the hope he would accept our invitation to the General Assembly meeting on February 20th.

It was clear that Mr. Flemming was appreciative of our respect for him and our recognition that his weight was recognized as being the first



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priority toward our goal of convincing Castle & Cook (Standard's parent company) to provide support to FHIA. Our calendar has been set-up accordingly.

**TRAVEL ITINERARY 1987**

Coupled to the 1987 FHIA budget preparations is the travel itinerary for fundraising. Travel is expected to be fairly heavy during the New Year for both Dr. Fernandez and the writer. As the fundraising plan is being developed, "target areas" are being identified for the purpose of preparing a schedule that will accomplish as many contacts in one location (country or continent) as can be effectively accomplished. Details of the proposed itinerary will be provided next month.

TRIP REPORT

Honduras, January 18-24, 1987

Charles E. McCulloch, Biometrics Unit, Cornell University

January 18 (Sunday):

Left Ithaca, NY at 5:00 am, drove to Syracuse airport. Arrived San Pedro Sula, Honduras at 6:00 pm EST.

January 19 (Monday):

Met with Jairo Cano, Communications Advisor, and was introduced to Mario Contreras, Director of Research and Manuel Zantua, Head of Agronomy. Contreras explained the organization of FHIA and we discussed research reporting schemes. Luncheon meeting with Fernando Fernandez, Director General of FHIA, Chris Millensted, Director of Development, Carlos Young, Director of Administration as well as Bill Ward, Contreras and Cano. In the afternoon I revieved past recommendations on computing hardware and software. Obtained copies of current equipment lists.

January 20 (Tuesday):

Spent morning meeting with Zantua on specific computing needs and drawbacks of the statistics package SYSTAT. Met with Zacarias, Head of Agricultural Economics and Joe Krausz, Head of Plant Pathology to assess computing and statistical needs. Luncheon meeting with Directors and Bill Ward. In the afternoon, revieved vita of biometrician applicant. Further discussions with Zantua on climate data and farm sample surveys. Met with Head of Diversification.

January 21 (Wednesday):

Spent the morning with Julio Escoto and Jairo Cano discussing the needs of the Communications Division. Luncheon meeting with Directors and Bill Ward. Toured grounds to get ideas of spatial locations of computing needs. Toured Communication building to assess networking capabilities. Spent early afternoon with Zantua to verify that SYSTAT could handle large computing problems. Demonstrated file transfers between SYSTAT and Lotus 1-2-3. Viewed demonstration of soil analysis program, written in dBASE III. Spent late afternoon with John Moran and the needs of the library.

January 22 (Thursday):

Spent the entire day in the hotel writing draft of report.

January 23 (Friday):

Met with John Moran to complete the discussion of needs of the



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library. Reviewed draft of the proposal with Contreras. Lunch with Directors. Met with Young on administrative computing needs. Reviewed draft report with Cano. Met with Zantua to demonstrate graphics. Dinner meeting with Fernandez and Cano to present major recommendations.

January 24 (Saturday):

Left San Pedro Sula, Honduras at 10:20 am EST. Arrived Ithaca, NY at 10:45 pm.



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Report on Computing and Biometrics
for
Fundacion Hondurena de Investigacion Agricola

by

Charles E. McCulloch
Biometrics Unit, Cornell University

## OVERVIEW

FHIA (Fundacion Hondurena de Investigacion Agricola) is a research institute dedicated to planning and implementing agricultural production strategies appropriate for Honduras. Its current organization has a Director General overseeing four divisions: Research, Communication, Administration and Development. From an electronic data processing point of view, these divisions can be compartmentalized by type of need into three groups:

1. Research
2. Communication
3. Administration and Development.

Research has need for data entry and storage, statistical analyses, graphical analyses, financial analyses and project planning and reporting. Communication has need for graphical production, desktop publishing, maintenance of mailing lists, and computerized library information services. Administration and Development has need for accounting, inventory control, payroll and data base management. Note that there is little overlap in the needs of the divisions and little need to share electronic information. All divisions, however, do have the need for wordprocessing. Undoubtedly, the data processing systems for these divisions should eventually be integrated. However, since their functions are quite different, at the present time little will be lost by focussing each division on establishing its individual capabilities.

FHIA has already begun computerization. It has received good advice from its previous consultants and has made good decisions regarding computer hardware and software planning and purchasing. Most of the problems with current equipment and software stem from a lack of training rather than inadequacy of the hardware or software. Current computer hardware and software is:

4 Wang PCs, each with at least 256K memory, a 360Kb floppy disk drive and a 10 Mb hard disk drive, a monochrome monitor and a dot-matrix printer. In addition, one machine has 512K memory and one machine has a high resolution graphics board.

MS-DOS operating system
IBM emulator
BASIC programming language
SYSTAT statistics package
MSTAT statistics package
Lotus 1-2-3 spreadsheet package

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dBase II and dBase III database systems
Wang wordprocessor
Wang graphics package

This gives FHIA the following capabilities:

Statistical analyses
Graphical analyses
Spreadsheet financial analyses
Storage of mailing lists and production of mailing labels
Maintenance of data bases and production of reports
Wordprocessing

In the near future, FHIA will need the following additional capabilities, either through the purchase of new equipment and/or by having specialized programs written:

Data entry, automatic data checking and editing for a number of research projects, including cost-of-production records in Agricultural Economics and farm survey forms in Agronomy.

Desktop publishing in Communication.

Project Information and Reporting System for Research.

Program Information system for Diversification.

File transfer capabilities between IBM/Wang computers and Macintosh computers for Communication.

File transfer capabilities outside FHIA for Research and Communication.

Bibliographic information retrieval for Communication.

In the more distant future, FHIA will need to integrate its data processing systems to make the flow and usage of information more efficient.

## HARDWARE AND SOFTWARE RECOMMENDATIONS

As noted above, FHIA currently has 4 Wang microcomputers. After meeting with many of the current or future users of computing equipment in the Research, Communication and Administrative Divisions, the following assessment was reached. To met the needs of FHIA in the immediate future, either a minicomputer or about 9 microcomputers are needed.

If FHIA purchases a minicomputer it would be essential to obtain quick service in the event of a breakdown. This is because the entire organization would be relying on a single machine and would be without computing services in the event of a breakdown. At present, this limits the choice to IBM or Wang. Below are listed the advantages and disadvantages of microcomputers and a minicomputer.

### Minicomputer

#### Advantages

1. All data would be stored on a common computer. Data and software systems could be integrated more easily.

2. A single machine could handle FHIA's needs over the next 3-5 years. Purchase of a new machine would not be necessary as needs grow.

3. More capacity to handle big problems.

#### Disadvantages

1. The availability of software which can satisfy FHIA's needs using IBM or Wang minicomputers is very limited.

2. Starting costs will be higher than for microcomputers.

3. As mentioned, a breakdown causes total loss of computing services.

4. A computer operator/systems programmer would have to be hired as well as a systems analyst/applications programmer.

5. Terminals must be cabled to the central system. This would be expensive and would make it difficult to rearrange the system.

### Microcomputers

#### Advantages

1. Wider availability of needed software.

2. A breakdown only puts a single machine out of operation.

3. Easy to reconfigure locations of computers.

4. Lower starting expense.

5. Having people operate the computers themselves encourages computer literacy.

Disadvantages

1. Poorer coordination of information flow.

2. Different types of computers and, to a lesser extent, computers used by different people encourages incompatible software, hardware, and information formats.

3. Jobs which need larger resources than available on a microcomputer cannot be performed. There is no way to pool computing resources between machines.

4. Future hardware and software which will be needed to expand the systems as needs increase may not be completely compatible with machinery purchased now.

5. The duties in running the microcomputers often are performed by non-computer personnel. Some people will get very involved in computing and will not accomplish as much of their previous job as before.

In weighing the above advantages and disadvantages, I have come to the conclusion that FHIA should purchase microcomputers. Furthermore, the microcomputers should be arranged in centers: two for Research, one for Communication and one for Administration/Development. The exact arrangement I will suggest is not as important as the concept of microcomputer centers.

The recommendation is based primarily on the following considerations. Microcomputers will be powerful enough to satisfy FHIA's current needs. If FHIA's needs grow greatly in the future, microcomputer capabilities will undoubtedly keep pace. Software availability for FHIA's needs is much better for microcomputers. Breakdowns will not be as serious. Finally, microcomputers spread throughout FHIA will encourage computer literacy.

The grouping of microcomputers into centers confers the following advantages over completely spreading them out:

1. By establishing centers which correspond to the groupings Research, Communication and Administration/Development the problems of lack of compatibility will be minimized. Compatibility within a group can be achieved and compatibility between groups is not as essential.

2. More efficient use. A group of computers can easily be designated for everyone's use. Individual machines in offices causes a tendency for the machine to "belong" to an office. It

may not get used by another office that has the need.

3. Sharing of expensive peripheral equipment. For example, a group of computers can share a high-quality printer so that everyone can get high-quality output. Other peripherals, such as plotters and modems can also be shared.

4. More efficient selection of hardware. With a center of computers, equipment with a range of different capabilities can be purchased. Less capable machines can be used for simple tasks like wordprocessing and data entry while more powerful machines are reserved for more difficult tasks. With machines spread out the tendency is to look for a common denominator - either machines of all average capability are purchased or more money is spent to have machines that can do everything for everyone.

5. Air conditioning, electrical backup and surge protection equipment and storage space for supplies can be shared.

6. A center can support the full-time effort of a good data entry person rather than having other people do it part time.

7. If the computers are eventually networked together it is easier to network centers rather than all the individual machines.

8. The computers can be more easily secured against theft.

With the above considerations in mind I would recommend the establishment of four microcomputer centers: two for Research, one for Communication and one for Administration/Development. The rationale in creating four centers is to afford easy access to most persons that will need computer time while not losing the advantages of grouping computers together. Two centers were created for research since it is geographically spread out. Below are the details of each proposed center.

## Microcomputer Center 1
(Research Center 1)

Location: Main research or main administration building.

Function: Contains computers for programmer and biometrician. Statistical analyses, data entry and checking, project information system, graphical analyses, financial analyses, word processing.

Usage: Members of Research Division.

Configuration:

Hardware

1* Wang PC with 256K memory.

3 IBM PC-ATs with 512K memory, 1.2Mb floppy disk drive, 360Kb floppy disk drive, 30Mb hard disk drive, math coprocessor, enhanced graphics adapter, enhanced color monitor.

1 IBM microcomputer based on the 80386 microprocessor (when it becomes available).

1* Wang PC dot-matrix printer and cable.

2 IBM Proprinters (dot-matrix printers) and cables.

1 24-pin (high resolution) dot-matrix printer (Epson LQ series or Toshiba) and cable.

1 Switch box and cables to share the printer.

Software

PC-DOS (current version)

MS-DOS*

SYSTAT 3.0

Lotus 1-2-3

Norton and Mace Utilities

Wang graphics package*

dBase III plus

WordPerfect, Microsoft Word or other wordprocessing package for the IBM PC-ATs.

Software for program development (allow the programmer and biometrician to select. Examples are PL/1, Pedit, and GAUSS).

*This denotes software or hardware currently owned.

Notes:

I recommend starting the center with 3 IBM PC-ATs. When IBM releases their new, more powerful microcomputer (probably based on the 80386 microprocessor) two of them should be purchased, one for Research Center 1 and one for Administration/Development (see below). At that time, one of the Wang PCs should be moved from Administration to

Research. This will provide equipment diversification with one less powerful and one more powerful machine. The Wang would be used mainly for wordprocessing and data entry.

I am recommending IBM equipment rather than less-expensive IBM compatible equipment. The initial costs are lower for compatible equipment but if specialized hardware or software is needed later it is likely to be more expensive. Also, IBM equipment is more likely to be compatible with future products.

I am recommending that you purchase more copies of the SYSTAT statistics package. My tests show that it performs entirely satisfactorily on IBM equipment for FHIA's needs. Other possible choices are: PC-SAS, BMDP-PC and SPSS-PC. PC-SAS is very expensive and must be leased instead of purchased. It is hard to learn and use and the manuals are poor. Currently it is not as powerful as SYSTAT, though as more of the SAS system is transferred to the PC it will eventually have many capabilities. BMDP and SPSS are slightly less capable than SYSTAT and slightly harder to use. They are also slightly more expensive. However, either of them would make a suitable alternative.

For compatibility's sake it would be beneficial to choose the same wordprocessing package for Research and Communication. My favorite is WordPerfect which runs on the PC-AT and should be available for the Macintosh soon. A good alternative is Microsoft Word.

## Microcomputer Center 2
(Research Center 2)

Location: Program or soils building.

Function: Statistical analyses, data entry and checking, project information system, graphical analyses, financial analyses, word processing.

Usage: Members of Research Division.

Configuration.

Hardware

1* Wang PC with 512k memory and math coprocessor.

1 IBM PC-AT with 512K memory, 1.2Mb floppy disk drive, 360Kb floppy disk drive, 30Mb hard disk drive, math coprocessor, enhanced graphics adapter, enhanced color monitor.

1* Wang PC dot-matrix printer and cable.

1 24-pin (high resolution) dot-matrix printer (Epson LQ series or

Toshiba) and cable.

Software

PC-DOS (current version)

MS-DOS*

SYSTAT 3.0 (upgrade current copy)

Lotus 1-2-3

Wang graphics package*

WordPerfect, Microsoft Word or other wordprocessing package for the IBM PC-AT.

*This denotes software or hardware currently owned.

Notes:

I am recommending you add the math coprocessor to the Wang PC. This will speed up the execution of SYSTAT programs.

## Microcomputer Center 3
(Communication Center)

Location: Communication building (Macintosh and IBM in Communications offices and IBM in library).

Function: Desktop publishing, graphics production including plots, transparencies and slides, mailing lists, bibliographic information retrieval, file transfer service between IBM or Wang and Macintosh, laser printing of documents from Communication and other Divisions.

Usage: Members of Communication Division primarily, others for file transfer and laser printing.

Configuration:

Hardware

1 Macintosh Plus with 1Mb memory

1 Dataframe 20Mb hard disk drive

1 Applewriter Plus laser printer

1 Imagewriter II dot-matrix printer

1 Thunderscan optical scanner

1 Hewlett-Packard 7475A plotter

1 Polaroid Palette slide-maker

1 DEST optical character recognition scanner

1 Digitizer pad

2 IBM PC-ATs with 512K memory, 1.2Mb floppy disk drive, 360Kb floppy disk drive, 30Mb hard disk drive, math coprocessor, enhanced graphics adapter, enhanced color monitor.

1 IBM Proprinter (dot-matrix printers) and cable.

1 PC-Mouse

1 Hayes 1200 baud modem

2 Appletalk cards for the IBM PC-ATs

Appletalk network and cabling to hook the three computers and the printers.

Software

PC-DOS (current version)

WordPerfect, Microsoft Word or other wordprocessing package for the IBM PC-ATs and the Macintosh.

Microsoft Chart (IBM and Macintosh) graphics software

Microsoft Excel spreadsheet/integrated software

MacDraw drawing software

MacProject and/or project software for IBM

PageMaker desktop publishing software

MacTerminal communications software

Switcher software for running multiple programs

TOPS network software for the Appletalk network

Crosstalk communications software

Notes:

My recommendations differ from the Communication Division's proposal

primarily in that I have recommended 2 IBM PC-ATs rather than 2 Apple Macintoshes. Communication's proposal is stronger in that it provides back up in case one of the Macintoshes breaks down. However, I have suggested 2 IBMs because:

1. It allows laser printing of IBM documents and file transfer between Macintosh and IBM or Wang without using the library's machine.

2. It makes available a wider range of graphics production software to Communications.

I have recommended the Appletalk network and TOPS software for two reasons. First, it will provide file transfer capability and second, it will allow FHIA to gain expertise with networking.

## Microcomputer Center 4
(Administrative/Development Center)

Location: Main administration building

Function: Accounting, payroll, mailing lists for Development, and inventory control.

Usage: Members of Administrative and Development Divisions.

Configuration:

### Hardware

2* Wang PCs with 256K memory.

1 IBM microcomputer based on the 80386 microprocessor (when it becomes available). Multiuser system with one or two attached terminals

1* Wang PC dot-matrix printer and cable.

1 24-pin (high resolution) dot-matrix printer (Epson LQ series or Toshiba) and cable.

### Software

PC-DOS (current version)

MS-DOS*

Lotus 1-2-3*

WordPerfect, Microsoft Word or other wordprocessing package for

the IBM microcomputer.

dBase III Plus

*This denotes software or hardware currently owned.

Notes:

Administration can use the Wang PCs they currently have to run administrative systems that are being written for them in dBase. In the near future, they will exceed the capabilities of the Wangs. Much of the administrative data should be integrated and the most logical solution would be to purchase a powerful, multiuser microcomputer. An IBM PC-AT would serve immediate needs and could have two terminals attached to it. However this would leave little room for expansion. A better solution would probably be to wait until IBM releases a microcomputer based on the 80386 microprocessor. This will be a true multiuser machine and would be able to support expansion. At that point Administration should buy a multiuser microcomputer and could probably afford to give one of the Wang PCs to Research Center 1.

In addition to the general recommendations for the microcomputer centers I also make the following miscellaneous suggestions.

1. The proposed idea for an information and reporting system for the projects is a good one. A system should be written (perhaps in dBase III) that performs the following functions:

A. Allows creation of new projects and entry of relevant data and assigns a unique project number.

B. Allows monthly updating of the relevant fields (e.g., progress and milestones).

C. Creates monthly summary information at an activity, program and division level.

D. Creates yearly summary information at an institutional level.

E. Provides inputs to the Communication Division's Newsletter (see Figure 1).

I do not think it is possible for the system to contain the original field data in an easily accessible form since the format in which the data is stored will differ from project to project. However, I would recommend the inclusion of "milestone data." This "milestone data" would indicate in a general way the progress of the project and would permit summarization of the progress of all projects within a program.

Figure 1: Sample report generated by the Project Information and Reporting System for the Communication Division (underlined items provided by the system).

Cacao program newsletter article for August, 1987
(Please return no later than July 10)

Last month's orientation material (please edit and/or change):

(Last month's orientation material goes here)

Project milestones since last month:

| Project | Milestone |
|---|---|
| Project number and title | Milestone achieved |
| . | . |
| . | . |
| . | . |

Please provide a short summary of any milestones with a technological impact to your audience:

Please list any upcoming workshops or seminars:

| Title | Date | Location |
|---|---|---|

I would also recommend a project review each time a new project is started. The Directors of Research and Communication and the relevant Heads of Departments would attend the review as well as the biometrician and computer scientist. Each of the attendees would review the project for content in their area of expertise and would recommend milestones by which to judge the ongoing success of the project. For instance, the biometrician could recommend a preliminary analysis milestone to be conducted after 2 months of data were collected. Or, a more easily implemented system of milestones would be one with standard milestones for each project, e.g., experimental design done, data gathering done, final analysis done, final report written.

2. Any project with ongoing data collection should have a data entry system (perhaps in dBase III) created especially for it. The system would:

A. Allow input of data in a convenient form (like the soils program).

B. Allow display and editing of data once input.

C. Perform automatic data checking. Data would be checked for validity (e.g., no numbers allowed in names) and for correctness (e.g., if an age of farm of 100 was entered it would be questioned by the system. Entry would be allowed on the second try if it was valid).

Current needs are the cost-of-production system in Agricultural Economics and the farm surveys done in Agronomy. One time or infrequent data entry projects can use the SYSTAT data editor or Lotus 1-2-3.

3. Procedures for storage and backup of data to be stored on floppy disks need to be established. Important data should have two copies kept in separate places. Whenever data is stored a data dictionary needs to be kept to explain exactly which variables have been measured and what they mean (see Figure 2 for an example). Hard disk drives should not be used for storage of data unless the data is currently being used.

4. Upgrade current versions of SYSTAT to version 3.0. It is easier to use and contains useful new features. If SYSTAT is used heavily for data entry, purchase the faster data editor (Lazerte editor) from SYSTAT (A copy of the order form is enclosed).

5. Purchase the utility program for automatic file transfer between Lotus 1-2-3 and SYSTAT and dBase (description enclosed).

6. Establish a discretionary budget for the computer programmer and biometrician to purchase hardware and software (say $1,000 per year).

7. Locate the biometrician and computer programmer near Microcomputer Center 1.

Figure 2: Sample data dictionary

Project title: Cacao improvement
Project number: CA01A686
Stored on disk: CA01A.686
Date: 8/15/87

| Variable | Name | Meaning and/or coding |
|---|---|---|
| 1 | COS | Harvest date<br>1 = 1/15/85<br>2 = 6/15/85<br>3 = 1/15/86<br>4 = 6/15/86<br>9 = missing data |
| 2 | BLOCK | Plot of land harvested<br>1 = farm number 32<br>2 = farm number 17 |
| 3 | TRT | Method of treatment<br>1 = intercropped with oranges<br>2 = no intercropping |
| 4 | YIELD | Total yield per plot (in kg). |

8. Provide funds for travel to meetings and short courses to provide for the continued professional development of the computer programmer and biometrician.

9. The training of personnel in computer use is as important or more important than the equipment itself. Allow the biometrician and computer programmer time for training FHIA's personnel.

10. If research personnel want to use statistics packages themselves, but find SYSTAT too difficult to learn or use then consider purchasing MINITAB. It is much easier to use though it is less capable than SYSTAT in the number of routines it can perform and the size of the data set it can handle.

11. Consider purchasing a service contract for expensive machinery that is susceptible to breakdown and especially machinery for which no substitute exists. A contract that provides a loaner machine when repair cannot be performed within a few days would be advantageous. A good candidate for such a contract is the Apple LaserWriter since Communication Division will be depending heavily on it. My experience has been that the computers themselves are quite reliable and it is mainly machinery with moving parts that is susceptible to breakdown. Disk drives may break, but they are relatively inexpensive and can be replaced by anyone fairly knowledgable about microcomputers. Printers will usually require servicing within a year or two.

12. Buy or program a library system for acquisitions and cataloging.
13. Buy or program a topographic and climatological analysis program.

14. Communication should consider purchasing a ceiling mounted computer projector for one of the small conference rooms. It could be used for computer training and computer assisted graphics talks.

15. For projects with large, ongoing data storage needs, even large floppy disks (1.2Mb) on the IBM PC-ATs may not be sufficient. If this is the case, consider buying a Bernoulli Box. It stores data on removable cartridges which are capable of storing 10Mb of data. Unfortunately Bernoulli Boxes are expensive (approximately $2,000), though one would be enough for a Microcomputer Center.

16. Whenever multiple copies of a program (like WordPerfect) are being purchased, try to get a multiple copy discount.

17. Consider purchasing a large screen for the Macintosh for desktop publishing. The screen built into the Macintosh cannot view and entire page at once. The current best screen is the Radius FPD. Unfortunately it is expensive (about $1700).

18. Consider subscribing to journals to keep current of developments in the field of microcomputing. Recommended: Infoworld, PC World and MacWorld.

## PERSONNEL

At the beginning, FHIA needs the following personnel for the indicated duties. Both of the professionals appear to be full-time jobs. I do not think one person would suffice.

### Duties

Systems analyst/applications programmer: Design and program Project Information and Reporting System. Design and program data entry and checking programs. Design and program slide bank inventory system. Train users on basic microcomputer usage. Program mailing label production. Set up Lotus 1-2-3 templates for financial analyses for Agricultural Economics and Diversification.

Biometrician: Consult with researchers on experimental design, sampling procedures, and statistical analyses. Train users on statistics packages. Teach basic statistics. Program custom statistical routines or work with the computer programmer to design custom routines. Perform data analyses. Work with Agronomy and Agricultural Economics to simplify sample survey forms for easier data entry and analysis.

Data entry clerk or clerks: Perform data entry for projects with ongoing data collection (two clerks will be needed unless the projects do some of their own data entry).

### Job Descriptions

Systems analyst/applications programmer

| | |
|---|---|
| Location: | At FHIA (Fundacion Hondurena de Investigacion Agricola) in San Pedro Sula, Honduras. [insert material here about FHIA, it mission and the city as a place to live] |
| Duties: | Systems analysis and programming on IBM, IBM-compatible, and Apple Macintosh microcomputers. Train users on microcomputer basics. Set up and manage Appletalk network. |
| Requirements: | B.S. or equivalent course work in computer science. Systems analysis experience. Microcomputer programming experience and familiarity with Lotus 1-2-3 and dBase strongly preferred. Ability to speak Spanish strongly preferred. |
| To apply: | Send resume, transcripts of school work and the names of three references to: [insert name and address for head of committee for finding a computer programmer] |

[mention salary and starting date? In the U.S. the starting salary would be at least in the low $20,000s ]

## Biometrician

| | |
|---|---|
| Location: | At FHIA (Fundacion Hondurena de Investigacion Agricola) in San Pedro Sula, Honduras. [insert material here about FHIA, it mission and the city as a place to live] |
| Duties: | Consult with researchers on experimental design, sampling, and statistical analysis. Train users of statistics packages. Teach basic statistics. Perform statistical analyses. |
| Requirements: | M.S. or equivalent course work in statistics. Consulting experience. Microcomputer experience and ability to speak Spanish strongly preferred. |
| To apply: | Send resume, transcripts of school work and the names of three references to: [insert name and address for head of committee for finding a biometrician] |

[mention salary and starting date? In the U.S. the starting salary would be at least in the high $20,000s for someone with consulting experience]

## FUTURE CONSIDERATIONS

There are several ideas that FHIA should consider in the future as it and its needs grow. These are listed below:

1. Purchase of portable computers. Portable computers have become as powerful as tabletop computers but with several distinct advantages. They can be easily moved to where there is need. For example, a portable computer used for data entry could be moved to the project currently doing data entry. With battery packs they are not dependent on continuous electricity and can be taken into the field. Zenith currently makes the best portable, IBM-compatible microcomputer.

2. (in 3-5 years) FHIA should consider consolidating computer operations by establishing a central Division of Computing, purchasing a minicomputer or file server (central data storage machine) and connecting the microcomputer centers through a network. This is not yet feasible because of cost and because current network hardware and software doe not work well. A first step towards this goal which is feasible now is to create networks within the microcomputer centers as is recommended for the Communication and Administration/Development Divisions.

3. (in 3-5 years) Purchase of a CD-ROM reader for the library. CD-ROM technology allows the storage of vast amounts of data and relatively fast information retrieval. An entire scientific encyclopedia will fit on less than a single disk. Bibliographic data bases will soon be available. Purchase should be delayed until standard data storage formats are agreed upon and the relevant databases are available.

# ADDITIONAL PRODUCTS ORDER FORM

Use this form including all appropriate information to place your order or call 312/864-5670.

**PAYMENT OPTIONS:**

*o pre-paid with check or money order attached*
*o institutional purchase order attached*
*o request for C. O. D. payment (please initial _____)*

*Payment must be in USA dollars and drawn on a USA bank. Deliveries cannot be made to post office box addresses. Shipping is F.O.B. Evanston.*

*Please be sure to include your registered SYSTAT user number in space provided below.*

| PRODUCT | COST | QUANTITY | TOTAL |
|---|---|---|---|
| **SUPPLEMENTS** | | | |
| LARGE 512K VERSION | 75 | | |
| REPORT WRITER | 60 | | |
| PROBIT | 85 | | |
| LOGIT | 85 | | |
| STAT/TRANSEER | 65 | | |
| TESTAT | 75 | | |
| ✓ LAZERTE EDITOR | 10 | | |
| Additional slipcase/binder | 12 | | |
| **T-SHIRTS/SWEATSHIRTS** (T-shirts and Sweatshirts unavailable in the State of Illinois .) | | | |
| T-shirt short sleeve - green w/white logo | 7. | | |
| Size (Circle One) S M L XL | | | |
| T-shirt short sleeve - white w/green logo | 7. | | |
| Size (Circle One) S M L XL | | | |
| T-shirt long sleeve - white w/green logo | 9. | | |
| Size (Circle One) S M L XL | | | |
| Sweatshirt - white with green logo | 12 | | |
| Size (Circle One) S M L XL | | | |
| **UPDATES** | | | |
| ✓ UPDATE SYSTAT VERSION 3 | 75 | | |
| UPDATE 512K VERSION (includes shipping) | 35 | | |
| UPDATE SYSTAT + UPDATE 512K VERSION | 100 | | |

**SHIPPING CHARGES**

| | |
|---|---|
| USA via UPS ground (one copy) | 5. |
| each additional copy | 4. |
| 2nd day air (each copy) | 10 |
| Next day air (each copy) | 20 |
| CANADA/Ontario via UPS ground | 25 |
| each additional copy | 10 |
| CANADA/Outside Ontario via courier | 50 |
| each additional copy | 20 |
| FOREIGN via air Parcel Post | 30 |
| each additional copy | 10 |

**SHIPPING CHARGES:** _____

**TOTAL:** _____

☐ **PAYMENT ENCLOSED:** _____

☐ **P.O. ENCLOSED:** _____

**PO#** _____

## TYPE OF COMPUTER:

**IBM:** _____

**OTHER (specify):** _____

**OPERATING SYSTEM:** _____

**USER NAME/DEPT:** _____

**SYSTAT NUMBER:** _____

## SHIPPING ADDRESS:

**NAME:** _____

**ORGANIZATION:** _____

**ADDRESS:** _____

_____

_____

**TELEPHONE:** ( ) _____

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## GAPM—A Simple Alternative for Analyzing Repeated Events

Repeated events, such as accidents, illnesses, consumer purchases, and criminal victimizations are difficult to study because individuals experience few events and/or not all individuals experience the same number of events. Rates are frequently estimated by averaging the number of events for individuals having similar characteristics. This works to the extent that individuals sharing the same charactenstics share the same rate. It can be quite misleading when individuals with the same characteristics have different rates.

**GAPM** provides a simple alternative to assuming that individuals sharing the same characteristics share the same rate. Rate heterogeneity is modeled by the gamma distribution. Multivariate rate heterogeneity is modeled by gamma and Dirichlet distributions. The technique is illustrated in "Multivariate Gamma-Poisson Models", *Journal of the American Statistical Association*, pp. 829-834, 1985. The effect of independent and background variables is estimated by comparing distributions across up to 40 groups of individuals.

**GAPM** runs on IBM-PC, XT, AT and compatible computers that have at least 384 kb RAM (floppy version) or 512 kb RAM (hard disk version). The program and the 87 page manual cost $250. The program is not copy protected. It can be returned for a full refund if you are not satisfied within 35 days of purchase.

Purchase orders and personal checks are accepted. Please add $5.00 for shipping. New York State residents add sales tax on the purchase price. Specify the hard disk or the floppy disk version. Manuals can be purchased separately for $40. This amount is credited toward purchase of the program.

Recurrent Statistics, RD 1, Box 103 (518) 784-3387 Niverville, New York 12130



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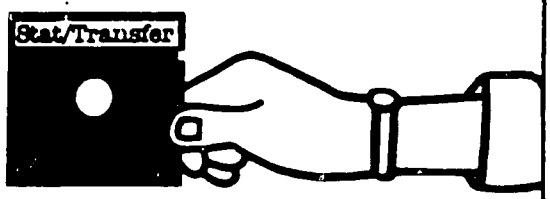


Stat/Transfer moves statistical data between programs — automatically, accurately, the first time. Stat/Transfer will read and write: LOTUS worksheets (it will read 1-2-3 version 1A, 2 and SYMPHONY files and write worksheets which can be read by any of these); dBASE II, III, and III + files; GAUSS files; SPSS Export files (you can move your data to and from mainframe or micro SPSS); STATA files; and SYSTAT files.

Stat/Transfer does all of this with a consistent Lotus-like user interface and enough intelligence to transfer as much of the information as is possible and necessary from one format to another. It will handle a large number of variables, multiple missing values, and, when the target programs permit it, value and variable labels. You can select variables, files, and formats by simply pointing with the cursor. Why bother with manual methods? Stat/Transfer can save you time, aggravation, and errors.

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## SHISKIN AWARD FOR ECONOMIC STATISTICS

Nominations are invited for the eighth annual Julius Shiskin Award in recognition of outstanding achievement in the field of economic statistics. The Award is designed to honor an unusually original and important contribution in the development of economic statistics or in the use of economic statistics in interpreting the economy. The contribution could be in statistical research, in the development of statistical tools, in the application of computer techniques, in the use of economic statistics to analyze and interpret the economy, in the management of statistical programs, or in developing public understanding of measurement issues, to all of which Mr. Shiskin contributed. Either individuals or groups can be nominated.

The Award will be presented, with an honorarium of $250, at the Washington Statistical Society Annual Dinner in June 1987. A nomination form may be obtained by writing to the Julius Shiskin Award Committee, c/o American Statistical Assn., 806 15th St., N.W., Washington, DC 20005. Completed nomination forms must be received by April 1, 1987.

Previous winners of the Award were Estela Dagum of Statistics Canada for her work in seasonal adjustment, James Bonnen for his performance chairing the President's Reorganization Project for the Federal Statistical System, Edward Denison for his work at the Bureau of Economic Analysis and the Brookings Institution, Beatrice Vaccara for her contributions at the Bureau of Industrial Economics, Geoffrey Moore for his research in measurement and analysis of business cycles, David A. Pierce for his use of modern statistical techniques at the Federal Reserve Board, and Janet Norwood for her direction of the statistical program of the Bureau of Labor Statistics.

## STU HUNTER WINS DEMING AWARD

The W. Edwards Deming Award was given to J. Stuart Hunter at a ceremony at the 42nd Applied Statistics Conference in New Brunswick, New Jersey, on December 8. The Deming Award is one of the highest honors given in the field of Quality Control.

Dr. Hunter is Professor Emeritus, Department of Civil Engineering, Princeton University, and an internationally renowned consultant on the applications of statistics in industry. The Deming Award cites Dr. Hunter "For his leadership in expanding the concepts of statistical methods." Dr. Hunter is the author of two widely used statistical texts and a former winner of the Shewhart Medal, which is given by the American Society for Quality Control.

This is the 6th Deming Award that has been given and the 5th won by an American. Each year in Japan another award, the Deming Prize, is given to that industry and that individual who have done the most to enhance the quality of Japanese products. Dr. W. Edwards Deming is widely acknowledged as the individual who contributed most to catalyzing the Japanese commitment to quality, which has been central to the success of post-war Japan.

Another Princetonian, John W. Tukey, Donner Professor of Statistics Emeritus, was the second recipient of the Deming Award. The Applied Statistics Conference (formerly called the Princeton Conference) was founded 42 years ago by S.S. Wilks.

COMMUNICATION FOR TECHNOLOGY TRANSFER IN AGRICULTURE PROJECT
(AID/S&T 936-5826)

# CTTA

# HONDURAS TRIP REPORT

**Edwin A. Tout**
**8-14 February 1987**

The Communication for Technology Transfer in Agriculture (CTTA) Project is jointly managed and funded by the Offices of Education, Agriculture, and Rural Development of the Bureau for Science and Technology of the United States Agency for International Development in collaboration with Regional Bureau Technical Staff and the USAID Mission at each collaborating site. Technical services are provided by the Academy for Educational Development under Contract No. DPE-5826-C-00-5054-00.

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**HONDURAS TRIP REPORT**

Edwin A. Tout
8-14 February 1987

**Sunday, 8 February 1987**

Arrived Tegucigalpa, Honduras, at 5:00 p.m.

Met with J. Miller, Arbis Ltd; M. Munoz; and V. Barzetti to review Miller's architectural plans for the Ministry of Natural Resources Communication (MNR) Unit in Comayagua and for a new central communication building in Tegucigalpa. Three plans were developed for Comayagua: 1) a revision of the "Tout-Ward" plan, 2) a progressive plan, and 3) an optimal plan (see Attachment A). Plans 2 and 3 offer the most flexibility, especially in that plan 2 can grow into plan 3. A very tentative estimate of cost is $30,000 - $40,000 for plan 3 and perhaps 2/3 of that for plan 2. R. Owens, USAID/Tegucigalpa, suggested that every effort be made to implement plan 3; utilizing MNR funds (L250,000) remaining from 1986. With approval, funds, and appropriate arrangements, construction could be complete (optimistic) by late May. Priority will be given to construction.

Miller also prepared a plan for a two-story communication building (Attachment B) to be constructed in the parking lot adjacent to the existing communication offices. The site is not optimal, but Miller was able to include adequate space for some growth. The building would include the printshop. The MNR projects funds ($250,000) could be available for and construction could begin within 2 years.

**Monday, 9 February 1987**

7:30-2:00, M. Munoz and V. Barzetti: We reviewed and discussed the following management and administrative matters:

- <u>FY1987 Honduras Field Office Budget</u>: Munoz was briefed on the structure of the field office budget (Tout letter and attachments of 6 February) and on budget management. Flexibility of all budget line items, except for Research and Development, was discussed, and the necessity of remaining within the total budget was stressed. Currently, the only major budgetary concern is vehicle expense, which has exceeded the annual budgeted total.

- <u>Imprest Fund reconciliation and management</u>: V. Barzetti and Yolanda de Garcia, CTTA Honduras Secretary, explained errors and discrepancies in the Imprest Fund and procedures were discussed. Effective 1 February, petty cash will be zeroed out and all petty cash will be accounted under advances. In future, maximum effort will be made to pay bills by check, and



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to establish monthly accounts to be paid by check. Effective 1 February, Imprest Fund responsibility and balances were assigned to Munoz (Attachment C).

- Management of Research and Development funds: Munoz was briefed and provided examples of types of expenditures allowable under the R&D line item.

- Equipment: equipment for purchase under the CTTA Project for the MNR was reviewed and revised to reflect items the MNR has received from other sources, and to reflect necessary reductions in expenditures. The final list (Attachment D) was approved by Ing. M. Bueso, MNR Communication Director.

2:00 - 4:00, E. Tout, M. Munoz, and V. Barzetti met with R. Owens, USAID/Tegucigalpa

Following is a summary of major points covered during the meeting:

- Owens will transfer from USAID/Tegucigalpa to USAID/Jamaica in mid-June or July. It has been recommended that Richard Hughes (former AID ADO and current long-term USAID advisor to the Honduras Fondo Ganaderia) or Blair Cooper assume USAID/Tegucigalpa CTTA Project management, but no decision has been made.

- No further information has been received regarding the proposed GAO audit of buy-in projects (CTTA and HealthComm in Honduras).

- Title to vehicles and equipment purchased under the CTTA Project for FHIA and the MNR should be managed as follows (Attachment E):

  - FHIA should assume title to all vehicles and equipment as they are purchased.

  - AED should retain, throughout the project, title to all vehicles and equipment purchased for the MNR.

- It was indicated to Owens that FHIA may request transfer of some CTTA funds from short-term technical assistance to equipment. He had no major objections to limited transfer of funds, but identified the need for short-term assistance in the following areas: equipment and facilities, information dissemination, audience analysis, agricultural chemical misuse, and senior staff training and orientation in communication and technology transfer.

- Owens asked that FHIA and MNR plans for short-term technical assistance be, to the greatest extent possible, complementary, therefore conserving travel funds and increasing FHIA/MNR in-



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teraction. He also requested that USAID/Tegucigalpa be regularly informed (perhaps quarterly) of the amount of short-term technical assistance that has been used and is planned for the next period.

- Owens was briefed on and expressed approval of Applied Communication Technology's (ACT) tentative plan to employ O. Hernandez as long-term evaluation advisor to Honduras and S. Hussein as technical backstop for Latin America and Indonesia.

- Owens wants to know more about ACT's evaluation plan. He said the best evaluation conducted as part of any Honduras USAID agriculture project was that planned and implemented by DAI and recommended reference to that when planning CTTA evaluation strategy.

- Planning continues to move toward implementing a improved agriculture research and extension system under INTAGRO. The Peru, Colombia, and Brazil models are being considered as examples.

- FHIA research and dissemination efforts for 1987 will focus on plantain and cacao and less emphasis will be placed on citrus and vegetables.

**Tuesday, 10 February 1987**

8:00 - 12:00, E. Tout, M. Munoz, and V. Barzetti continued discussing CTTA management procedures.

- Tout and Munoz signed new signature cards at Bancasa.

- Munoz' AED employment forms were reviewed and finalized, and questions were answered regarding housing, travel, and shipping allowances; filing of expense forms; salary; and personal banking.

2:00 - 5:30, **MNR Comite Asesores Tecnicos Meeting** (M. Bueso, L. Fuentes, R. Nuila, P. Vasquez, C. Gomez, E. Tout, M. Munoz, V. Barzetti)

- M. Bueso presented for discussion a paper (Attachment F) reviewing the general status of the MNR Communication Department and CTTA Pilot Project activities, and addressing issues that will be of importance during the next year.

- Discussion supported the analysis, and M. Munoz emphasized throughout the meeting that every effort will be made remove constraints to activity and to begin media interventions in Comayagua as soon as possible.



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**Wednesday, 11 February 1987**

8:00 - 10:00, M. Bueso, E. Tout, M. Munoz, and V. Barzetti discussed and finalized a communication equipment procurement list for the MNR.

11:30 - 1:30, E. Tout, Bette Booth

- Booth reviewed highlights of the January, 2-week radio training course she provided to the MNR Communication Team and presented her written report. She made the following key observations:

  - there is considerable radio talent and creativity inherent in the team.
  - radio production could begin at once (in Tegucigalpa), even without MNR equipment -- there are studios available for free (during off hours) at the School of Journalism-- where some of the training was conducted, and several radio stations in the city would rent studio time for nominal fees.

  - if future training in radio is needed, Hondurans should be considered to provide it.

2:00 - 5:00, E. Tout, M. Munoz, V. Barzetti

- FHIA relations, funding, and background were explained to Munoz.

- The agenda for the MNR/FHIA/CTTA Coordinating Committee was discussed and finalized.

- Deadline for and preparation of the Integrated Action Plan for Honduras were discussed and the outline reviewed.

- Field Office and Home Office reporting schedules and procedures were reviewed.

**Thursday, 12 February 1987**

10:00 - 12:30, MNR/FHIA/CTTA Coordinating Committee Meeting (R. Owens, USAID/Tegucigalpa; M. Bueso and L. Fuentes, MNR; J. Cano, CTTA/FHIA; and M. Munoz, V. Barzetti, and E. Tout, CTTA)

Major agenda topics included reports on MNR and FHIA activities relative to CTTA, discussion of Committee responsibilities, clarification of formal and informal CTTA reporting requirements, and arrangements for future meetings.

- M. Bueso summarized difficulties the MNR is having in supporting CTTA activities. Problems include lack of budget for



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personnel and supplies and lack of equipment and facilities. He also reviewed recent MNR activities, including short-term technical assistance and training provided by B. Booth and assistance provided by J. Miller.

- J. Cano described the FHIA communication strategy and priorities. He said the Foundation is concentrating on communication demands of the moment, including production of annual reports; careful creation and support of the FHIA image; and support of agricultural technology packages being developed by scientific staff.

  Cano also apologized to the Committee for what have been perceived to be relational problems between FHIA and the MNR Communication Team.

- R. Owens recommended the following to enhance the interchange of information between committee members, improve logistic support of the committee, and increase efficiency of reporting committee decisions and activity.

  - there should be regular informal circulation of all reports pertinent to the Project among the MNR, FHIA, CTTA, and USAID.

  - effort should be made to speed the formal exchange of reports between CTTA Honduras, USAID/Tegucigalpa, AED, and Cornell University.

  - either a permanent chair/secretary of the Committee should be appointed or duties should reflect the venue of the meeting (the latter alternative was adopted by the committee -- hence Munoz will chair meetings at the MNR, Cano at FHIA, and Fuentes at Comayagua)

  - the Committee should review the FHIA system for developing and finalizing minutes of meetings and possibly adopt it (the Committee agreed to this review)

- The Committee instituted a bimonthly meeting schedule, effective immediately. The next meeting will be in April 1987.

12:30 - 2:00, Exit Interview with V. Barzetti

Barzetti said she is leaving the CTTA Project with some regrets, but with a sense of accomplishment. Following are comments and suggestions she hopes will assist in future Project management:

- CTTA management and logistical support in Honduras has been very good.



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- Field office directors should receive, as soon as possible, field office budgets and guidelines for their expenditure.

- In Field Office - Home Office relations, the following should be established:

  - reporting requirements and formats,

  - who to provide formal reports to and with whom to informally share information.

  - the level of information needed by the Home Office regarding substantive and logistical activities,

  - required frequency of communication with the Home Office,

- Field directors should be encouraged to hire secretaries and appropriate support staff as soon as possible after assuming in-country duties.

- Special attention should be paid to providing the following information to country counterparts about field office directors and staff:

  - specific scopes of work,

  - formal introduction (personal introduction preferred, but could be by letter) to counterparts, appropriate ministry officials, USAID, and other persons important to CTTA Project activities.

- Every effort should be made to sell the CTTA Project at high levels within counterpart governments.

- The CTTA Project Communication methodology has the weakness of appearing, particularly to country counterparts, to be a rigid recipe for action, and not as a model that can be overlaid on existing communication projects. Careful effort should be made to discount this perception.

- Planning for international seminars should include substantially more input from host country counterparts. Counterparts should be asked to define their goals before the seminar agenda is established, and the final agenda should recognize and reflect those goals.

- A diagnostic test should be used to identify the abilities and training needs of country communication counterparts, especially in terms of determining exact needs for short-term technical assistance.



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- The Project should recognize that, despite internal and external pressures, communication interventions and other activities should not be forced to press forward too fast. Such pressure will undermine Project goals of excellence.

3:00 - 4:30, MNR Vice Minister Montenegro, M. Bueso, E. Tout, M. Munoz, V. Barzetti

M. Bueso formally introduced M. Munoz to Vice Minister Montenegro as long-term CTTA Project Communication Advisor and Field Director.

Munoz briefed Lic. Montenegro on CTTA Project status in Tegucigalpa and in Comayagua; briefly identified recent difficulties in Project development, principally those related to the MNR budget process; and outlined Project plans for the coming months.

Lic. Montenegro expressed strong support of the CTTA Project, and indicated that he would continue to work to remove constraints to implementation. He also congratulated Barzetti on her work during the first few months of implementation and wished her well in future endeavors.

7:30 - 9:30

Introduced Dennis Foote, ACT, to M. Munoz and arranged meetings for Foote, Munoz, and Orlando Hernandez, possible evaluation advisor to CTTA Honduras.

Briefed Foote on meetings with R. Owens and the MNR, with particular reference to Owen's statements regarding Hernandez and the CTTA Honduras evaluation strategy.

**Friday, 13 February 1987**

FHIA meetings with J. Cano, C. Young, J. Moran, and F. Fernandez. The following key items were discussed and accomplished.

- The complete FHIA communication equipment list was reviewed, areas of concern were identified, and the list (Attachment ~~G) was~~ approved by F. Fernandez. Areas for further discussion include: the computer system and networking and purchase of vehicles and busses.

- Purchase of library equipment and materials was discussed with J. Cano and J. Moran, FHIA Librarian. It was confirmed, as per previous conversations, that certain equipment, such as microfiche and microfilm readers could be purchased for the library. FHIA requested that the term "book" be further defined, and that "book" include subscriptions to journals (both past and new issues). FHIA will finalize a list of library purchases as soon as possible.



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- The following topics were discussed with C. Young, FHIA Director of Information:

  - FETCO should send to C. Young copies of all purchase orders for FHIA equipment procured through CTTA.

  - Vehicle serial numbers and colors are needed as soon as possible so that the customs clearance process can begin.

  - Does the FETCO or CTTA Contract cover port clearance fees, services, internal transportation within Honduras, and customs commissions?

  - Is a blanket waiver for purchase of non-US-made equipment possible (check with FETCO)?

  - FHIA should know as scon as possible the port of entry of each equipment shipment (air freight and sea freight).

  - FETCO already may have necessary paperwork to obtain security/high technology export clearance for computer equipment.

  - Concern was expressed at the current method of handling Cornell Field Office expenses. If possible, it would be useful to have a Cornell administrator (Curtis or Zuidema) visit FHIA to clarify issues and finalize a system.

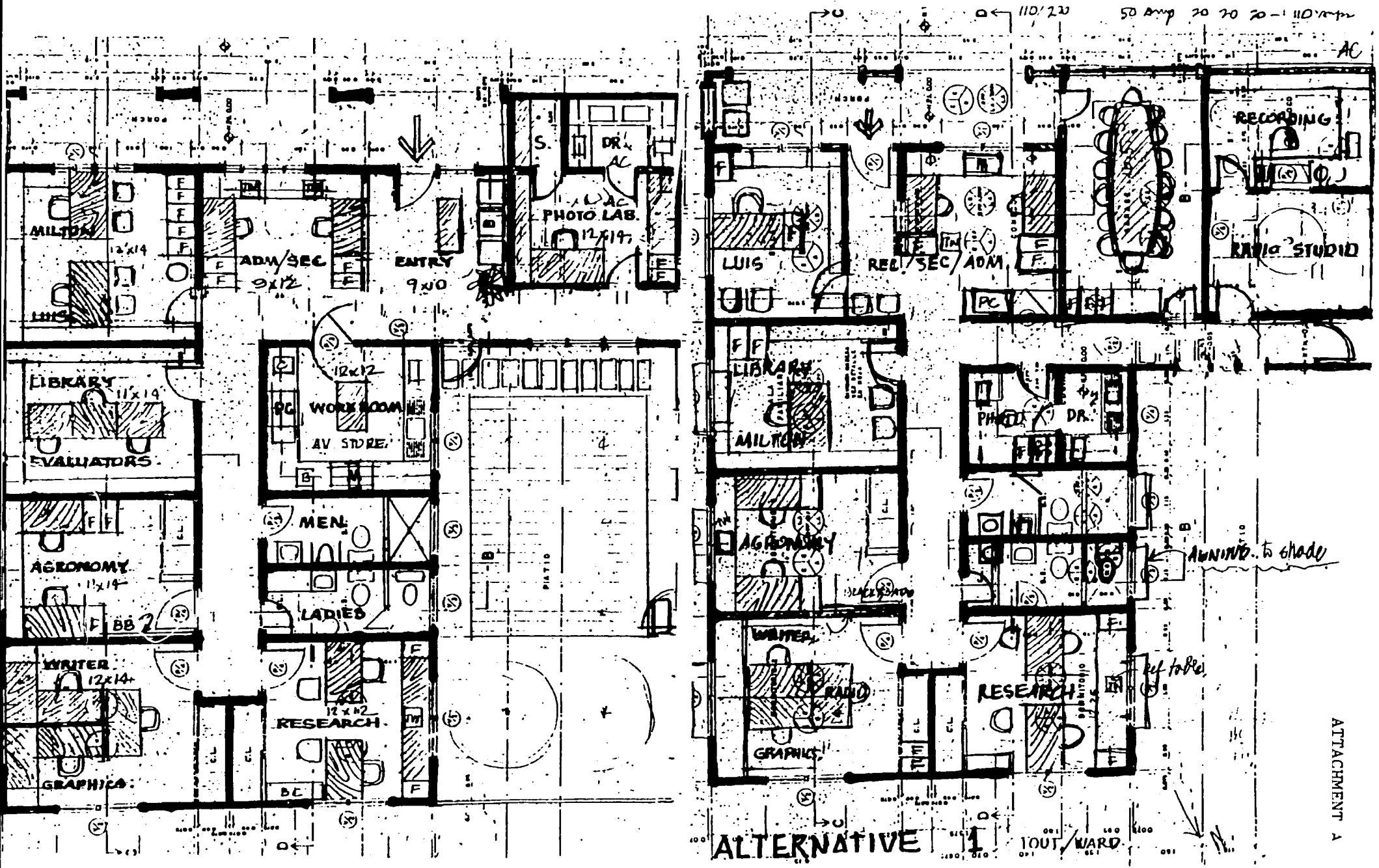
- F. Fernandez was briefed (about 15 minutes) on CTTA activities. He expressed concern about the following:

  - perception of Cano's relations with the MNR, which he believes is unfounded, and

  - being forced to hire a Director of Communication for FHIA.

# COMAYAGUA COMMUNICATIONS UNIT

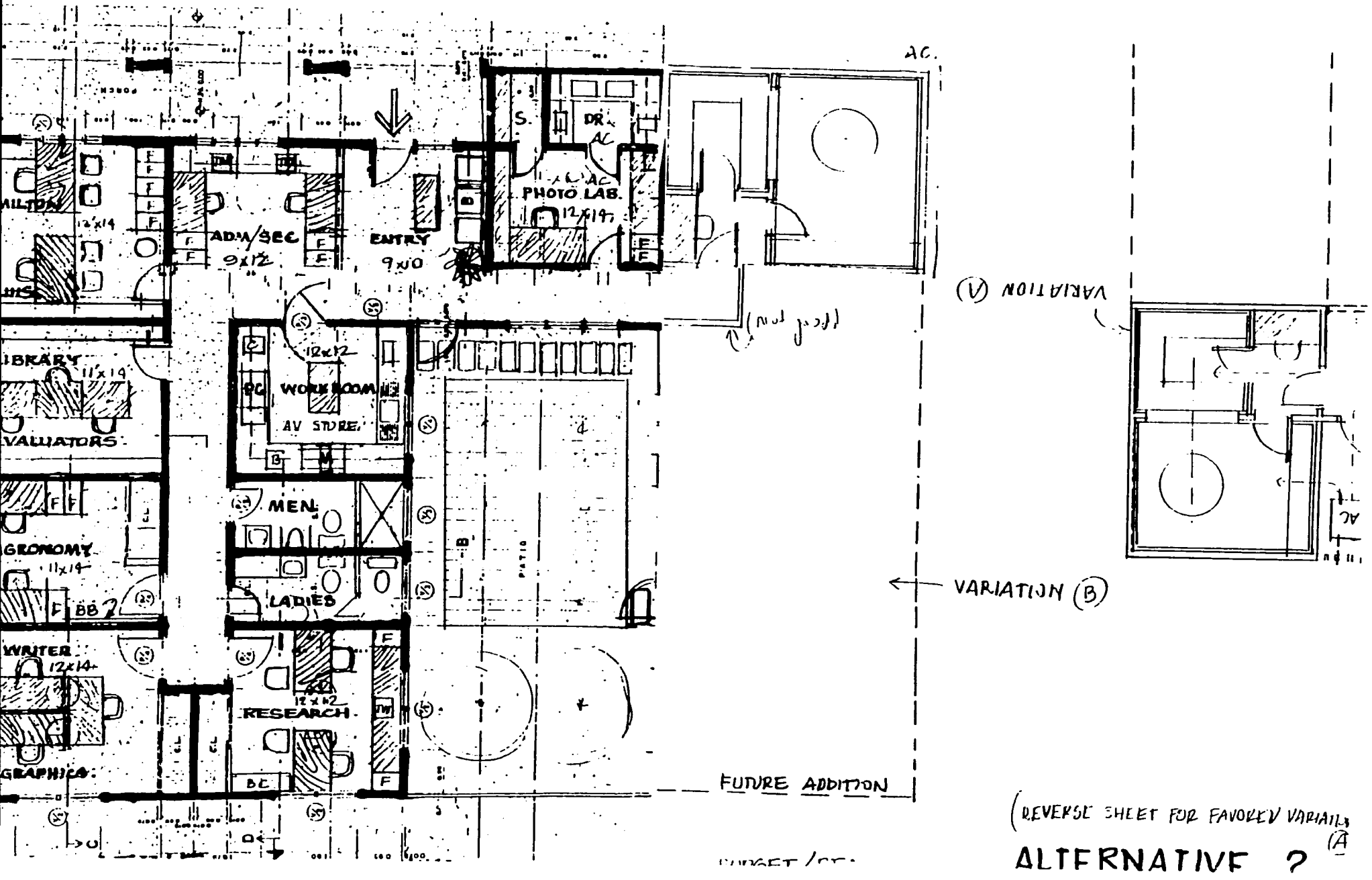
PROPOSED FLOOR PLAN - 1/8" = 1'-0"




ATTACHMENT A

# OMAYAGUA COMMUNICATIONS UNIT

FLOOR PLAN - 2ND. HALF.

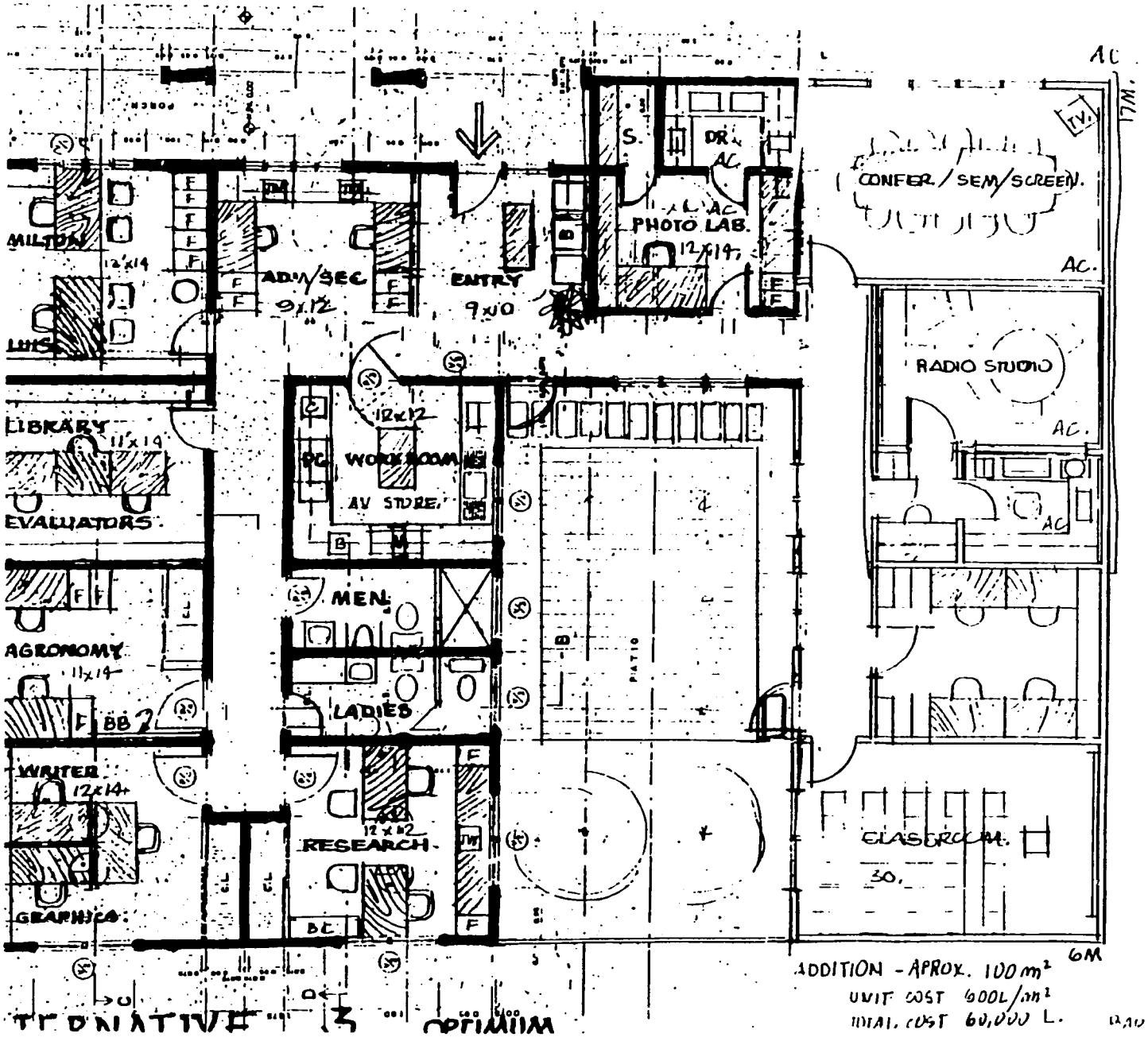



(REVERSE SHEET FOR FAVORED VARIATION)

ALTERNATIVE 2 (A)

# OMAYAGUA COMMUNICATIONS UNIT.

PROPOSED FLOOR PLAN - GOOD WALL.




FLOURESCENT CEILING LIGHTS.

TASK LIGHTING.

PEDESTAL FANS.

PROVIDE WINDOW SUN CONTROL OUTSIDE EAST & WEST WINDOWS.

PROVIDE FOR TRAINING
PROVIDE FOR GROWTH.

AIR CONDITION
RADIO STUDIO
CONFERENCE
PHOTOLAB

ADDITION - APROX. 100 m²
UNIT COST 600L/m²
TOTAL COST 60,000 L.

N. APPROX.

TENTATIVE & OPTIMUM

BAUSETTI, MUNOZ, MILLER.

ATTACHMENT C

Academy for Educational Development

AED
International Division

# COMMUNICATION FOR TECHNOLOGY TRANSFER IN AGRICULTURE (CTTA)

February 12, 1987

Dr. Milton Muñoz
CTTA Project Field Director
Tegucigalpa, Honduras

Dear Dr. Muñoz:

This letter is to authorize, effective 1 February 1987, transfer to you of control of and responsibility for the management of CTTA Field Office bank transactions and imprest funds in Honduras, as indicated in your letter of appointment with the Academy for Educational Development. As of 1 February 1987 the checking account balance was Lps.2,854.21 and cash balances for advances and petty cash totalled Lps. 963.14.

Should you have questions regarding imprest fund management, please contact me or Ms. Kathryn Byrnes, CTTA Business & Logistics Manager.

Sincerely yours,

EA Tout

Edwin A. Tout
CTTA Associate Project Director

ET/yg

RECEIVED BY _____
Milton O. Muñoz

DATE Feb 12 /87

1255 23rd Street, N.W.
Washington, D.C. 20037
(202) 862-1900
Telex 197601 ACADED WSH

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ATTACHMENT D

SECRETARIA DE RECURSOS NATURALES
PRODUCIENDO MAS CONSERVAREMOS LA PAZ

DEPARTAMENTO DE COMUNICACION AGROPECUARIA
(D C A)
*Comunicación para la Transferencia de Tecnología en la Agricultura (CTTA)*

Tegucigalpa, D. C.
11 de febrero, 1987

Dr. Edwin Tout
Academia Para el Desarrollo de la Educación
Washington, D. C.

Estimado Doctor Tout:

Con el objeto de realizar un mejor uso del equipo de Comunicación que pronto nos estará remitiendo la Academia, hemos efectuado una revisión del listado original y hemos elaborado otro listado, recomendando algunos cambios que consideramos importantes. Esperamos que este listado sea ya el final y que luego estemos recibiendo el equipo correspondiente.

En el caso de haber un excedente en el gasto de compra de este equipo, les solicitamos la compra de otra quemadora de stencil (A.B. Dick Stencil Scanner Model 592 - Precio $1,435.00).

Adjunto el listado en referencia.

Sin otro particular, me es grato suscribirme de usted muy,

Atentamente,

Miguel Buezo
Director Ejecutivo D.C.A.

MB/yg
cc: Ing. Jose Montenegro B.
Dr. Richard Owens
Ing. Valerie Barzetti
Archivo
Cronológico

Teléfonos: 32-7704 — 32-6227 — Ext. 208

Academy for Educational Development

AED
International Division

COMMUNICATION FOR TECHNOLOGY TRANSFER IN AGRICULTURE (CTTA)

MEMORANDUM

FROM: Valerie Barzetti - Project Advisor, CTTA/Honduras

TO: E. Tout - CTTA Associate Project Director, AED

RE: Equipment purchase for Ministerio de Recursos Naturales

DATE: February 11, 1987

---

Following is the final equipment list you requested from the Ministerio de Recursos Naturales. The order follows the original list, numerical designations and prices presented by Gary Hermance and passed on to the MNR over Carinet:

| | Item | Price |
|---|---|---|
| 1. | A.B. Dick Stencil Scanner Model 592 | $ 1,435.00 |
| 2. | (2) 35mm Pentax still cameras ($249 each) | 498.00 |
| 3. | (1) Xerox 2600 photocopier | 2,000.00 |
| 4. | B-1 (2) Teac X-300R 7" reel to reel recorders ($375 each) | 750.00 |
| 5. | B-2 (2) Technics SA 121 70-watt amplifiers ($100 each) | 200.00 |
| 6. | B-3 (1) Numark DM-500 mixer pre-amps ($75 each) | 75.00 |
| 7. | B-4 (2) Teac R-555 casette recorders ($165 each) | 330.00 |
| 8. | B-5 (2) Technics SL1200 turntables ($275 each) | 550.00 |
| 9. | B-6 (2) Stanton 680 El Cartridges ($75 each) | 150.00 |
| 10. | B-7 (4) Kenwood LSK-301 W speakers ($40 each) | 160.00 |
| 11. | B-8 (4) Electro-Voice EV 635A microphones ($90 each) | 360.00 |
| 12. | B-9 (4) AKG Model 210 mike stands ($30 each) | 120.00 |
| 13. | B-10 (2) AKG Model K-141 headsets ($50 each) | 100.00 |
| 14. | B-12 (1) Telex copyettar 1 & 3 casette tape duplicator | 1,100.00 |
| 15. | C-2 (1) Sony BMC-660K camera recorder | 900.00 |
| 16. | C-3 (1) 19" color T.V. with video input/output | 350.00 |
| 17. | D-8 (2) 30" paper trimmers ($188.80 each) | 377.60 |

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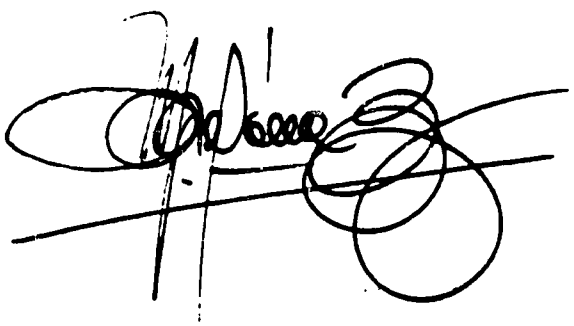
| | Item | Price |
|---|---|---|
| 18. | D-13 (4) Leroy lettering sets ($144.80 each) | $ 579.20 |
| 19. | D-14 (1) Kroy lettering machine with accesories | 570.21 |
| 20. | G-3 (2) CM-213 AKD overhead projectors ($700 each) | 1,400.00 |
| 21. | G-7 (1) Sony SLHG 400 video player/recorder | 440.00 |
| 22. | G-9 (1) Portasound 231A portable PA system | 585.00 |
| 23. | G-10 Radmar 1601B Dupe Pro slide duplicator | 650.00 |
| | | $13,680.01 |



ATTACHMENT E

Academy for Educational Development

AED
International Division

# COMMUNICATION FOR TECHNOLOGY TRANSFER IN AGRICULTURE (CTTA)

February 12, 1987

Mr. Richard Owens
Office of Rural Development
USAID/Honduras
Tegucigalpa, Honduras

Dear Dick:

Thank you for visiting with us about CTTA Project activities with the Ministry of National Resources and FHIA. Your analysis of the present situation and the goals you indicated for the next four months will provide substantial assistance.

To formalize our discussion regarding equipment and vehicle procurement and titling, following is a summary of major decisions.

* FHIA: title of all vehicles, communication equipment, and library procurements under the CTTA Project will be assigned immediately to FHIA upon completion of the procurement process.

* FHIA will handle all customs and other necessary clearances and thereafter maintain appropriate equipment inventories and logo.

* MNR: title of all vehicles and communication equipment procured under the CTTA Project will remain with the Academy for Educational Development throughout the life of the project, to be transferred to the MNR at the end of project activities in form of a grant-in-aid.

* The MNR will arrange, with USAID/Tegucigalpa assistance as necessary, appropriate clearances for MNR shipments.

* The CTTA Field Director (Dr. Milton Muñoz) will assume responsibility for equipment maintenance and inventory upon its arrival in Honduras.

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Washington, D.C. 20037
(202) 862-1900
Telex 197601 ACADED WSH

If you have additions or corrections to this process, please let us know so that I may implement the procedures.

Thank you for your help.

Sincerely yours,

Edwin A. Tout
CTTA Associate Project Director

EAT/yg

cc: Lic. Misael Bueso
Dr. Milton Muñoz
Dr. Fernando Fernandez
Dr. Jairo Cano
Mr. William Ward

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ATTACHMENT F

# A G E N D A

Reunion CAT - Febrero 10/1987

1. Apertura de la Reunión
2. Lectura y Aprobación de la Agenda
3. Lectura y Aprobacion del Acta Anterior
4. Análisis y Organización del Trabajo (Algunas sugerencias)
5. Asuntos varios
6. Cierre

PARA REUNION EXTRAORDINARIA DEL CAT CON EL DOCTOR EDWIN TOUT

A. SUGERENCIAS PARA LA ORGANIZACION DEL TRABAJO:

1. Conforme los resultados del trabajo desarrollado a partir del mes de julio de 1986, consideramos oportuno proceder a reprogramar las actividades para 1987. El Plan General de Trabajo contempla las acciones de las cuatro secciones del Departamento, para el nivel central y regional.

Para iniciar la ejecución de este plan operativo anual, necesitamos contar con las condiciones mínimas para lograr algunos objetivos propuestos en el mismo. Hasta el momento esto no se ha podido resolver, dado que son decisiones que dependen del más alto nivel, pero que se están gestionando con alguna insistencia.

Estas condiciones dependen de la resolución de los siguientes problemas:

a). Asignación Presupuestaria: El Departamento de Comunicación no cuenta con una estructura presupuestaria propia con asignación de fondos nacionales. Esto implica que el Departamento y el CTTA, sea financiado con fondos de la Ley Pública 480. El trámite entre el Gobierno y la AID, no se resuelve rapidamente, lo que significa esperar un período durante el cual tenemos que permanecer inactivos, retrazándose todo un plan de acción concebido para que fuera iniciado a partir del mes de Enero. La falta de presupuesto, nos ha limitado resolver los siguientes aspectos básicos.

a). Contratación del Personal: Actualmente el personal no tiene ninguna seguridad de que va ser contratado a partir de enero, no obstante que la Dirección buscará todos los medios para que así sea. Esto limita animicamente al personal para desempeñarse con solvencia en sus labores.

b). Local Adecuado: La necesidad de rentar un local que complemente al actual, es grande; sin embargo, no hemos podido decidir acciones para ese fin, debido a la falta de presupuesto. La Dirección ha gestionado esta posibilidad, pero hasta el momento nada se ha podido resolver.

c) Viáticos: Ningún personal puede viajar a trabajar al campo de influencia del proyecto puesto que no están recibiendo sueldo y no podemos pagarles sus viáticos.

d). Vehículos: Los trámites para la obtención de dos vehículos han tardado demasiado, no obstante las gestiones permanentes de la Dirección. Estos vehículos son necesarios para iniciar nuestro trabajo en el campo.

e). Materiales y Suministros: No podemos completar los requerimientos de materiales y suministros para desarrollar normalmente el trabajo. Esto implica esperar la factibilidad presupuestaria

f). Construcción de Nuevo Local: La Secretaría no cuenta con espacio suficiente para ubicar las instalaciones del Departamento de Comunicación. Para este año contamos con una partida para construir nuestro propio local. Sin embargo, no podemos iniciar los trámites para la construcción porque no se ha distribuido el fondo que nos corresponde.

2. Las circunstancias en que nos tocó iniciar las actividades del Proyecto CTTA, no nos permiten considerar que nuestro trabajo se haya hecho de la mejor manera. Estamos conscientes de la deficiencia del mismo; sin embargo, debemos aprovechar lo poco bueno que hemos logrado y utilizar lo malo para rectificar y hacer las cosas cada vez mejor.
Esto implica que, de inmediato, debemos tomar en consideración los siguientes aspectos:

a). Organización del Trabajo: El hecho mismo de haber iniciado nuestras actividades sin contar con las condiciones deseables para ejecutarlas normalmente, nos indica que nuestro trabajo no estará bien planificado. Casi en su totalidad, las acciones realizadas son el producto de la iniciativa del equipo de personas del D.C.A.. No teníamos ninguna experiencia en este tipo de trabajos, más que la voluntad para pretender hacer lo mejor posible. Necesitamos organizar adecuadamente el trabajo.

b). Estructura Organizacional: Debemos definir la estructura organizacional del Departamento. Para lograrlo es necesario analizar el documento que se elaboró con esa finalidad. En este documento se identifican aspectos importantes como la organización interna del DCA, gerarquización, funciones del personal, naturaleza de los organismos internos e instancias de coordinación.

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c). Revisión y Análisis del Trabajo Realizado: Estamos conscientes de que el trabajo realizado hasta hoy, tiene muchas deficiencias; esto implica una revisión y análisis profundo de los resultados obtenidos y de los procedimientos utilizados para tomar medidas corilectivas para no desviar nuestros objetivos. La investigación de base es indispensable y sus resultados son decisivos.

d). Reprogramación: Un paso posterior a la labor de anátisis de procedimientos y resultados, debe ser una reprogramación de las actividades del Departamento y particularmente del Proyecto CTTA, tomando en cuenta todos los aspectos de apoyo logístico para su ejecución. De esta reprogramación básicamente objetiva depende el éxito de la ejecución de nuestras acciones. Para esto, debemos tomar como base el documento borrador del plan general de trabajo.

e). Investigación y Análisis de Procedimientos de Trabajo de Extensión y Generación de Tecnologías: Nuestra labor de comunicación es funadamentalmente de apoyo al proceso de extensión e investigación agrícola; esto implica conocer como trabajan en ese campo y hasta dar recomendaciones, porque de ellos depende en gran medida, el éxito del proyecto. Es necesario entonces, que busquemos un mecanismo lógico que nos permita lograr este propósito'

d). Instancias de Coordinación: Prioritariamente necesitamos definir y establecer los mecanismos de coordinación con otras dependencias de la Secretaría, especialmente con las que debemos trabajar estrechamente. De igual manera debemos proceder con otras instituciones del Sector Agropecuario y de la Empresa Privada.

e). Asesorías: Es necesario tomar medidas para planificar adecuadamente las próximas asesorias de corto plazo. Debemos tomar muy en cuenta la importancia de la Asesoría a largo plazo, máxime ahora que contamos con los servicios de un Asesor con un nivel académico importante y sobre todo con una buena experiencia en trabajos como el que estamos desarrollando. Tanto el Doctor Muñoz como nosotros necesitamos apoyarnos mutuamente.

f). Sección de Capacitación: Hemos considerado que a la capacitación debemos concederle un lugar de importancia; sin embargo, esta será una labor de todo el equipo que laboramos en la DCA desde este punto de vista, mantener una sección con un técnico como Jefe en esa area, podría significar subutilizar este técnico. Creemos que bastará con una persona que se encargue de coordinar las cuestiones logísticas necesarias para esa labor. Las necesidades de capacitación pueden ser identificadas por la Sección de Investigación mediante procedimientos específicos y planificación puede ser elaborada por cada sección y discutida y avalada por el CAT.

g). Compromiso Internacional: 'l apoyar en Honduras un Proyecto de esta dimensión, nosotros hemos adquirido un compromiso nacional e internacionalmente. Lo que - significa que debamos poner todo nuestro esfuerzo para hacer las cosas correctamente. El CTTA de Honduras debe generar resultados importantes para otros países y debemos adquiriir conciencia de esos resultados, de los procedimientos técnicos utilizados y del valor real del equipo humano que los genere. Debemos todos estar abiertos al diálogo, atentos a las recomendaciones del asesor principal para ponerlas en práctica y dispuestos a dar todos nuestros esfuerzos y voluntad para realizar este trabajo de la mejor manera posible. No olvidemos que cada día aprendemos algo nuevo y no pensemos que basta con lo poco que hemos aprendido. El éxito del CTTA en Honduras, será el prestigio para la Secretaría y nosotros mismos; su fracaso será nuestro fracaso.

La Dirección pone a discusión y análisis estas sugerencias, como paso inicial para reiniciar nuestras labores en 1987.

ATTACHMENT G

**FUNDACION HONDUREÑA DE INVESTIGACION AGRICOLA**
**-FHIA-**

**EQUIPMENT REQUESTED**
**(Updated List, February 13, 1987)**

| | |
|---|---|
| A. Communication Management and Information System | $14,460.00 |
| B. Phototypesetting | $ 9,282.60 |
| C. Graphic Arts Production | $ 2,580.40 |
| D. Off-set Print Shop | $39,346.90 |
| E. Audio Production | $ 2,576.00 |
| F. Video Production | $ 4,780.00 |
| G. Slide and Transparencies Making | $ 6,297.00 |
| H. Slide-tape Presentation Production | $ 4,338.00 |
| I. Conference and Training | $17,141.00 |
| Total | $90,341.90 |

Signature

13- Feb - 87
Date

A. COMMUNICATION MANAGEMENT AND INFORMATION SYSTEM

(2) IBM PC-AT

512K Ram

1 disk drive (360KB)

30 MEG HAXGPAPNUJSCLE Hard disk and serial interface

1501002 co-processor, 8087 math option

1504900 monitor, color, graphics, adaptor interface

1505200 printer adaptor, centronics parallel

1502074 serial interface, RS-232

6024120 program, DOS 3.1

CLND C1234 memory chips (each chip adds 64K)

cables for printers

Lotus 123 with symphony

Word Perfect -d Base III- CARINET

Modem

Asynchronous communication adapter card

Printer adapter

IBM graphics printer

Mouse Systems PC Mouse

| | | |
|---|---|---|
| | | $10,000.00 |
| Laser Jet Writer Plus printer | | $ 4,460.00 |
| | Total | $14,400.00 |

| QUANTITY | B. PHOTOTYPESETTING | PRICE |
|---|---|---|
| 1 | MacIntosh Plus, Apple, 1Mb RAM, monitor, keyboard (letter and numbers) mouse ($2600.00 ea.). | $ 2600.00 |
| 1 | 20 Mb Hard Disk, SCSI port (10 000 pages of memory) | $ 1200.00 |
| 1 | Image Writer II printer | 500.00 |
| 1 | Laser Writer Plus printer | $ 4460.00 |
| 1 | Thunderscan | $ 250.00 |
| 1 | Apple Talk | $ 99.00 |
| 6 | Applications (software): Microsoft Word ($195.00)<br>Microsoft Chart ($125.00)<br>Page Maker ($495.00)<br>Mac Draw ($ 95.00)<br>Microsoft Excel ($125.00)<br>Mac Terminal ($ 88.00)<br>IBM Interface software ($300.00) | $ 1423.00 |
| 1 | Hewlett Packard plotter, model 7475A | $ 1900.00 |
| 1 | DEST Workless Station | $ 750.00 |
| 1 | Digitizer (drawing pen) | $ 400.00 |
| 12 | Accesories: Vinyl covers (6 pcs) ($40.00)<br>Diskette drawers ($90.00)<br>Cleaning kit ($30.00) | $ 160.00 |
| | Total | $ 9282.60 |

| QUANTITY | C. GRAPHIC ARTS PRODUCTION | PRICE |
|---|---|---|
| 2 | Mayline E-Z grip straight edge parallel rulers 60", wood surface table, side guides, transparent edges; 1 1/4 with 5/16 thick finger lift, blade attachment, ball bearing pulleys, cable and mounting instructions ($62.00 each). | $124.00 |
| 2 | Upholstered tilt stools. Fully adjustable; tabular steel frame, vinyl on seat; ballbearing casters. Gray frame ($208.50 ea.). | $417.00 |
| 2 | LEDU combination lights. Spring activated 42" steel arm; touch control; control for each of one 60 watt incandescent, one 22 watt fluorescent bulb; black finish ($98.60). | $197.20 |
| 1 | Portable tracing box. Heavy gauge steel; three 15 watt fluorescent light tubes; 16 x 20" glass surface; diffuser; gray finish. | 154.00 |
| 1 | Five-drawer unit modular flat files with base. Heavy gauge steel in ebony; drawers on ball bearings; hood at back; flap at front of each door; two handles per drawer; stackable modular units; drawer size: 50 1/2 x 38 1/2 x 2 1/8. Unit ($500.00) base ($107.00). | $607.00 |
| 1 | Metal double-door cabinet, chrome handles; four shelves; finished in black. | $152.80 |
| 1 | Paper trimmer, 30". Self sharpening steel blade; safety guard rail; safety spring for handle; handle lock; slide guide; rule in 1/16 calibrations; green lacquer finish; wood base. | $188.80 |
| 2 | Rapidograph humidified revolving selector sets. Drawing pens numbered 00 to 4; many holders for pens, ink, etc., and humidifier ($64.80). | $129.60 |
| 1 | Ultrasonic pen cleaner, one pint capacity. | $105.00 |
| 1 | Professional lettering set, Leroy. Twelve templates sizes 1/16 to 1/2", adjustable scriber; scriber stand; 8 lettering pens 000-5; drawing ink, others (The items listed until now are available, GSA pricing, through: Dick Blick Graphic Art Materials<br>Box 1267<br>Galesburg, Illinois 61401<br>309/343-6181. | $145.00 |
| 1 | Art Waxer III, from Portage, Graphitec International | $360.00 |
| | TOTAL | $2 580.40 |

| QUANTITY | D. OFFSET PRINT SHOP | PRICE |
|---|---|---|
| 1 | A.M. Multigraphics, model 1650 Graphic, printer, tray delivery. Paper size 13 x 17" max. 15 rolls, three different diameter form rolls. | $14 025.55 |
| 1 | A.M. Multigraphics Camera/Platemaker 885. Max. size of original 25 x 36.5 inches; Max. size of plate image 14.5 x 18 1/4 inches; reduction/enlargement range 47% through 115% of original size; four 800 watt, quartz iodine lamps, 220 v., 20 amp. | $ 9785.55 |
| 1 | Mercury lamp platemaker NuArc 750 | Approx.$ 1000.00 |
| | Request bids from: NuArc Company Inc., International Division<br>6200 West Harvard Street<br>Niles, Illinois 60648-3404, and<br><br>Goodkin Inc.<br>140-146 Coit Street<br>Irvington, New Jersey 07111 and<br><br>Buckingham Graphics, Inc.<br>1414 Roscoe<br>Chicago, Illinois 60657 | |
| 1 | 26.5" Power paper cutter with power clamp. Challenge model Diamond 26. Two hand knife controls; two knives; four plastic cutting sticks; tools; two hand clamp control; 208 v., 60 H ; split backage for booklet trimming. | $ 7794.00 |
| 1 | Collator GBC (General Binding Co.) for 16 to 20 pockets, semi automatic, or, | Approx.$ 1000.00 |
| | Request bid for: AM Multi Copy Collator 16; max. sheet size; 10 x 14 1/4"; up to 27 000 sheets per hour; 115 v., 60 H . | |
| 1 | Production folder GBC, Challenge or Yale for 11 x 17" sheets of paper. Heavy duty tabletop. | Approx.$ 1000.00 |
| | Request bid from: GBC<br>Challenge<br>Yale<br>AM International (For Multi Folder Table Top Production Folder) | |
| 1 | Commercial bind and punch machines: one GBC electric 16" punch model 111 PM ($1751.75), one manual 16" binder model 16 DB ($486.50). | $ 2649.30 |

| | | |
|---|---|---|
| 1 | Electric stapler Faber Castell model 100E; flat stitcher only. | $ 192.50 |
| 1 | Kombo Binding System. Sheets up to 12" wide ($460.00) | $ 550.00 |
| 1 | 412 LM Dry Mounting and Laminating equipment (By General Binding Corporation) | $ 1 350.00 |
| | Total | $39 346.90 |

## E. AUDIO PRODUCTION

| | |
|---|---|
| 7" reel to reel recorder<br>TEAC X-300R 7" reel to reel recorder with auto reverse; DBX noise reduction; pitch control; dual capstan drive; auto reverse and bi-directional record. | $ 375.00 |
| 70 watts integrated amplifier RMS AM/FM receiver<br>Technics SA 121<br>Features 35 watts per channel into 8 ohms from 40 Hz-20 kHz; under 0.5% THD; tape monitor; fly wheel assisted tuning. | $ 100.00 |
| Numark DM-500 mixer/pre-amp<br>Two stereo inputs switchable for phone or line level; mic input; talkover switch; headphone jack; cue monitor. | $ 75.00 |
| Cassette recorder<br>TEAC R-555<br>Real time auto reverse stereo cassette deck; Dolby B,C; 2-DC motor system; IC logic tape transport memory; blank scan; output level control; digital LED tape counter with 30 Hz-20 kHz frequency response. | $ 165.00 |
| Studio turntable<br>Technics SL 1200<br>Quartz direct drive manual turntable; brushless DC motor; aluminum diecast platter; 33 1/3 rpm and 45 rpm and pitch adjustment; electronic braking system; high torque for rapid start-up; high sensitivity, low mass, gimbal suspension tonearm. | $ 275.00 |
| Stanton 680 EL cartridge<br>Essential component for operation of Technics SL 1200 turntable; order two (2) estimated 2 $75 each. | $ 150.00 |
| Component speakers<br>Kenwood LSK-301W speakers<br>Two-way dynamic bookshelf speaker system; air suspension design; 8" woofer, 75 watts maximum input; order two (2) estimated $40 each | $ 80.00 |
| Microphone (studio type)<br>Electro Voice EV 635A | $ 90.00 |
| Microphone stand (studio type)<br>AKG Model 201 | $ 30.00 |
| Headset (studio type)<br>AKG K-141 headset | $ 50.00 |

(2) Battery operated cassette player/recorders
Hitachi AVA-150
Monaural playback, record; plays monarual dual track cassette; speed 1 7/8 IPS; Response at 100 Hz to 8000 Hz + -5dB; microphone and remote microphone inputs; headphones and external speaker outputs; one internal at least 3 1/2"; needs built in condenser microphone; 120V and/or batteries. $ 86.00

Cassette tape duplicator
Telex Copyette 1 & 3
Duplicates from cassette master to three slaves in self-contained cabinet; speed: master 30 IPS/ slaves 30 IPS; 16:1 speed ratio; S/N ratio: 45dB; duplicates two tracks per pass, half-track monaural; rewind and auto stop on single push button operation. $1100.00

Total $2576.00

F. VIDEO PRODUCTION

Stereo Video Cassette Recorder with Editing
SuperBeta HiFi Sony SL - HF900
Stereo audio recording frequency range of 80 dB; MTS stereo broadcast reception; 12-segment LED peak level meters for stereo recording; detail switch to bypass noise suppression circuitry during video playback; main/SAP switch for reception of 2-channel stereo or either channel independently; edit switch to maintain picture definition during edit; high speed (up to 15X) picture search; linear time counter; crystal-clear freeze frame; crystal-clear slow motion search; super search log dial providing bi-directional variable speed control from freeze to 2X speed and 1/5 normal speed. $ 940.00

Betamovie portable one-piece video camera/recorder
Sony BMC - 660K or NEC CCD auto-focus Betamovie camera. Records directly on standard 1/2" Beta video cassettes; power requirements: DC, 9.6V, supplied with BC-300 multi battery recharger, NPH rechargeable battery, CR-2025 lithium battery for clock;
Camera section: pickup device 2/3" interline transfer; charge couple device (CCD); 510 (H) X 492 (V) picture cells; lens f 1.4, 6:1 power zoom; manual and auto focus; auto white balance; LED indicators for low light, white balance, low battery, tape run, auto focus; view-finder through lens optical, color, with left/right reversible;
Recorder section: monaural audio track with built-in microphone; data displays for date, time, tape counter, elapsed battery time and warning indicators; external DC output; earphone output; low-impedance microphone input. (3) cameras x $900 $2700.00

19" portable television
Any portable 19" color tube with audio internal speakers; video input/output, 8-pin connector outlet and cable; power 120 V 60 Hz. $ 350.00

SuperBeta HiFi video player recorder
Sony SLHF 400
Stereo audio system with 80dB dynamic range; wireless remote control;
BetaScan; Beta SkipScan; freeze-frame; pause; tape direction indicator; pulse auto rewind; express tuning; up/down channel selector;

cable compatible; 118 total channels; MTS stereo broadcast reception; quick timer; program 6 events in 7 days; stereo audio input/output; VHF-UHF input/output; 2-speed recording, 3-speed playback. $ 440.00

19" color television
Any portable monitor or television receiver with video input/output jacks. $ 350.00

Total $4780.00

| QUANTITY | G. SLIDE AND TRANSPARENCIES MAKING | PRICE |
|---|---|---|
| 1 | Graphic slide composer<br>Creatron Inc.<br>504 Cherry Lane<br>Floral Park, NY 11001<br>Tel. (516)437-5119<br>(800)645-8030 | $ 575.00 |
| 1 | Kodak Ektagraphic Visual Maker<br>Eastman Kodak Company<br>343 State St.<br>Rochester, NY 14650<br>Tel. (716)724-4689 | $ 298.00 |
| 1 | Spectra 1000<br>Kenro Corporation<br>48 Horsehil Road<br>Cedar Knolls, NJ 07927<br>Tel. (201)538-1460 | $1095.00 |
| 1 | 35mm Power Processor | $ 275.00 |
| 1 | 35mm Illuminated Slide Mounter<br>Polaroid Corporation<br>575 Technology Square<br>Cambridge, MA 02139<br>Tel. (800)225-1618 | $ 44.00 |
| 1 | Professional Slide Duplicator<br>Radmar 1601B Dupe Pro slide duplicator Photographic type for making duplicate 35mm slides from existing slides, enlargement and reduction capacities needed; horizontal position adjustment; magnification adjustment; complete with single lens reflex (SLR) matching camera with 55mm 5/1.7 lens; color correction filters second stage below slide; tungsten holagen illumination with foot pedal control.<br>Radmar, Inc.<br>1263-B Rand Road<br>Des Plaines, Illinois 60016 | $ 650.00 |
| 1 | Slide Viewing and Editing System<br>Elden Enterprises, Lowdea Slide System 16" x 20" viewing screen, illuminated by two lamps. | $ 520.00 |
| 1 | Lettering machine<br>Kroy 80 electric lettering machine<br>(1) typefont 36 pt. Helvetica Medium<br>(1) typefont 18 pt. Helvetica Regular<br>(1) typefont 36 pt. Century Schoolbook<br>(1) typefont 18 pt. Century Schoolbook<br>(1) box Droy 100 Photo quality tape | $ 570.00 |

Kroy Inc.
5701 D. General Washington Dr.
Alexandria, Virginia 22312
Tel. (703)642-1050

| | | |
|---|---|---|
| 1 | Hanging File Slide Pages (2 x 2 slides)<br>Stock #HTL, holds 20 2 x 2 slides<br>size 9 1/4 x 12"<br>1000 pages<br>20th Century Plastics, Inc.<br>3628 Crenshaw Blvd.<br>Los Angeles, CA 90016<br>Tel. (213)299-2777 | $ 270.00 |
| 1 | Palette Computer Image Recorder<br>Polaroid Corporation<br>575 Technical Square<br>Cambridge, MA 02139<br>Tel. (800)225-1618 | $2000.00 |
| | Total | $6297.00 |

| QUANTITY | H. SLIDE-TAPE PRODUCTION PRESENTATION | PRICE |
|---|---|---|
| 2 | Pro-150 Microcomputer controlled 2 x 2" sound-slide system by Dukane Corporation. | |
| | a. Projector | $ 775.00 |
| | b. Random access remote control | $ 115.00 |
| | c. Advance and reverse pause/resume | $ 17.50 |
| | d. Selector switch | $ 29.50 |
| | e. Vinyl cover | $ 12.00 |
| | | $ 949.00 |
| | $949.00 x 2 = | $1898.00 |
| 1 | Mate-Trac-Focer Plus dissolver<br>Arion Corporation | $1495.00 |
| 1 | Spectra-8D dissolver | $ 595.00 |
| 1 | FD-685AV Professional Series<br>Sharp Electronics Corporation | $ 350.00 |
| | Total | $4338.00 |

| QUANTITY | I. CONFERENCE AND TRAINING | PRICE |
|---|---|---|
| 1 | Video Projector<br>Sony DPH-722Q<br>Rear projection type with options for desktop, ceiling, or floor mount; 5.5" high bright picture tube with liquid color filter; 22 lumens brightness; 400 lines video resolution, 600 lines RGB; connectors: audio/mini; video BNC, 8-pin; Input signals: NTSC/NTSC 4.43/PAL/SECAM/RGB; built-in speaker; power: 120V 50/60 Hz; GSA pricing available GS-OOK-85A GS-007A | $4797.00 |
| | Plus options: SU-722 projector pedestal<br>GSA pricing (same contract as above) | $ 369.00 |
| | Plus 72" high gain curved screen VPS-72 HG1<br>GSA pricing (same contract as above) | $ 590.00 |
| | Plus remote control unit VPR-722 | $ 400.00 |
| 1 | 16mm Movie Projector<br>Kodak Ektagraphic CT 1000/ or Bell and Howell 2580 slot threading; 2000" reel size; speed: sound; lamp; 250 watt; amplifier 10-20 watts; power: 120 V 60 Hz, UL listed<br>Eastman Kodak Company<br>343 State Street<br>Rochester, NY 14650<br>or<br>Bell and Howell Company<br>Visual Communications Group<br>7100 McCormick Road<br>Chicago, Illinois 60645 | $1250.00 |
| 2 | Front Projection Screens, electric, wall/ceiling, 10' x 10' Model Senior Electrol, surface glass beaded. Da-Lite Screen Co., Inc. | $2256.00 |
| 2 | Front Projection Screen, electric, wall/ceiling, 84 x 84" Model Senior Electrol, surface glass beaded. Da-Lite Screen Co., Inc.<br>Da-Lite Screen Co., Inc.<br>P.O.Box 137<br>Warsaw, Indiana 46580 | $1966.00 |

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4 Slide Projectors-silent 2" x 2" $1783.00
Kodad AF2 with case
capacity to project 80 and 140 slides per tray of 2" x 2" slides; manual slide changer; automatic timed intervals variable from 3-15 seconds; semi-automatic push button on projector; remote control for forward/reverse, focus; automatic focus with auto-focus on/off switch; dark screen shutter latch; 300 watt, fan cooled lamp; Power 120V 60 Hz, UL listed.
4 projectors $395 and $ cases $49.75
Eastman Kodak Company
343 State St.
Rochester, NY 14650
1/716/724-4689

2 Overhead Projectors $1400.00
3M-213 AKD, case included; 10" x 10" image stage; lamp: EHX 360 watt, fan cooled; 14" (355mm) lens; power: 105-130V 60 Hz; lamp changer and indicator; fold down post; articulate head; lamp intensifier; optical color tuning.

Plus one additional glass projector plate $ 100.00
3M Company
Audio Visual Division
3M Center, Building 225-3NE
St. Paul, Minnesota 55144

1 Portable Public Address System $ 585.00
Portasound Model 231A
Lectern, table top type; 17" x 13" reading surface; one dynamic microphone; four built-in speakers; built-in amplifier with auxiliary for 2 microphones, 1 auxiliary in, 1 auxiliary out, 2 external speakers; fluorescent reading light; protective cover.
Portasound Division, Sound-Craft Systems, Inc.
Route 3
Morrilton, Arkansas 72110

2 Portable Audio Cassette Recorder $ 160.00
Morantz PMD-220 / or Bell and Howell 3185 / or Sony TCM 6DX; power by either/or 120V 60 Hz or batteries; pause and tone control; review, auto, stop, cue; 2X counter; electret microphone; record/battery indicator; speed: 1 7/8 IPS; plays monaural cassettes; input: microphone; output: speaker, headphone; lightweight.
Bell and Howell Company
Visual Communications Group
7100 McCormick Rd.
Chicago, Ill. 60645 or

Sony Corporation of America
Communications Products Co.
Sony Drive
Park Ridge, NJ 07656

| | | |
|---|---|---|
| 1 | Sit Down Overhead Projector Table<br>OHT-30 | $ 160.00 |
| 1 | FPL-Mini; Freedmike Miniature Wireless Microphone System<br>Lectrosonics, Inc.<br>2100 Atrisco Dr. NW (87 120)<br>P.O.Box 121617<br>Albuquerque, NM 87195 | $ 830.00 |
| 1 | 28 A 60A Cassette V-P Matic Sound filmstrip projector with both front and rear capability.<br>Dukane Corporations | $ 495.00 |
| | Total | $17,141.00 |

ASSIGNMENT REPORT

2

# AGRICULTURAL COMMUNICATIONS FACILITIES

Tegucigalpa, Comayagua, La Lima, HONDURAS

ACADEMY FOR EDUCATIONAL DEVELOPMENT - H. JAMES MILLER, ARCHITECT

February 16, 1987

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ABRIS ARCHITECTS and PLANNERS 214 WEST MAIN STREET URBANA, ILLINOIS 61801

February 12, 1987

AGRICULTURAL COMMUNICATIONS FACILITIES - Honduras
AED CTTA PROJECT - H. James Miller Contract No. DPE-5826-C-00-5054-00

The period between February 1 and 12, 1987 was devoted to an assignment in Honduras to review proposals and to provide advice for the design of three communications facilities. The original scope of work did not anticipate the extent of advice required, and in fact a week could have been profitably devoted to each project. There was barely sufficient time to understand the fundamental needs, to provide some preliminary diagrammatic ideas for discussion, and to give verbal recommendations. This is a follow up formal report of the activities, observations and recommendations of the assignment.

Scope of Work (Summarized from contract)

1. For the Honduran Ministry of Natural Resources, "design" facilities for a communications center in Comayagua. (Adequate space for technical and administrative offices, video and audio sections, graphic arts section, and darkroom facilities --"including electrical installations.")

2. For the Ministry, "design" facilities for a communications center in Tegucigalpa. (To include the same facilities as at Comayagua, but add printshop and computer facilities.)

3. For the Foundation for Honduran Research in Agriculture (FHIA) at La Lima, "provide advice on necessary construction to fireproof the FHIA library".

The scope of work changed and expanded after arrival in Honduras in the following ways:

Comayagua - It was originally anticipated that needed facilities for this top priority regional center could be accommodated in an existing house. After examining the house and the near term needs for facilities, it became obvious that an addition to the building would be essential. This required generating alternative floor plan studies. (Appended to this report)



CABLE: ABRIS TELEPHONE: 217-384-0453

Tegucigalpa - The Ministry's National Communications Center was proposed to be located by constructing an additional floor on the existing Ministry office building. (A fifth floor) During the assignment it was decided this was impractical because of insufficient space and poor accessibility. The scope of work changed to examining a proposal for a new building to be located in the parking lot across the street next to the Seed Processing Plant. This required a quick and insufficient investigation of the site, and an attempt to plan an appropriate facility for this location. (Sketches appended to this report)

La Lima - An anticipated review of fireproofing needs for the old "Club Sula" to accommodate a new FHIA library, was expanded into a review of the local architect's design proposals for renovation of the whole building. Library, Communications Unit, and Training Center are all to be accommodated in the building. Discussions expanded even further to include review of proposals for the entire FHIA campus plan. The stipulated scope of work was fulfilled, but the needs for advice in numerous facility development issues could not be adequately addressed in the short period of time available.

The word "design" was used repeatedly in the contract scope of work. Engineers and architects use this key word to describe a very comprehensive activity that fully prescribes appropriate physical facilities for a given situation. The activity called design is incomplete until all aspects of the facilities have been determined. In no way could the three communications facilities be designed in one week. Full professional design services could require from two to three months for each facility. Better words for the scope of work would be "needs analysis", and "functional diagrams or planning studies."

It is important to recognize that the observations and recommendations of this report, particularly in the case of the proposed facilities at Tegucigalpa, are based upon incomplete knowledge and depth of study and that local architects and engineers must be commissioned to design the facilities. The value of the recommendations of this report stems from the experience of this consultant, having designed similar facilities. That makes it possible to apply that experience to quickly understand the needs and to provide guidelines for further planning.

REGIONAL COMMUNICATIONS CENTER at Comayagua. (Fl. area Alter.2 - 275m$^2$ The CTTA project effort is directed toward making this MNR facility fully operational as soon as possible to provide a model for similar facilities in other provinces of Honduras. The Director and his staff of twelve or more individuals already occupy an unremodelled house provided by the Ministry at the Livestock Farm Center at Comayagua. The rooms of the house provide office space; but there are no facilities for audio recording studios, for photographic work, and for conferences.

With the able advice and assistance of Valery Barzetti, two days of the assignment were devoted to examining the house at Comayagua, interviewing the Director, Luis Fuentes and each of the staff to determine the needs of the Center, and the possibilities for accommodating those needs. Because of an obvious mismatch between apparent needs and the existing space available, it was clearly advisable to provide alternative approaches for comparison.

Plan Alternative 1. - (Conservative) The first study accepted the limitations of the existing house (Floor area 175m$^2$), and located activities generally as suggested by Bill Ward and Ed Tout. That included remodelling the garage for a conference room, the kitchen for a dark room, and the servant quarters for a radio studio. Though of lowest cost, this plan is flawed for the following reasons:

(a) There is no room for three evaluators.
(b) The conference room, photo facility and radio studio would be less than satisfactory.
(c) There is no space whatsoever for an expanded staff.
(d) There is no room for needed training activities.
(e) The entrance and reception area are unsatisfactory.

Plan Alternative 2 - (Optimum) This study was conducted as an attempt to meet the actual needs in a realistic way, looking ahead for the next five years. It required adding a 100m$^2$ addition to the west of the existing house, with a connecting corridor at the front, and an exterior courtyard between. A new entrance and reception area is provided in the old garage, the photo lab is located in the remodelled servant quarters, and a workroom with storage is

located in the remodelled kitchen. The new addition would contain conference room, radio studio, training classroom, and additional office space. The radio studio, conference room and photo laboratory are grouped together so they can be easily air conditioned. The exterior courtyard would provide a multi-purpose area for training, demonstration and other activities.

Plan Alternative 3 - (Compromise) This plan is offered as an interim stage of achieving the optimum Alternative 2 plan. Depending upon resource availability, it may not be feasible to proceed directly with Alternative 2. Because of the urgent need to provide an operational facility as soon as possible, it is essential that at least a good radio studio be constructed now. This alternative retains the same remodelling of existing facilities as proposed in alternative 2, but includes only the radio studio as a new addition.

Whatever alternative is adopted, the existing toilets will need to be remodelled, as suggested, with new and additional fixtures. The existing septic tank and soak pit have evidently not been maintained and are clogged and overflowing. They will need to be cleaned out and checked for their functionability. Modifications may be necessary.

The existing 110 Amp electrical entrance will need to be expanded, and 220 v. service should be provided to the building to power the air conditioning. Additional electrical outlets are requested for typewriters and other electrical equipment. It is recommended that a two 40-watt tube fluorescent light fixture replace the residential incandescent fixture in each room. A ceiling fan or oscillating table fan should be provided in rooms without air conditioning. Rooms with east or west facing windows should be provided with shade screens or awnings outside the windows to exclude the sun from the rooms.

The functional quality of the final renovated facility will greatly depend upon implementing the recommended plan arrangement of furniture and equipment; and will require the careful design of all built-in cabinetry, customized for each particular need.

NATIONAL COMMUNICATIONS CENTER at Tegucigalpa (Floor area 990 $m^2$)
It is assumed that this important national center is intended to complement and support all of the eventual regional centers; therefore it should be the most

complete and sophisticated of the communication units. It should be carefully designed to provide a permanently well functioning facility worthy of national purpose and visibility. For efficient capability and credibility, it should be at least as good as the facilities at the University and elsewhere in Honduras. Therefore, investment in good design is only common sense. The best architect, engineering team in Honduras should be appointed to provide the necessary professional services to design the building and supervise its construction.

The first task is to test the feasibility of the proposed site and the two-story building configuration. There are serious questions about accessibility, parking, affect upon the Seed Processing Plant access, the problems of relocating the petrol pump and tanks, the sub-soil conditions, the topography, and other concerns. Perhaps there are other possible sites that could be compared and would prove better than the one provided.

The appended floor plan diagrams show only one possibility for configuring a two story building on the given site, so that it will function well. This is based upon requirements provided by Director Misael Bueso, and advisor Dr. Milton Munoz. There are certainly other ways to organize the spaces. A more detailed needs analysis should be conducted to confirm the space allocations to match the long range staff needs. The traditional series of A and E design development stages should be utilized to produce a complete set of working drawings and specifications before proceeding with any construction. That will require at least six months of hard work.

FHIA LIBRARY, COMMUNICATIONS UNIT, AND TRAINING CENTER at La Lima

The recently acquired Club Sula recreational building is a solidly built heavy timber frame structure with wood trusses spaced approximately 4 meters on center, spanning the width of each of the two sectors of the L-shaped building. The roof is a single layer heavy gauge corrugated G.I. sheet laid across wood purlins spanning between trusses. Single thickness solid concrete painted brick walls form the lower meter and a half of the walls around the perimeter of the building. A heavy wood beam sill is bolted to the top of the concrete wall and provides the base for wood columns to set, which rise up to support the wood trusses. The walls above the concrete are only a single layer of wood siding.

The major concerns, as implied by the scope of work for this consultant, were how to provide a fire resistant building, how to make the building secure, and how to make some parts of it efficient for air conditioning. The building as it stands, though structurally sound, is inappropriate for any of the three concerns.

Fire safety and security can be provided on the exterior by extending the masonry walls higher on all sides to a horizontal window sill at least seven feet above the floor. Protecting the wood member soffit on the underside of the roof overhang, and providing non-combustible window and door frames, would also contribute to increased fire-safety, tight enclosure of the building, and security.

On the interior, it would be essential to provide a fire rated ceiling protecting the wood frame roof structural system. This could be done using 3/4" "sheetrock", a solid drywall, or any other one hour rated material. The available cement asbestos board used in Honduras may be acceptable, depending upon how it is rated. In any case the ceiling should be continuous. If acoustical tile is important, that could be glued or fastened directly to the face of the fire resistant shield. The wall columns would also need to be protected, and with the same material. This can be accomplished by "furring out" the interior wall from the exterior wall, providing space for insulation, and allowing the fire proofing to cover the columns.

Insulated barriers for air conditioned spaces are essential for efficient cooling. Exterior walls and ceilings of all air conditioned spaces should be provided with a heat transfer resistant material, such as loose batts of fiberglass or other non-combustible insulation. Alternatively, rigid sheets of resinous foam, such as styrofoam or similar material could be utilized. Mechanical engineering consultants should design the air conditioning system recommending desirable "U" factors for exterior enclosures for most efficient cooling.

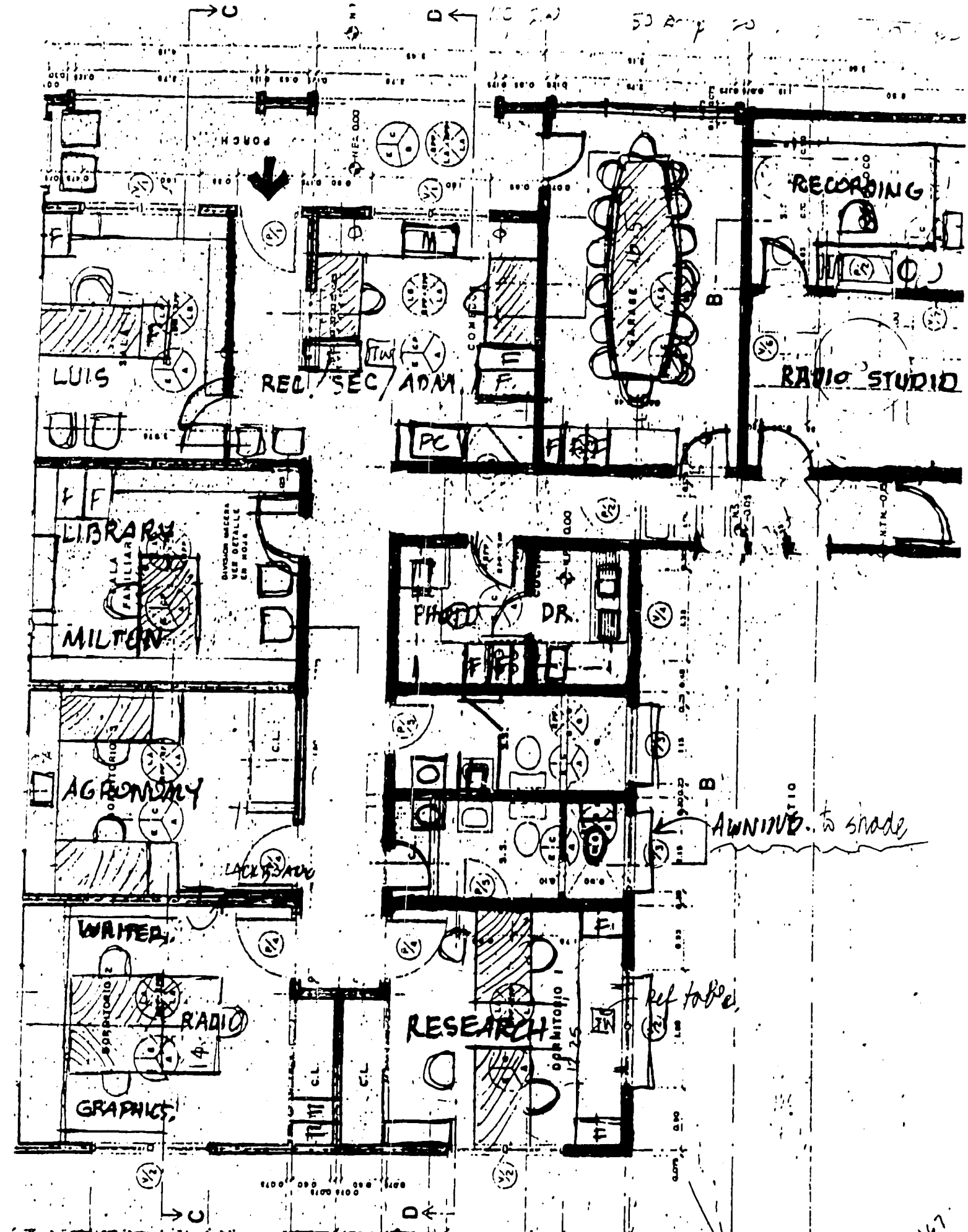
Additional design advice was provided to the FHIA in response to the proposals of Architect Marco Tome'. Discussions were held with Director General Dr. Fernando Fernandez, Director of Communications Dr. Jairo Cano, and Librarian John Moran. Principles of good library design, and experience with other similar

libraries were utilized in recommending refinements to good ideas that had already been proposed. The primary principle emphasized was the importance of integration of systems. The existing structural system as a given should influence integration of the spatial organization, the lighting system, and the air conditioning system.

The location and juxtaposition of Library, communications facilities, and training facilities were generally well thought out. Several recommendations were made to simplify the structure of the mezzanine floor, and make the spatial arrangement of all spaces more functional and more pleasing in scale and character.

Because time was so short there were many detailed aspects of the various specialized parts of the building that could not be addressed. In any case these points were beyond the contract scope of work.

It was extremely gratifying to find that action had been taken even more visionary than the recommendations of this consultant fifteen months earlier. The FHIA complex is developing according to a high standard of excellence and is becoming increasingly visible and effective in carrying out its mission.


PORCH
RECORDING
LUIS
REC. SEC/ADM.
RADIO STUDIO
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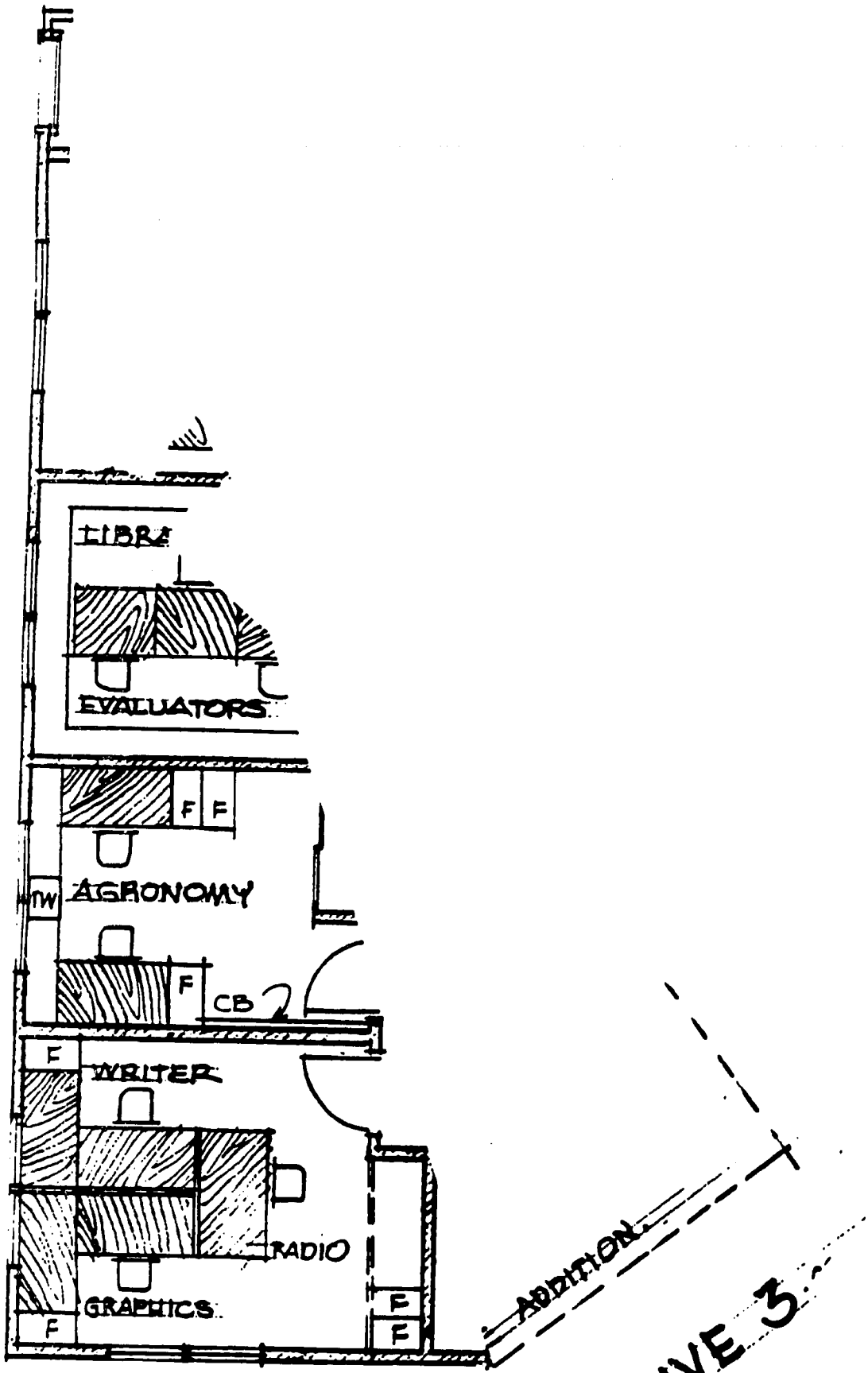
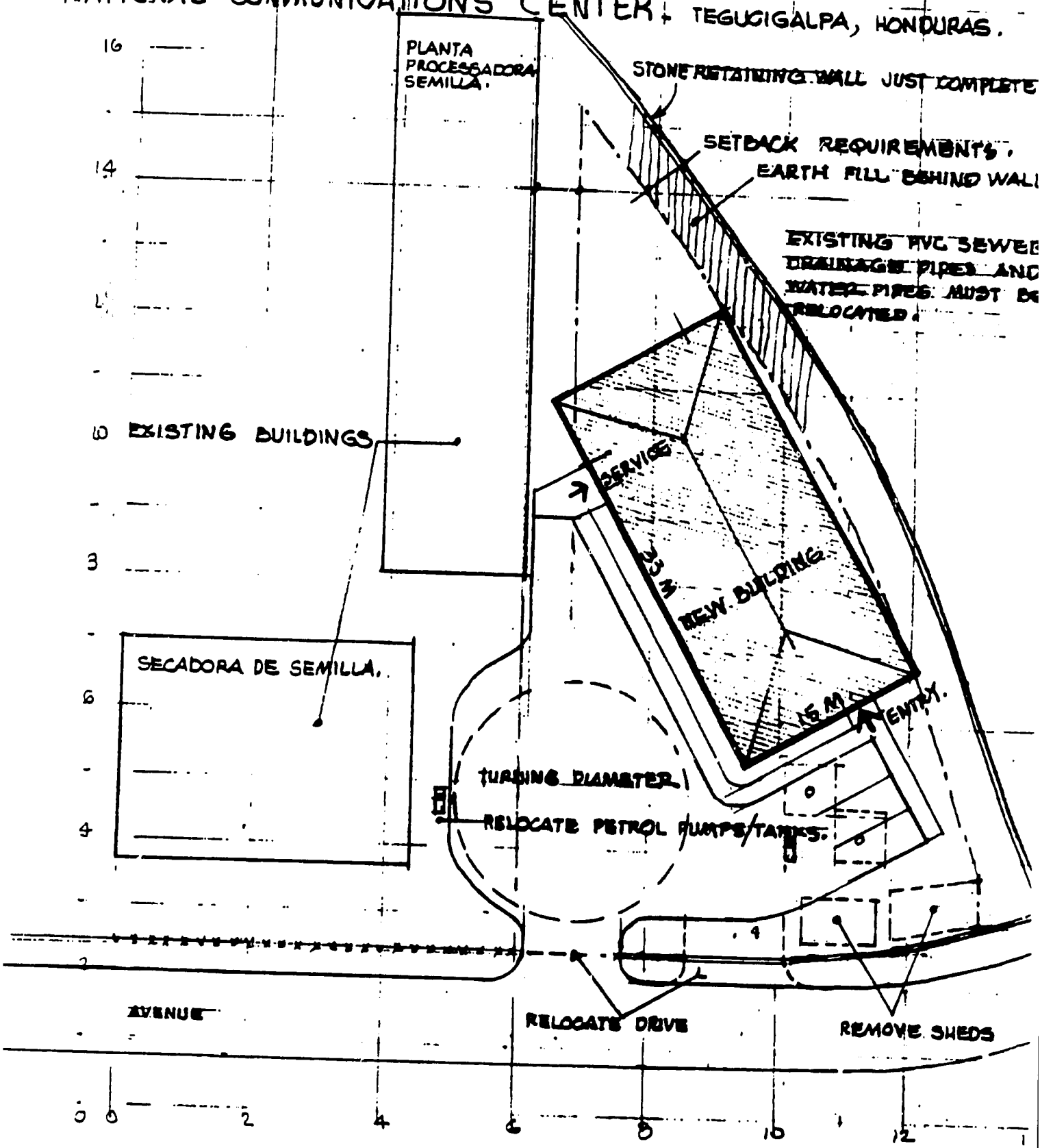



ALTERNATIVE 2-ERNATIVE 3

# NATIONAL COMMUNICATIONS CENTER - TEGUCIGALPA, HONDURAS.



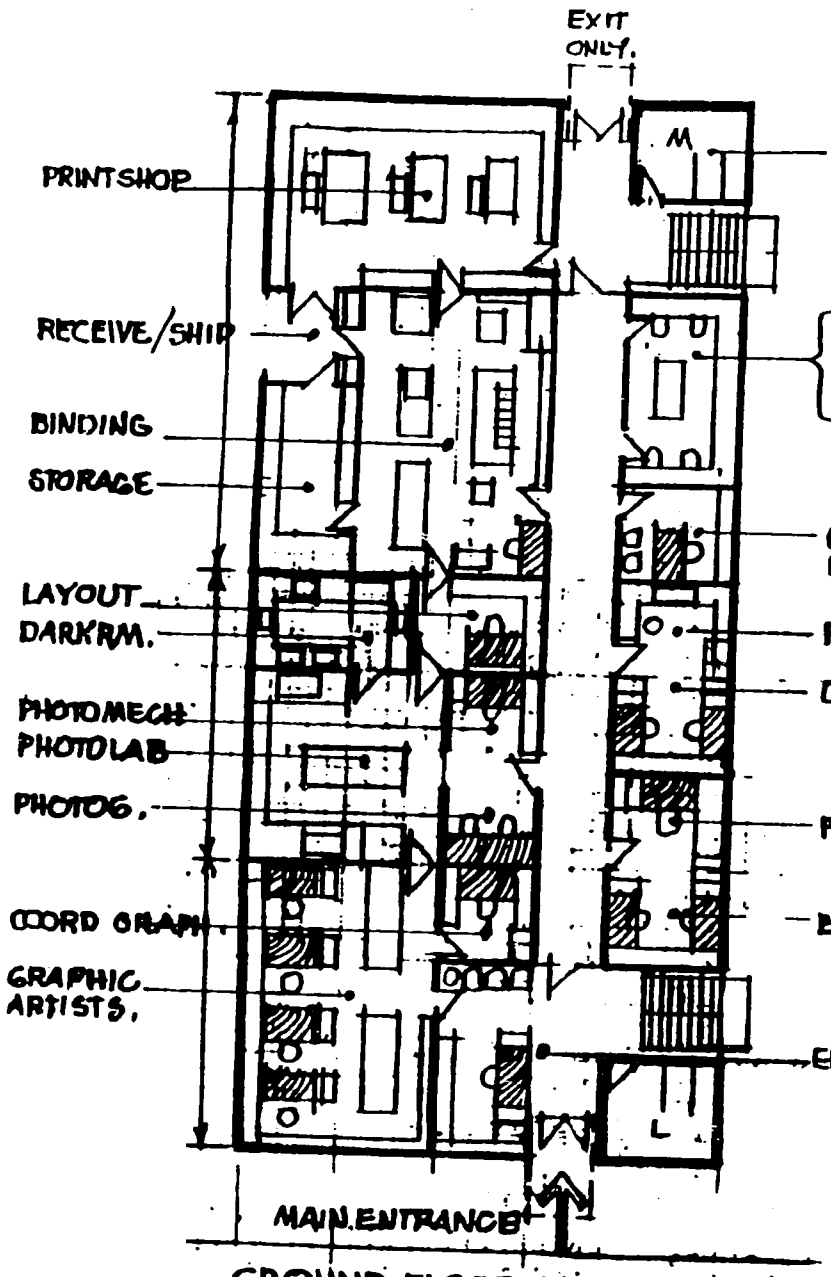

PROPOSED LOCATION NEW BUILDING - SCALE 1:400

BASED UPON INFORMATION PROVIDED BY ENGINEER MACIER.

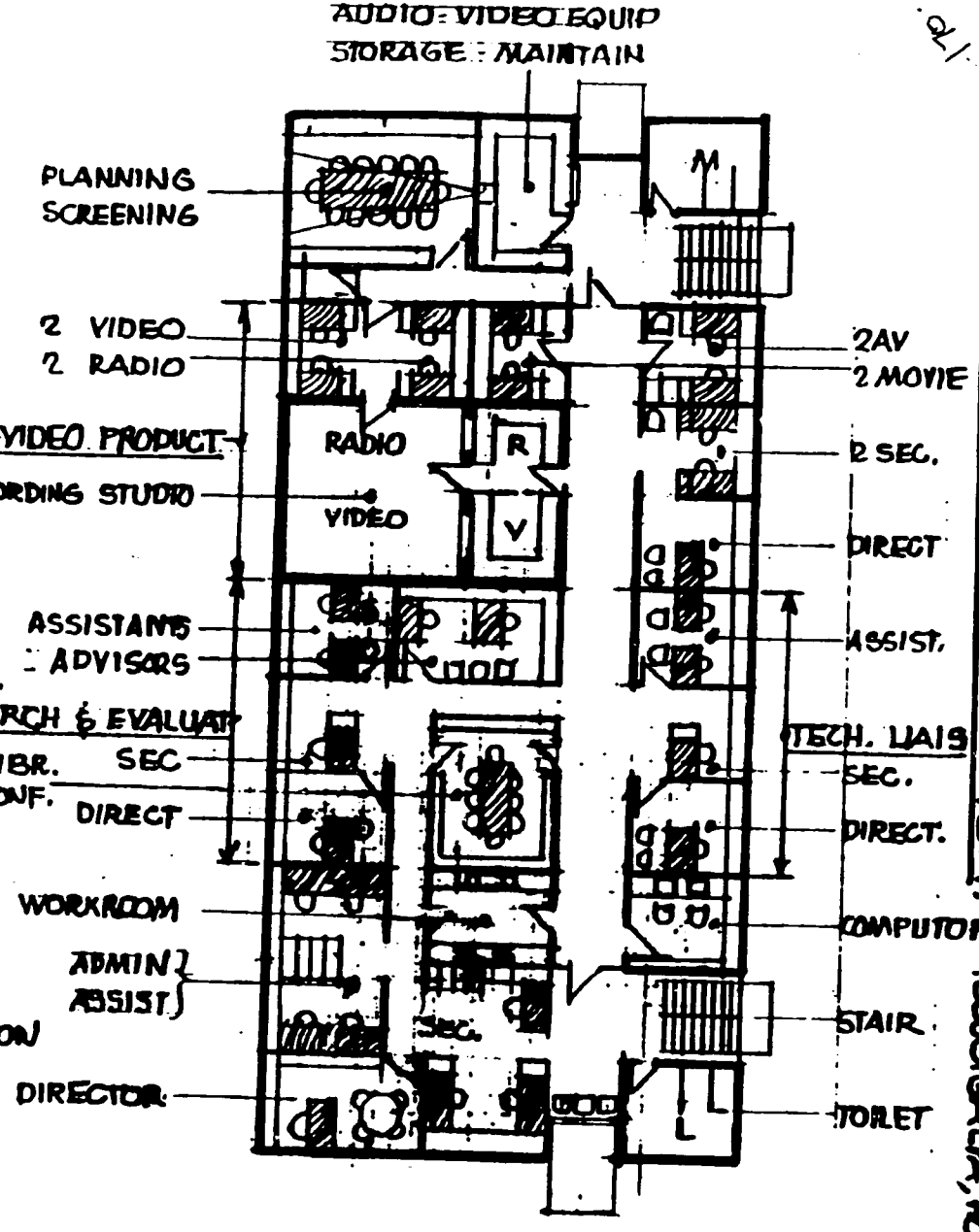
- NOTE: A SITE FEASIBILITY STUDY IS REQUIRED BEFORE PROCEEDING. SOILS, TOPOGRAPHY, ACCESS, PARKING, CODES, ETC.

H. JAMES MILLER - 2.1.

169'




GROUND FLOOR PLAN (DIAGRAM ONLY)




UPPER FLOOR PLAN

• APPROX TOTAL FLOOR AREA - 15M x 33M x 2 = 990M² (APPROX. 10,000 ft²)

SCALE 0 1 2 3 4 5 10 METER

NATIONAL COMMUNICATION CENTER, TEGUCIGALPA, HONDURAS

# TRIP REPORT

## Honduras/FHIA (Honduran Foundation for Agricultural Research)

H. David Thurston

March 22, 1987

Arrived in San Pedro Sula at 6 PM. Was met by Dr. Joseph P. Krausz, FHIA plant pathologist. Discussed FHIA program and activities with him until 8 PM.

March 23, 1987

Traveled with Dr. J. Krausz and Ing. Mauricio Rivera to an area known as the Pantano near Baracoa on the Atlantic coast. It is the major plantain growing area in Honduras with about 8000 hectares of plantains. Black Sigatoka disease has been devastating in this area as airplane spraying does a poor job (if available) and backpack sprayers can't reach all of the leaves with the spray. Growers are having problems with fungicide applications.

FHIA has a 12 Ha. station at Calan in the area where work with different fungicides and the epidemiology of *Mycospharella fijiensis* var. *difformis* (causal agent of Black Sigatoka) is carried out. The station is new and not yet completed, but should be an excellent facility for platano work. During the day, temperatures reached 44°C. We also visited a small station at Guaruma where tests are made by the Plant Pathology Department on bananas to test new fungicides for chemical companies. Tests of new lines from the plantain and banana breeding program are also tested at this station.

March 24, 1987

AM Met with Dr. Jairo Cano, Director of Communications. He showed me the architects plans for the Division of Communication.

Met with Dr. Mario Contreras, Director of Research. We discussed FHIA history, philosophy and its research operation. He gave me a tour of FHIA's excellent physical facilities.

Dr. Phillip Rowe and Dr. Franklin Rosales gave me an excellent description of the Plantain and Banana Breeding Program and a tour of their facilities.

PM Visited the FHIA library. It will be a valuable resource for FHIA especially when it is installed in the new building where adequate space will be available. Discussed the library with Mr. Moran.

Met with Dr. Joseph Krausz, Director of Plant Pathology and discussed the program. Also met Dr. Gloria Molina of the Plant Pathology Department who has dramatically improved spore production by *M. fijiensis* in culture which facilitates testing for disease resistance. She also has produced a toxin from a culture filtrate of *M. fijiensis* which has real promise for testing large amounts of breeding material in early generations for resistance to Black Sigatoka.

Called Richard Owens of US/AID Tegucigalpa.

March 25, 1987

Traveled to the new cacao station on the Atlantic coast near Tela. The station "La Masica" is located within the major cacao producing region of Honduras. Ing. Agr. Jesus Sanchez (Director of the Cacao Program) was most enthusiastic and impressive. His program has accomplished a great deal in 10 months. Extensive plantings have been established to test promising hybrids, different types of shade, improved planting and management methods, and improved propagation. The station will be an excellent facility where controlled experimentation can take place. At present experiments on

farmer's land are often lost.

March 26, 1987

AM Visited with Mr. Edger Holcomb, Director of the Citrus Program who explained the strategy and plans of the program which only started in 1986. Visited the 5.5 Ha. "Sanitary Citrus Station" which will serve for production of foundation stock and as citrus "genetic bank" for all of Central America.

Visited with Ing. Carlos Medina of the Plantain Program. Since 10,600 Ha. of plantains are grown in Honduras by 6,200 producers, this is one of FHIA's most important programs.

PM Dr. Pablo Soto of the Department of Entomology discussed his excellent program and showed me his facilities.

Discussed Plant Pathology Program with Dr. J. Krausz.

March 27, 1987

AM Discussed Division of Communication's program with Dr. Jairo Caro.

AM & PM - Worked on final report. Called Richard Owens of US/AID in Tegucigalpa and gave him a brief verbal report of visit.

Evening - Gave a verbal report of visit, program impressions and networking suggestions to Dr. Mario Contreras and Dr. Jairo Caro.

March 28, 1987

Left San Pedro Sula at 10 AM (late). Since I missed my connections to Syracuse in Miami, I spent the night there.

March 29, 1987

Arrived in Ithaca at 2:30 PM.

## Impressions of Programs

### Cacao

Ing. Agr. Jesus Sanchez, Director of the Program, appears to be extremely competent and hard working. The program has accomplished much in 10 months. The new station "La Masica" near Tela will be an excellent facility in a few years.

An important transfer of technology job needs to be done with cacao. The agronomy, pruning, fertilization, spacing, general management, etc. of growers at present seems to be seriously deficient. Cacao yields are poor. Black pod rot is the major disease problem. The disease control work appears to be sound. Monilia pod rot may be a problem in the future since it is in Costa Rica where it caused serious losses. Close contact should be established with CATIE, ACRI, work in Africa, etc.

### Citrus

Mr. Edgar Holcomb appears to be most knowledgeable and competent. The Citrus Program's strategy for the future (ie. concentrate on grapefruit and specialty varieties such as tangelo) appears sound and well thought out. The "Genetic bank" facility for citrus budwood looks excellent. A citrus disease survey is urgently needed to determine what diseases are presently in Honduras and their relative importance. Outside consultants might be useful for such a survey. The program will need proper facilities (ie. screenhouse, ELISA, etc.) for the Plant Pathology Department to properly service the "genetic bank" of budwood program. Publications are urgently needed on gummosis and site selection.

### Platano

Ing. Carlos Medina directs one of the most important programs in FHIA.

A great deal can be done to improve platano yields with improvements in management and agronomic practices. The number one problem of platano is the disease Black Sigatoka. Airplane spraying is highly deficient and is usually done as last priority, often when conditions are poor with the wind blowing, etc. Something might be done to improve airplane spraying by conversations at high levels in the Ministry, United Brands, etc. Farmer's spraying is ineffective because of the size of platano plants (up to 5M), planting patterns, lack of proper fungicide products and oil, proper rates of application, labels unintelligible to the farmer, etc. The Platano Program and the Plant Pathology Department are on the right course in trying to introduce the dwarf platano (Omonita) which is easier to spray, and in introducing planting in double rows. Better spray equipment, testing fungicides, and epidemiological studies should also improve Black Sigatoka control. Nematodes and the insect "picudo" appear to be more minor problems.

Genetic Program - Banana y Plantano

This is a most exciting program which has tremendous potential to benefit not only Honduras, but also the other tropical areas of the world. Bananas (for fruit) are of tremendous importance to Central American economies, but platanos are a basic food, especially of the poor in the tropics worldwide. The program appears to be technically sound, have realistic objectives, and to be making excellent progress in important areas. Banana breeding, no mater how innovative, will always be slow and therefore needs long-term continuity in funding and personnel. The program is probably the number one banana breeding program in the world, but could use higher visibility to attract funding. Articles in refereed journals (Euphytica, Crop Science, Tropical Agriculture etc.) and also more popular publications

would lend great prestige to FHIA. A consultant might be helpful in this effort.

Hortalizas

Ing. José Alfonso, (Program Director) seems experienced, knowledgeable and competent. The project in Comayagua seems to have severe difficulties. The combination of administration including US/AID, FEPROEXAAH, FHIA, Honduran Government, and Luis Berger International has led to serious confusion and serious mistakes. For example, cabbage is sprayed every four days with organophosphates which are dangerous poisons. One tomato crop had 16 applications of 12 different pesticides in a season. Pesticide problems are only one example of the problems in Comayagua.

Nevertheless, a knowledge base has been established, a 60 Ha. station has been built near Comayagua, people have been trained, facilities and machinery are in place, and much has been learned; so the project (with proper administration) might continue on a sound basis. Very serious problems still exist in areas of entomology and plant pathology. No overall strategy was apparent and no one is apparently advising farmers at present. This situation constitutes a considerable job for Communication.

The major crops grown on the Comayagua station are tomato and cucumber. Also, slicing cucumber, acorn squash, cantaloupe, and winter squash (butternut and spaghetti) are being evaluated for use in the area.

Plant Pathology

Dr. Joseph Krausz is doing a fine job. His responsibilities are very broad since plant pathologists work with all other programs. Plant Pathologists appear to have excellent rapport with other FHIA programs. Additional equipment and facilities are needed before they can do much more

in some areas (ie. citrus pathology). Equipment procurement constitutes a serious problem.

The enhanced sporulation and toxin production by *M. fijiensis* has great potential to make a major contribution to Black Sigatoka control. The work on platano seems on target and should be a major priority. The citrus work appears to be going well. A nationwide survey of citrus diseases is needed. Much work needs to be done on horticultural crops. Cacao work is on target and should be important in improving yields. Cacao workers should become prepared for the imminent appearance of Monilia Pod Rot.

Publications:

In discussions with program leaders it appeared that the policy on publications wasn't clear to them. For example, who pays for publishing, the Program or the Communication Division? Will there be a charge for publications? What is the overall policy on initiating, writing, etc.

It seemed that in some cases too few copies of FHIA publications are published. For example, there were not enough copies of the 1986 Annual Report for all Program heads to have a copy.

FHIA could use short term CTTA consultants to assist in the writing and editing of technical publications. The Communication Division could be more active in this function with FHIA scientists.

I believe that the production of leaflets and publications in some areas should be major priority. Reports and annual reports have to be done. They are mandated by the administration. Publications are not mandated and often are left until last, although they should be a major product of FHIA. Centers such as FHIA produce:

a. Improved germplasm, new varieties, foundation stock, etc.

b. Trained people.

c. Publications.

All of above are more important than annual reports, although it is recognized that annual reports are also essential.

Possible Important Publications for the Future:

1. Manual - Control of Black Sigatoka
2. Manual - Culture and Management of Platano
3. Manual - Identification and Control of Moko Disease
4. Manual - Control of Platano Picudo
5. Guide for Site selection - Citrus
6. Control of Citrus Gummosis
7. Various insect identification and control recommendation leaflets
8. Cacao - Culture and Management
9. Control of Black Pod Rot - Cacao

Computers

Sometime in the future it would be ideal if all FHIA staff could become "computer literate" and have their own private computers. If one less Ph.D. was hired by FHIA and the money used to provide personal microcomputers, staff productivity could be greatly enhanced. I suspect the investment would pay far greater dividends than hiring another Ph.D. Microcomputers make data storage, processing and analysis faster and easier. Writing and publication production is also made much easier.

## Networking Suggestions for FHIA

Networking is done at many levels. It is done with high government officials, politicians, scientists, extension workers and campesinos. The material for each has to be tailored carefully to the specific audience. For example, the following can be designed for different levels of audiences:

Newsletters - FHIA

Newsletters - FHIA Departments and Programs

FHIA Annual Reports

FHIA Annual Program Reports

Future FHIA Journal where results can be published - Also FHIA leaflets, bulletins, pamphlets, etc.

Articles in refereed journals of International stature.

Leaflets for workers and campesinos who are illiterate (ie. using pictures not words).

I. Direct Users:

Farmers - Large, Small, Cash, Subsistence, etc.

AgroIndustry

Pesticide Manufacturers

Agricultural Machinery Manufacturers

Fertilizer and other Farm Supply Companies

Custom Applicators - ie. Airplane Applicators

Seed Producers

Exporters

II. Decision Makers - Honduras

Ministry of Agriculture (Recursos Naturales)

Politicians

Executives

Planners

Farmer Organizations

Exporters

III. **Organizations Involved in Transfer of Technology - Honduras**

Newspapers, Radio, TV, Magazines

Extension Organizations

Credit

Technical Assistance Organizations

Cooperatives

Producers, Commodity Groups

Educational - Universities - High Schools - Grammar Schools

IV. **International Organizations - Outside of Honduras**

Bilateral Aid Organizations, ie. US/AID, GTZ, CAB, CMI, ORSTOM, GERDAT, DGIS, etc.

Multilateral AID Organizations

FAO - International

OAS

IICA - Regional

CATIE

Private Industry

ACRI - American Cocoa Research Institute

United Brands, Standard Fruit

Pineapple Research Institute

International Organization of Citrus Virologists etc.

Universities

North American, European, Latin America, African, Asian, especially those involved in Tropical Agriculture, International Agriculture and/or FHIA crops.

Memos of Agreement - Cooperation and communication might be facilitated by simple "memorandums of agreement" with key universities.

University Consortia would be useful contacts.

Individual Universities (ie. Cornell/CTTA) can serve a useful role as a networking mechanism. Cornell has worldwide contacts and could help identify the scientist, consultant, expert needed when FHIA encounters difficult problems. Staff and administration should feel free to write or call Cornell for information.

IARC's (International Agricultural Research Centers)

CGIAR Group (Consultative Group in Int'l. Agricultural Research) has centers involved with many of FHIA's commodities. Contacts should be made.

Other IARC's

Many IARC's outside CGIAR funded centers work on crops important to FHIA ie. platano (INIBAP), vegetables (AVRDC), etc.

"Discipline" Societies

Each discipline has societies that publish newsletters, journals, etc. Information on FHIA, announcements, articles, etc. in their newsletters or journals could reach a wide audience of scientists.

For example in plant pathology:

American Phytopathological Society

International Society for Plant Pathology

Ministries of Agriculture

Those in Central and South America, and the Caribbean will be interested in FHIA's activities. Perhaps selected ones in Africa and Asia would also be good contacts, ie. excellent work on *Phytophthora palmivora* of cacao has been done in Ivory Coast, Ghana, Nigeria.

V. **National, Regional, and International Meetings**

Presentation of well done papers at meetings is an excellent networking mechanism. FHIA's reputation will depend on the excellence of the presentations.

Staff should have opportunities, as budgets allow, to attend appropriate professional meetings. The contacts and knowledge acquired can be essential for FHIA.

VI. **PUBLISHING**

Publishing in recognized, referred journals of high quality is essential for the prestige and future recognition of FHIA in the international community of agricultural scientists. Consultants might be helpful in this regard if staff have little time to write.

VII. **Use of Consultants**

Consultants can be extremely expensive, occasionally obnoxious, and sometimes disappointing unless selected with care. However, they can also be of great value to FHIA and FHIA staff if properly used and selected. They can be a stimulus to thinking, networking, and can bring new ideas, new ways of doing things, and new knowledge and materials to FHIA. FHIA staff can tap the knowledge and experience

of decades in some consultants.

VIII. "Friends" of FHIA

There will be many individuals -- in or outside of the listed organizations: who can act as friends and boosters of FHIA.

IX. Rewards

FHIA staff need and deserve recognition and awards like any other group. The establishment of an appropriate award for a major contribution or recognition of a high level of professional excellence can be an important stimulus to productivity, morale and the "espirt de corps" of FHIA staff. The presentation of such awards can be the occasion for networking via (for example) invited guests, newspaper articles, and radio.

COMMUNICATION FOR TECHNOLOGY TRANSFER IN AGRICULTURE PROJECT
(AID/S&T 936-5826)

# CTTA
# TRIP REPORT

**Honduras**

**29 March - 2 April 1987**

By

Howard E. Ray
CTTA Project Director
Academy for Educational Development

The Communication for Technology Transfer in Agriculture (CTTA) Project is jointly managed and funded by the Offices of Education, Agriculture, and Rural Development of the Bureau for Science and Technology of the United States Agency for International Development in collaboration with Regional Bureau Technical Staff and the USAID Mission at each collaborating site. Technical services are provided by the Academy for Educational Development under Contract No. DPE-5826-C-00-5054-00.

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**CTTA**
**TRIP REPORT**
**HONDURAS**

Howard E. Ray
29 March - 2 April 1987

## I. Purpose of Trip

1. Review progress and planned activities of CTTA Pilot Project with M. Munoz, M. Bueso and Staff of the Ministry of Natural Resources (MNR) Department of Agricultural Communication (DCA), with specific emphasis on planning and scheduling communication interventions.

2. Confer with USAID Mission and, as appropriate, MNR officials on the MNR Pilot Project and FHIA; and on implications for CTTA of proposed reorganization of MNR research, extension and education structure.

## II. Activities and Accomplishments

Major activities are summarized below, and discussed in more detail in Appendices B, C and D.

Sunday, 3/29

Travel to Honduras and meeting with Dr. Milton Munoz, CTTA Honduras Field Director. In-depth briefing by Munoz on pilot project progress to date, present and anticipated problems, and activities planned for the near future.

Monday, 3/30

Meeting with Lic. Misael Bueso, Department of Agricultural Communication (DCA) Director, and Munoz. Review of CTTA Pilot Project progress since my last visit in early December 1986; planned activities for next several months; DCA budget situation; reorganization of the DCA and introduction of the project approach to work organization; relationships and coordination of CTTA with Research and Extension at regional and national levels; and implications for CTTA of MNR plans to create a Direccion General de Tecnologia Agropecuaria (DIGTA).

Meeting with Mr. Richard Owens, USAID/Honduras, Bueso and Munoz. Summary of above discussion. Principal points included introduction of the project system, the need to shift major responsibility for pilot project activity in Comayagua as rapidly as possible to the regional staff, relationships and coordination of CTTA with research and extension at regional and national levels, and the budget situation. Owens had just received notice that PL480 funds allocated for CTTA last year have been carried over, and are available for immediate use. Bueso agreed to follow up immediately to obtain the release of these funds for CTTA activities.

Meeting with Owens to discuss issues related to assistance provided to FHIA, and various matters related to the MNR pilot project.

Meeting with DCA Section Heads (Lic. Conrado Gomez, Media Section; Lic. Ramon Nuila, Investigation Section; Ing. Pedro Vasquez, Agricultural Technology Section), Bueso and Munoz. Briefing by each Section Head on Section's progress to date and present status; projects being developed; schedule of activities planned for next several months; and present and anticipated problems.

<u>Tuesday, 3/31</u>

Travel to Comayagua with Bueso, DCA Sections Heads, Munoz and Owens.

Meeting with Lic. Luis Fuentes, Regional CTTA Pilot Project Coordinator, and Comayagua communication unit staff. Briefing by Fuentes on activities, progress and present status of Comayagua pilot project, including exhibit of materials produced to date and playback of preliminary recordings of radio spots scheduled for airing over local radio station beginning mid-April. Questions centered around relationships with Regional MNR Directorate and status of technical message content development.

Visit to San Jeronimo Rural Development Agency (one of three zones in which CTTA is concentrating initially) with Ing. Miguel Soler, Regional MNR Director, Fuentes and DCA group; and meeting with the Head of the Agency. Discussion focused on problems identified by farmers in zone, potential for increasing maize and upland rice production through use of improved technologies, and problems encountered by extensionistas in reaching the farmers in their zone--including lack of mobility.

Return to Tegucigalpa.

Meeting with Ing. Jose Montenegro, Vice Minister of Natural Resources, Ing. Roberto Villeda Toledo, Senior Advisor to the Minister of Natural Resources, Bueso and Munoz. Agenda included report on CTTA progress to date; budgetary matters, and discussion of the place of communication in the projected DIGTA.



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Work with Munoz on revision and completion of Integrated Action Plan.

Dinner meeting with Dr. Jairo Cano, Senior Agricultural Communication Advisor to FHIA (under Cornell University Subcontract), to review Communication Division program progress, remodeling of buildings to house Communication Division, short term technical assistance to FHIA, and procurement of equipment and library acquisitions.

Wednesday, 4/1

Work with Munoz on matters related to Contract administration and management.

Meeting at USAID Mission organized by Dr. Richard Martin, Education Officer, with representatives of AID-supported projects in Honduras that have substantive communication components. (Two AED projects were represented, Healthcom and CTTA.) As stated by Martin, the meeting was called to: familiarize Mission and Project staff with the projects represented; brainstorm on what is new in development communication; and discuss possibilities for interchange of information and collaborative effort among the various projects. Due to time limitations, only the first could be accomplished--through presentations on each project. The CTTA project was introduced by Owens, Ray gave an overview of the project, Munoz presented the Comayagua Pilot Project, and Cano discussed the FHIA Communication Division and envisioned program.

Meeting with Owens to continue discussions initiated 3/30. The Mission has executed a PIO/T obligating funds for FY87 support of CTTA assistance to FHIA. (This PIO/T contains an illustrative line budget.) As the amount is less than anticipated earlier, it may be necessary to defer some activities, principally related to procurement, until FY88. Such implications were discussed in relation to the letter of Dr. Fernando Fernandez, FHIA Director General, to Owens requesting some reallocation of funds to permit additional support to their library and procurement of a 40-passenger bus in substitution for the two smaller vans presently projected. Owens advised that funds have been included in FY87 funding for FHIA to provide for employment of the Communication Division Director and other key Communication Division staff.

Meeting with Mr. Blair Cooper, USAID/H, and Ing. Carlos Crisostomo for discussions related to proposed MNR Agricultural Technology Directorate (DIGTA).

Meeting with Bueso and Munoz to discuss how to respond to Villeda's request for suggestions concerning placement of communication in the proposed DIGTA.

Thursday, 4/2

Final meeting with Munoz on administrative matters and return to U.S.

## III. Conclusions and Recommendations

Conclusions and recommendations from the trip are presented in Appendices B, C and D.

## IV. Followup Needed

1. Prepare note to Munoz and Bueso concerning observations related to present DCA and Comayagua pilot project activities and plans, and recommendations related thereto (see Appendix B).

2. Analyze previously programmed assistance to FHIA, adjust to conform to FY87 funding level, and advise Cornell and FHIA of same (see Appendix C).

3. Respond to Villeda request for suggestions for positioning communication within the structure of DIGTA (see Appendix D).

4. Followup on administrative questions and issues raised by Munoz.

## APPENDIX A

**Principal Contacts**
**Honduras**
29 March - 2 April 1987

**Ministry of Natural Resources (MNR)**

| | | |
|---|---|---|
| Ing. Jose Montenegro | - | Vice Minister |
| Ing. Roberto Villeda | - | Senior Advisor to Minister |

**Department of Agricultural Communication, MNR**

| | | |
|---|---|---|
| Lic. Misael Bueso | - | Department Head |
| Lic. Conrado Gomez | - | Head, Media Section |
| Ing. Pedro Vasquez | - | Head, Agric. Technology Section |
| Lic. Ramon Nuila | - | Head, Investigation Section |

**Comayagua Regional Staff**

| | | |
|---|---|---|
| Ing. Miguel Soler | - | Regional MNR Director |
| Lic. Luis Fuentes | - | Reg. pilot project coordinator |
| Regional Communication Staff | | |
| Jefe, San Jeronimo Rural Development Agency | | |

**USAID/Honduras**

| | | |
|---|---|---|
| Mr. Richard Owens | - | USAID CTTA Project Manager |
| Mr. Blair Cooper | - | Agricultural Development Officer |
| Ing. Carlos Crisostomo | - | Agricultural Advisor to Rural Technologies Program |
| Dr. Richard Martin | - | Education Officer |
| Mr. Richard Peters | - | Head, Office of Agriculture and Rural Development |

**CTTA Contractor Staff**

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|---|---|---|
| Dr. Milton Munoz | - | CTTA Honduras Field Director |
| Dr. Jairo Cano | - | Senior Agricultural Communication Advisor and Acting Communication Division Director, FHIA |
| Ms. Yolanda de Garcia | - | CTTA Project Secretary |

## APPENDIX B

### Observations and Recommendations Concerning Comayagua Pilot Project and DCA Activities and Plans

29 March - 2 April 1987

Excellent progress has been made since my early December visit in the areas of organization, delineation of staff responsibilities, planning, staff development, and initial materials preparation. For example,

- work is now being organized on a project system basis that will facilitate efficient operation;
- the report on initial investigations conducted in late 1986 has been completed;
- at least two technical content guides are in draft form and two others are planned;
- a series of 30-second radio spots have been produced that will be broadcast beginning in mid-April;
- excellent relationships have been established with the MNR Regional Directorate in Comayagua;
- the first issue of "Enlace" (an informational, tabloid-type, bi-monthly publication) has been produced and distributed; and
- two training courses in Comayagua are planned for the near future--a one-day course in technical writing for researchers and a longer course in communication skills for extensionists.

In addition, the DCA has produced several preliminary graphic presentations and the MNR Annual Report, and has assisted in the development and pretesting of printed materials for an appropriate technology program.

This highly commendable progress relates largely to the "preparation for action" phase of the project. It is urgent that preparation now be followed by action--the application of carefully designed communication strategies and methods to disseminate appropriate and timely information to farmers in the Comayagua pilot region. Toward this end, observations and recommendations concerning some of the critical areas are presented below.



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## A. Organization

Organization of work into projects, now in progress, is clarifying lines of staff responsibility and facilitating more rational and equitable distribution of work among staff within each section, among sections, and between national and regional offices. Each project proposal includes clear statements of the problem addressed, objectives, intended audience, methodology, and completion schedule; and all proposals are reviewed by the other sections to avoid duplication and coordinate activities. This system should serve the project well for both planning and implementation.

Recommendations

1. Care must be taken to hold the projects to a manageable number that can be completed well and on schedule.

2. Collectively, the projects must include all activities required for planning and implementation of effective communication strategies and methods, following the CTTA communication process.

3. For projects with discrete end products (e.g., technical content guides or a given series of investigations), completion dates must be synchronized with dates on which those products will be required for other activities (e.g., production of materials for a training event or a series of communication interventions on a given technology).

4. For ongoing projects (e.g., radio production), schedules must be synchronized with the appropriate time for their use in communication interventions (e.g., the agricultural cycle).

5. Consideration should be given to establishing at least two projects at the Project Director level--for administration and coordination.

## B. Investigation

Results of the initial investigations conducted in three zones during October and November 1986 have been analyzed and reported. That information, now being used by all Sections, is invaluable at this stage of the pilot project. It needs to be supplemented with additional well-designed investigations in the same zones as soon as funds become available; and investigations in other zones of the Comayagua region should be initiated this year.



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Investigation is an ongoing function throughout the course of the project. The project approach is particularly relevant to planning, organization and timely completion of Investigation Section activities.

Recommendations

1. The Investigation Section should work in close cooperation with Summative Evaluation staff in designing its field studies and interpreting results.

2. Investigations related to particular technologies should be completed well in advance of the time those technologies can be used in the field by farmers. Failure to do so will either necessitate the use of technical message content without the benefit of farmer feedback, or delay until the following year the use of that content in communication interventions--by which time the situation may have changed to the point that results are no longer valid. It is important, however, that the validity of responses received be checked during the period in which farmers should be using the technologies.

3. Two critical factors must be considered in planning and conducting investigations during the current year:

   a. Systematic series of investigations, including formative evaluation studies, to meet needs of the ongoing communication program; and

   b. Short term investigations on farmer reactions to specific technologies to be included in communication interventions this year.

## C. Technical Content Guides

Technical content guides for two themes--soil conservation and bean production--are now in draft form, and development of guides for maize and rice is planned. Staff of the Agricultural Technology Section understand and are following the process for developing and revising the guides on the basis of feedback from researchers, extensionists and farmers.

Work on the soil conservation guide appears to be the furthest advanced; and initial radio programming will be based on th. theme. Although this is good, improved soil conservation must c considered as a long range objective for which behavioral change cannot be anticipated earlier than next year. I am concerned that I was unable to elicit information about technologies to be included in communication interventions that can lead to behavioral



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change this year.

Recommendations

1. Content guide development and verification should be accelerated.

2. It is probably not feasible to develop and verify comprehensive technical content guides for beans, maize and rice in time to have the complete guides available for use this year. Therefore, it is recommended that attention be directed first toward selected technologies and practices that would be used by farmers during the period July through harvest. Those to be used in this year's programming should be tentatively identified no later than early May to permit time for verification with research, extension and farmers prior to production of media materials.

## D. Radio Programming

Four motivational-type 30-second cunas (radio spots) related to soil conservation have been produced that are scheduled to go on the air in mid-April. The regional MNR Directorate has agreed to provide funds for purchasing air time. Airing of these cunas will mark the beginning of Comayagua pilot project communication interventions directed specifically to farmers.

The motivational cunas are to be followed by others to create interest in specific soil conservation topics that will constitute the technical content of regularly scheduled 15-minute radio programs to be initiated shortly thereafter. This is a significant achievement that is to be commended. However, it also raises some concerns.

Soil conservation is a critically important theme that is fully appropriate for a major communication program thrust. However, increased farmer adoption of soil conservation practices must be considered a long range CTTA objective--little or no behavioral change can be expected this year due to the nature of the practices involved. Therefore, it is essential that other improved technologies and practices that can lead to behavioral change this year also be included in communication interventions as soon as possible.

Recommendations

1. It is suggested that at least one of the initial cunas be replaced each week, with a gradual transition from motivational to "expectation" type messages.



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2. Scheduling of development, pretesting and production of the sequence of follow-on cunas and 15-minute radio programs should be done immediately.

3. To avoid loss of momentum and farmer interest, initial 15-minute programs should be aired no later than mid-June and continued on a regular schedule thereafter. At the outset, it would appear desirable to operate on a one or two day per week schedule, increasing to daily programs as staff production capacity develops and additional technical themes are introduced.

4. Although the soil conservation theme is appropriate, it is insufficient to sustain farmer interest or to meet project needs to achieve visibility and demonstrate communication support program impact this year. Therefore, action should be initiated immediately to identify other technologies to be included in communication interventions this year that can be used beneficially by farmers <u>during the current cropping cycle.</u>

5. To accomplish the above, draft technical content guides on beans, maize and rice should be used as the first step in identifying the other specific technologies to be considered for this year's communication program. This should be followed by intensive effort to refine the technical content for such technologies, including investigations with farmers.

6. The sequence of cunas and radio programs presently planned for the soil conservation theme is equally appropriate for the other theme or themes selected.

7. The first motivational cunas relating to at least one additional technical content theme should be aired no later than mid-May, and the first regularly scheduled radio programming no later than early July.

## E. Other Media and Channels

Staff capacity to work with all possible media and channels, and all available improved agricultural technologies, must be developed over time. Not everything can be done during this first year. Therefore, priorities must be established to determine what can be expected and when.

<u>Recommendations</u>

1. Highest, although not exclusive, priority during the current year should be placed on radio and training.



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2. Development of technical content guides should proceed as discussed in Section C above.

3. Limited graphic/print materials should be developed, pre-tested, produced, and used in communication interventions to gain experience and confidence--with the objective of incorporating them fully into next year's communication program.

4. All graphic presentations and publications should be sharply focused toward specific audiences, using the four categories identified in the projects proposed by the Media Section.

5. Munoz should provide leadership during this first year in developing comprehensive communication and channel strategies. This responsibility should be transferred to the DCA and Regional pilot project staff during the course of 1988, with guidance and assistance from Munoz.

## F. Relationships, Coordination, Networking

Excellent relationships now exist between the Regional MNR Directorate in Comayagua and CTTA pilot project staff. As concrete examples, M. Soler, Regional Director, has requested L. Fuentes, Regional CTTA Coordinator, to incorporate communication support activities into the Directorate's short and medium term action plan; has invited M. Munoz, CTTA Honduras Field Director, to participate in a seminar to review 1986 research results; and has agreed to provide funds to purchase air time for broadcasting cunas as mentioned earlier.

Relationships and coordination between the DCA in Tegucigalpa and the Comayagua pilot project likewise appear to be excellent. The introduction of the project system will greatly facilitate coordination and collaborative activity.

Although the DCA and Comayagua pilot project are receiving strong support from the Vice Minister of Natural Resources, communication and coordination with research and extension at the national level need to be pursued more actively.

<u>Recommendations</u>

1. The network of public and private sector agencies and institutions with which the Comayagua pilot project establishes and maintains relationships and coordination should be expanded beyond the MNR Regional Directorate to include all such entities that impact directly or indirectly on agricultural technology transfer.



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2. At the Central level, the DCA should prepare and follow a systematic schedule for informing other MNR Departments and Divisions about CTTA and its progress through both written/graphic communications and regular meetings with key staff. This network should be broadenad as rapidly as feasible to include other private and public sector agencies and institutions that impact directly or indirectly on agricultural technology transfer.

3. At both regional and central levels, a careful distinction should be maintained between communication and public relations. The responsibility of the pilot project and DCA relates primarily to the former.

4. The DCA and Comayagua pilot project staff should seek collaboration with other institutions that have communication facilities, staff and/or programs. (The recent contact of Fuentes with CEDA is an excellent example of such activity.)

5. Opportunities for collaborative activity with other AID projects should be sought. (Munoz should perhaps assume initial leadership in this regard through contacts with other AID Project personnel. The Natural Resources Management and Appropriate Technology projects would appear particularly relevant at this stage.)

## G. Institutionalization

The institutionalization process is already well underway with creation and organization of the DCA, development of staff capability at the central level, and responsiveness of the DCA to other MNR needs beyond those of the pilot project. Care must be taken, however, to avoid dilution of communication staff efforts to the point that Comayagua pilot project progress is jeopardized.

Recommendations

1. During the remainder of 1987, a major objective should be to develop Comayagua regional staff capacity to assume major responsibility for all phases of pilot project activity, with guidance and support from the DCA. To achieve this objective, Munoz must spend at least 75 percent of his time in Comayagua working with the regional staff.

2. During the remainder of 1987, the DCA--in addition to providing substantive support to the Comayagua pilot project--should concentrate on preparing for expansion of the CTTA approach into other regions. Appropriate



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activities would include initial surveys of the situation, needs and opportunities in other regions; selection of regions in which to introduce the CTTA approach in stages (no more than two regions in 1988); and development of its own capacity to provide leadership to the national program.

3. Although the DCA must expect to provide communication support in response to other MNR requests, such work should be held to an acceptable minimum unless additional staff and other needed resources are provided to permit such activity.

4. Selected communication staff for the regions into which the program will be expanded in 1988 should be deputed to Comayagua during 1987 for a period of at least three months each for learning-by-doing training in the CTTA process and methods.

## APPENDIX C

### Observations and Recommendations Concerning FHIA Communication Division Activities and Plans

The following observations and recommendations are derived from discussions with Dr. Jairo Cano, Senior Agricultural Communication Advisor and Acting FHIA Communication Division Director (under Cornell Subcontract), and Mr. Richard Owens, USAID/H.

Significant progress has been made toward establishment of the FHIA Communication Division, and in developing relationships with the MNR CTTA pilot project. Cano has prepared an Integrated Action Plan in which activities of the Division have been projected for the year and tentative short term technical assistance needs have been indicated. The MNR-FHIA-CTTA coordination committee is meeting regularly, and appears to be functioning well after some earlier misunderstandings. Materials were prepared for the recent FHIA Council Meeting, and the 1985 FHIA Annual Report has been published. Procurement of vehicles and communication-related equipment are in progress, with the first shipment expected to arrive in Honduras shortly.

Continued delay in remodeling of the recently acquired buildings designated for the Communication Division is of serious concern. Cano informed me that, although space to house the offset printing press will be ready by the time the press is received, remodeling of the facility has not yet been started. Until the remodeling is done, there will be no space to place the other communication-related equipment to be procured.

A second area of concern, expressed by FHIA Research Staff, is the need to publish technical reports in several research areas. This should be given immediate priority and steps taken to write, edit and publish such reports as soon as possible.

A third major concern is related to funds available for providing planned technical services to the FHIA Communication Division through FY1987 and early FY1988. Owens advised me that the USAID/H FY1987 obligation to the CTTA Contract for this purpose will be $250,000, which is less than previously projected. The Mission-prepared illustrative budget for FY1987 funding aggregates library and equipment/vehicle procurement into one line item. This will provide needed flexibility in making best use of funds to support both library and equipment needs.

Owens indicated that long term technical assistance must continue as projected, but that other line items may be adjusted as necessary to best meet the needs of the Communication and Development Divi-



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sions through this funding period. With respect to procurement, he indicated that the FHIA request to purchase a 40-passenger bus in lieu of two small vans is not approved, and that some procurement should be deferred until FY1988.

A fourth area of concern has been the need for early recruitment by FHIA of a permanent Communication Division Director. Owens indicated that funds for filling that and other key communication staff positions have been included in the USAID/H FY1987 obligation to FHIA, and that FHIA should fill the Communication Division Director position as soon as possible.

Recommendations

1. Additional short term technical assistance should be programmed as soon as possible to assist in writing and editing technical publications. (Action: FHIA to define needs and prepare scopes of work; Cornell to provide the required short term personnel)

2. Remodeling of facilities to house the Communication Division should be started as soon as possible with the objective of completion and installation of the Communication Division in the remodeled facilities by the end of CY1987. (Action: FHIA)

3. The funding situation should be analyzed, and planned activities reassessed in relation to funds available through FY1987 (these funds must be sufficient to carry the project through at least 3/31/88, the earliest date on which it is realistic to expect obligation by USAID/H of FY1988 contributions). (Action: AED and Cornell to make initial assessment and revise planned activities in collaboration with FHIA)

4. A permanent FHIA Communication Division Director and other key communication staff should be recruited as soon as possible, and be in position before the end of CY1987. (Action: FHIA)



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## APPENDIX D

### Observations and Suggestions Concerning Placing Communication within the Proposed MNR Directorate General of Agricultural Technology

The final item in the Scope of Work for this visit to Honduras was to confer with USAID Mission and MNR officials on implications for CTTA of proposed reorganization of the MNR research, extension and education structure. This was in response to a request received earlier from Ing. Villeda for me to participate in planning the proposed Direccion General de Tecnologia Agropecuaria (DIGTA).

Discussion of plans for DIGTA was an item on the agenda in a meeting with Vice Minister Montenegro, Ing. Villeda, Lic. M. Bueso and Dr. M. Munoz. The discussion in that meeting was oriented primarily to the place of communication in DIGTA. Villeda requested that I confer with Bueso and Munoz on this issue, and then submit suggestions to him indicating how communication should be positioned in the new Directorate General. I later met with B. Cooper and C. Crisostomo of USAID to obtain their insights and suggestions.

Section III.A.1.3 ("Creacion de la Unidad Desconcentrada de la Secretaria de Recursos Naturales: Direccion General de Tecnologia Agropecuaria (DIGTA). Proyecto Investigacion y Extension Agricola/AID") in the "Proyecto de Desarrollo de la Politica Agricola Sectorial, 1987/90", of the Secretariat of Natural Resources establishes the basis for creation of DIGTA. (We were informed that present plans call for bringing MNR research, extension and education programs into the new Directorate.) Agricultural Communication programs will also move into the new Directorate as indicated in Section III.A.1.5, "Consolidacion del Programa de Comunicacion Agricola bajo DIGTA". Thus, it appears that DIGTA will encompass research, extension, agricultural communication, and education.

It is my understanding that key objectives for creating DIGTA include more effective coordination, and greater flexibility and autonomy in budget management and personnel policies. These objectives address major issues currently confronting the Honduras agricultural technology development and transfer system, and are equally relevant to development and implementation of effective communication programs in support of technology transfer.

Based on my present understanding of the proposed objectives and functions of DIGTA, creation of the new Directorate should enhance the opportunity to develop and maintain effective communication programs that are fully integrated into the Honduras technology development and transfer system.



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It is difficult at this stage to make specific recommendations concerning the organization of communication within the DIGTA structure. However, some general guidelines for placing communication within the new Directorate are offered below.

1. Communication must be recognized as a disciplinary area analogous to research and extension. It requires specialized staff in specific disciplines (e.g., investigation, message content development, media production) just as research requires specialists in agronomy, soils, plant protection, etc. It requires specialized facilities analogous to those of an agricultural research station. It requires funding and other resources specifically allocated to communication. And the success of its programs, as in both research and extension, will depend in large part upon its interaction and collaborative effort with other components of the technology development and transfer system, including farmers.

   The relationship of communication to other program components, the functions of communication and communicators, and characteristics of successful communication strategies are discussed in greater depth in the excerpts from "Agricultural Communication in the Context of Agricultural Development Programs" attached as Appendix C.1.

2. Although the organizational structure of DIGTA has not yet, to my knowledge, been fully determined, it follows from Point 1 above that the communication program should placed on a par with the other three major DIGTA components--research, extension and education. (It is particularly critical that communication not be subsumed within education.)

   Among the alternative organizational structures that may be considered in designing DIGTA, it would appear that some version of either a departmental structure along conventional lines--e.g., departments or divisions of research, extension, communication and education--or an interdisciplinary-type structure to facilitate coordination and collaborative action may be the most likely to be accepted. The communication program could function effectively within either type of structure, provided it retains an identity and status equal to those of research and extension.

   The place of communication in a departmental-type structure is obvious--it should have departmental status. Although this type of structure would have advantages in terms of administration and management, the interdisciplinary-type structure would appear preferable to facilitate coordination, interdisciplinary action and effective two-way information flow among farmers, research, extension and other private and public sector institutions that impact directly or indirectly on technology development and transfer.



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The interdisciplinary-type structure would be advantageous in terms of the communication program. If such a structure is adopted, the same principles with respect to identity and status of the communication programs should be applied in placing it within the organizational structure.

The above comments relate principally to research, extension and communication. Education, with its responsibility for training future agricultural staff, should be closely linked to all to assure that training is relevant to needs in the field. At the minimum, educational institutions should be integrally involved in the communication network. I would not presume to offer suggestions at this point, however, concerning how education should be structured into DIGTA, as education has functions distinct from those of the ongoing technology development and transfer system.

3. The decentralization concept is sound. It is particularly advantageous from the standpoint of the communication program because it greatly facilitates the localization of programming targeted at the specific farmer audiences and agricultural situation in a region. At the same time, a strong communication capacity is also needed at the national level to provide leadership and support to the development of regional programs; to coordinate and guide regional programs; to handle production jobs that are beyond the capacity of the regional programs; and to meet national level needs for communication support.

4. The establishment of DIGTA should be in the best interests of CTTA and the overall communication program for several reasons, provided it is appropriately placed within the DIGTA structure and awarded its own budget.

- The projected flexibility in budget and personnel management should facilitate staff stability and permit uninterrupted programming throughout the year--essential to the success of an ongoing communication program.

- Coordination and strengthening of linkages between communication, research and extension should be greatly facilitated.

- The decentralized DIGTA system should enhance opportunities for developing and testing effective multichannel communication strategies and methods in the Comayagua pilot project, and facilitate the stagewise expansion of the CTTA communication process into all regions.

- Institutionalization of the CTTA process, including integration of the communication program into the technology development and transfer program should be greatly facilitated.



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## APPENDIX D.1

Excerpts from

**Incorporating Communication Strategies into Agricultural Development Programs, Part Two: Agricultural Communication in the Context of Agricultural Development Programs** (by Howard E. Ray)

### III. Communication in Relation to Other Program Components

In technology transfer programs, effective communication with and among at least four major groups is essential: the farmers, research institutions, extension institutions, and agricultural infrastructure institutions (public and private). . .

### A. The Farmers

. . .Even within a local setting, however, great variability is typically found among farmers with respect to such characteristics as :

- Socioeconomic and cultural factors
- Perceptions of risk
- Resource limitations
- Attitudes toward change
- Management and husbandry skills
- Degree of modernization of their agricultural enterprises
- Readiness to accept new ideas and products
- Sources of information which they consider to be credible
- Quality of lands which they farm
- Tenurial status

Although these farmers have limited land and other resources, they typically engage in a number of different enterprises--such as production of several crops, raising a few animals and, perhaps, growing some fruit trees and a garden.

Effective communication requires understanding of such characteristics and variability, and use of strategies that result in technological information being transferred in ways that will enable all to understand, react to, and act upon the information received. . . .

The farmer will become a facilitator of technology transfer if the communication support program is oriented toward <u>his</u> perspective and situation, and if he is not unduly constrained by factors beyond his control.

B. Research

The first and foremost requirement for achieving technology transfer is a continuing supply of appropriate, well adapted technologies that will increase farmers' production and profits. It obviously follows that this is a requirement for successful communication support to a technology transfer project. . .The major technological breakthroughs that typically occur only occasionally are not sufficient to maintain the momentum of a technology transfer program. Nor are they sufficient to justify the investment required to develop and maintain an extension program equipped with the communication facilities and staff to make it fully effective. Continuing problem-oriented research is essential--from which a stream of less spectacular, but solid, improved technologies emerge.

To be relevant, such research must be oriented toward the factors which influence farmers' decisions to adopt or reject a new or improved technology. . .as well as toward determining its technological feasibility and biological potential. Consideration must also be given to determining what combinations of inputs, practices and enterprises will be most beneficial to farmers under their circumstances. . .the communication support component of a technology transfer project has an important role to play in helping to identify problems for which such research is needed, and in helping to close the gap between the best and poorer farmers through researching their behavioral characteristics that contribute to the differences. . .

C. Extension

. . .A viable technology diffusion vehicle such as extension is necessary for achieving sustained transfer of agricultural technology to farmers. Major technological breakthroughs. . .may be taken up by farmers in the absence of extension. The less spectacular improvements developed year by year are apt to remain in research reports, however, unless there is a dynamic system for disseminating them to the farmer. . .

A viable extension system or other technology diffusion vehicle is essential to effective communication support. Conversely, such communication support can and should contribute significantly to increasing the viability of extension.

D. Agricultural Infrastructure

Even though a farmer may be convinced that an improved technology or technological package would benefit him, he can adopt it only if the agricultural infrastructure is sufficiently developed to give him timely and adequate access to the required inputs. . .He must also have access to a market at which he can sell his product at a fair price. Lack of farmer access to any of these can place

an absolute constraint on adoption, particularly in the case of high input technologies.

Where such constraints exist, the communication support program can contribute to their alleviation through assuring the relevant institutions and government are made aware. Messages directed to the farmers must indicate where, how, and to what extent they may be able to obtain scarce inputs and market their produce at a price that will give them a satisfactory profit. Or, if this is not possible, they must know alternatives for improving their production and profits. . .

## IV. Communication and Communicator Functions

. . .In general terms, communication and the communicator should be involved in virtually every phase of [technology development and transfer] program activity. The most important specific functions are identified below.

### A. Developmental Investigation

One of the first project implementation activities for which the communication group will be responsible is developmental (communication-related) investigation. Results of such studies will provide knowledge needed for planning and implementing appropriate communication strategies, such as: the characteristics of farmers. . ., their families and their communities; the forms in which technological information should be packaged to make it acceptable to and understood by farmers; and something about the ways in which farmers attach credibility to agricultural information. . .

### B. Planning and Strategy Development

Although the communicator should provide leadership to determine the most appropriate communication strategies for a given program, substantive involvement of other program components and collaborating institutions is also needed. Conversely, for the communication support program to be most effective, the communicator should be substantively involved in both extension and joint extension-research planning and strategy development. His/her function will be to bring to the planning table:

- Relevant information about the target audience as revealed by developmental investigation.
- Knowledge about potentially suitable methodologies for delivering the desired information to and receiving feedback from farmers.
- Decision as to whether or not the communication component



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has the capacity to provide the desired types and degree of support.

- Recognition that message content for use in the program must be carefully selected and farmer-oriented.

- Judgment as to which of the media available to the program should be used--in what combinations and for what purposes-- to provide maximum reinforcement and communication support at a reasonable cost.

Planning and strategy development are continuing, dynamic, iterative processes for programming, scheduling and reprogramming communication support activities to meet changing needs and opportunities. . . .

C. Production of Educational Materials

The most visible function of the communication component, production of educational materials, is a complex operation that requires careful scheduling, close coordination, effective quality control, and extensive interaction with sources of information and users of the materials produced. . .

D. Information Delivery

The primary function of the communicator with respect to delivery of information to rural families is obvious--to deliver materials produced to the appropriate dissemination channels (radio station, extension worker, newspaper, etc.) ahead of the time needed, and to ensure that dissemination is carried out as planned. He/she also has responsibility to train staff in the effective use of media, to coordinate dissemination activities and, in some cases, for direct dissemination. . .

E. Evaluation

Developmental investigation is the first step in a continuing evaluation process that proceeds to materials pretesting and formative evaluation as the program moves into operation. . .there is continuing need to check audience reactions to both the information and the forms in which it is being imparted. . .

The evaluation function of the communicator includes periodic studies to find out what is happening, correlating the results obtained with those from developmental investigation, and feeding the results back into the message development and production process to improve the program. . .The communicator may [also] be asked to conduct studies specifically designed to assess communication support impact. . .



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F. Feedback

Several types of information flow are included under the general heading of feedback for which the communication component has some responsibility:

- Feedback to extension--including the communication component--from rural communities, families and farmers.
- Feedforward from the field to research concerning farmers' experiences in using recommended technologies, and problems on which research is needed. . .
- Feedforward from the field to supply, service and marketing institutions to help them anticipate and plan for meeting needs for their goods and services.
- Feedback from rural communities, families and farmers to the policymakers and administrators who establish the policies and allocate resources that impact on the farmers' decisions to adopt or reject new technologies, and on the capacity of extension. . .to develop and sustain an effective technology transfer program.

Although "feedback" implies a one-way information flow, a multi-directional information flow system (communication network) is essential to facilitate the rapid and uninterrupted flow of information from, to and among all parties.

The communicator cannot be made responsible for collection of all information. . .one of his/her major functions is to provide leadership in developing and managing the networking system and in coordinating the collection and transmission of information.

G. Coordination

Coordination of communication support activities with other components of the extension program and other institutions with which the communication component must collaborate is another critically important function of the communicator. . .He/she should also actively seek opportunities for improving communication support to the program through coordination and collaboration with other programs which also utilize organized communication support. . .

H. Staff training and support

. . .Communication-related staff training and support must receive high priority from the communicator. Four types merit special mention:

- The first training priority must be to assure that all



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staff in the communication component are trained to the point that collectively they are fully capable of performing all of the functions cited above.

- Second, extension, research and other relevant staff need training. . .in communication skills to support the program. . .

- Department heads and other senior officials will need orientation into the value of organized communication support and what it implies about resource needs and potential benefits.

- Field extension workers and other change agents (both public and private sector) will need pre- and in-service training, supplemented with strong backstopping in the field. The communicator should provide leadership to the organization and implementation of a regular distance learning program.

## VI. Characteristics of Successful Communication Strategies

The six projects reviewed. . .have one vitally important thing in common. . .The importance of appropriate use of communications methodologies and strategies as an integral part of the program was recognized by all, and strong communication components were built into each.

The collective experience of these projects provides valuable lessons concerning the characteristics of successful communication strategies that are applicable to technology transfer and other agricultural development projects.

- Communication support can be effective only if the necessary conditions for change are present or can be arranged --such as available appropriate technology, required inputs, markets. . .

- Specification of clear behavioral objectives is the first essential step for developing an appropriate communication strategy. . .

- Developmental investigation is required to determine the characteristics of the target audience to ensure that messages, media and presentations are appropriate and acceptable to that audience. . .

- Seldom, if ever, can mass media replace staff in the field. Appropriately use, however, mass media can greatly increase field staff effectiveness and coverage of the

target population, thus significantly increasing total program impact. . .

- Careful planning and implementation, done in concert with project managers and their staffs and with the support of relevant authorities, is critical to the success of the communication system in supporting the total program. . .

- Frequent feedback from the target audience, systematically obtained and distributed promptly to all action levels, is essential to the success of both the communication system and the program as a whole. . .

- Messages and media presentations must be localized to adjust to local conditions and the needs and desires of the target population. . .

- Seldom can the communication system meet all the demands placed upon it--priorities must be established and followed if the quality of the program is to be maintained. . . .

- The need for continuing job-oriented training and staff development cannot be overemphasized. Training of field staff as communicators is also critically important. .

- Multimedia communication support programs in which the various media are mutually reinforcing can significantly increase the impact of communication support. . .

- Effective communication cannot be achieved without cost. Decisions must be made as to the most appropriate distribution of resources among communication support and other components of the project. . .

- Special skills are required that must be either "bought" or "taught". . .

- Political support for the communication system is essential, both to obtain the needed resources and to avoid dilution of the communication effort by diverting resources for other purposes. . .

- Unless communication staff are fully involved in the total program planning process, there is serious risk that the communication system will become simply a service unit that responds in an ad hoc manner to requests for production of this or that material. If that occurs, there may be a productive media production unit; but there will be no viable communication support program.

# TRIP REPORT

Honduras, August 17-27, 1987

William B. Ward, CTTA Coordinator, Cornell University

## August 17, Travel from Ithaca to Miami

Flight out of Ithaca cancelled; drove personal car to Syracuse to get flight to New York City and from there to Miami; not possible to connect with last Tan Airlines flight to San Pedro Sula. Left Ithaca by personal car at 7:45 a.m., arrived Syracuse 9:15 a.m., left Syracuse 10 a.m., arrived N. Y. C. 11 a.m., left N. Y. C. 12:30 p.m., arrived Miami 3:15 p.m.; necessary to stay overnight in Miami because no flights available to San Pedro Sula.

## August 18, Travel and FHIA

Left Miami 7 a.m. (Eastern time), arrived San Pedro Sula 7:10 (Honduras time).

## Prospectus for the Development Office

Conferred with C. Millensted and T. Williams (consultant from Winrock International) on purpose, audiences, theme, and format for proposed prospectus for FHIA's Development Office; did not reach complete agreement among the three of us on the four categories; some final decisions will have to be made by the Director General when he returns to the Foundation next week; collected FHIA documents for background material.

## USAID Mission Representatives

Met with Brian B. Cooper and Charles Oberbeck of the AID Mission/Tegucigalpa (Cooper replaced R. Owens as Project Officer); discussed the request by F. Fernandez for reports on CTTA budgets and expenditures. I will follow up on this with E. Oyer and J. Curtis at Cornell on September 1 and present our recommendations to AED.

## August 19, FHIA

Reviewed the Foundation's development strategy with Millensted and Williams; briefed C. Young on status of computer equipment as requested by E. Tout; called Curtis at Cornell to get information for J. Sanchez on travel approval for V. Porras of Costa Rica as a short-term consultant to work on a cacao publication; Millensted, Williams, and I discussed with M. Contreras the need for two or three leaflets on research progress

which would be supportive of the Development Office efforts and prepared a memorandum on this subject; writing and editing assistance would be provided by short-term consultants arranged through the CTTA subcontract at Cornell. I collected a few slides from FHIA's files that might be used for the prospectus and for AED's proposed slide set on the CTTA project.

August 20. FHIA Headquarters and Farm Visits

Interviewed M. Contreras on FHIA's research programs and his suggestions for possible photographs at La Lima headquarters, the Foundation's experimental farms, and FHIA research work going on farmers' farms; photo schedule arranged with scientists and the photographer A. Herrera; field trip with C. Medina (head of the Plantain Program) to FHIA's Plantain Experimental and Demonstration Farm near Puerto Cortes and to small plantain farms in the area; photos taken of harvesting and packaging the crop by farm families; interviewed P. Rowe, head of the International Banana Program.

August 21. FHIA and Farm Visit

FHIA has had good research results on a farmer's citrus farm near El Progresso (east of La Lima); I visited this farm with M. Zantua, head of the Agronomy Department, and Herrera. Zantua and the farmer showed us the results of cultural control of weeds with a legume (no herbicides) and described the various fertilizer treatments used in the 3-year old orange orchard; these treatments were based on soil and leaf analyses by FHIA; photos were taken to show research progress so far.

Remodeling of Buildings for the Communication Division

The architect asked me to review his drawings which have been revised since my last visit to the Foundation; improvements have been made in these drawings, but no construction work has started, except for the small building to house the printing press equipment; the latter should be finished in September so this equipment, now in storage, can be installed; the other buildings probably will not be ready for occupancy until sometime in 1988; in the meantime, communication personnel are being housed in the laboratory building attached to the main administration building.

August 22

Reviewed several FHIA documents and re-arranged my notes taken in interviews with scientists and those from field trips.



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August 23

Because the negatives of all the black and white photos taken during the week were ruined in the processing, I prepared a re-shooting schedule for the photographer and prepared an interview schedule for the rest of my stay at FHIA.

August 24, FHIA

Interviewed the heads of Entomology, Agronomy, and Tissue Culture and Pesticide Residue Laboratories; set up photos for photographer; attended luncheon discussion on documents needed for USAID evaluation team coming next week to FHIA (Fernandez, Contreras, Millensted, Young, and Oberbeck); set up additional Communication Division photos for proposed AED slide set.

August 25, FHIA

Conferences with Millensted on content for development prospectus; interviews with Dr. Rowe on banana program and photos taken of Black Sigatoka vs. healthy banana leaves; review of annual report material.

August 26, FHIA

With Millensted and Cano, briefed Fernandez on work so far on development prospectus and received his suggestions on theme, content, format, etc.; interviewed Millensted to obtain additional information needed for the publication; briefed Cano (who had been on vacation) on my activities during the past week; prepared listing of information and photos I need to have sent to me at Cornell.

August 27-28

Left San Pedro Sula at 10:20 a.m., arrived Miami 3:40 p.m., left Miami 6:30 p.m., arrived New York City 9:30 p.m., left N. Y. C. 11:15 p.m., arrived Syracuse 12:40 a.m. (Aug. 28). Left Syracuse 12:50 a.m. (Aug. 28), arrived Ithaca via Syracuse Airport Taxi 2 a.m. (Aug. 28).

#

# COMMUNICATION FOR TECHNOLOGY TRANSFER IN AGRICULTURE PROJECT
(AID/S&T 936-5826)

CTTA
TRIP REPORT

Honduras

29 November - 5 December 1987

By

Howard E. Ray
CTTA Project Director
Academy for Educational Development

Gail McClure
CTTA Project Director-Designate
Academy for Educational Development

The Communication for Technology Transfer in Agriculture (CTTA) Project is jointly managed and funded by the Offices of Education, Agriculture, and Rural Development of the Bureau for Science and Technology of the United States Agency for International Development in collaboration with Regional Bureau Technical Staff and the USAID Mission at each collaborating site. Technical services are provided by the Academy for Educational Development under Contract No. DPE-5826-C-00-5054-00.

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# HONDURAS TRIP REPORT

Howard E. Ray
Gail McClure
29 November - 5 December 1987

The team making the trip was comprised of Howard E. Ray (CTTA Project Director), Gail McClure (CTTA Project Director-Designate), Dennis Foote (Associate Project Director for Evaluation), and Clifford Block (AID/S&T/ED, and acting CTTA Project CTO (Cognizant Technical Officer)). This report covers activities of Ray and McClure. Foote and Block are reporting separately.

## I. Purpose of Trip

The principal purposes of the trip were to review CTTA Project activities at the Ministry of Natural Resources (MNR) and FHIA, and to discuss issues and procedures related to the Pilot Project summative evaluation with Dr. Milton Munoz, Dr. Orlando Hernandez, and MNR Department of Agricultural Communication staff. A secondary objective was to familiarize Ms. Gail McClure, CTTA Project Director-Designate, with CTTA activities in Honduras, including the Communication Pilot Project and technical services to FHIA.

## II. Activities and Accomplishments

### A. Schedule of Activities

See Appendix A.

### B. Principal Contacts

See Appendix B.

### C. MNR Pilot Communication Project

Progress made in the pilot project this year has far exceeded our expectations. Although some issues and program matters still require major attention, Tegucigalpa and Comayagua Department of Agricultural Communication Staff and the CTTA Long Term Advisors are to be commended for their significant accomplishments both in Comayagua pilot project implementation and in starting the process of institutionalizing the CTTA approach at the national level.

1. Current Project status

All stages of the CTTA communication process are now operative in the Comayagua communication program, although some are still in the early formative stages. "Technical Guides" containing recommendations, adapted to the conditions in the area served by the agency, have been or are being developed by each extension agency for bean, maize and rice production. Key bean and soil conservation technologies, identified in collaboration with research and extension staff and verified through the developmental investigation, are providing the technical content of current communication interventions.

Extension agencies are preparing "technology transfer projects", workplans that include communication support integrated into the extension program ("communication strategies" in CTTA parlance). Extension workers are receiving intensive in-service training in preparation of these projects, as well as in communication skills and technical subject matter.

Information is being disseminated through a daily 30-minute radio program, a series of "hojas divulgativas" (one-page graphic/print flyers) of which nine have been produced to date, and conventional extension channels--media materials are being pre-tested before using them in the interventions. The "hojas" are being distributed through extension agencies, community leaders, and private sector enterprises. Farmer feedback indicates widespread interest in and acceptance of both the radio programs and "hojas". Extension workers increasingly understand and appreciate how multiple channels used in conveying information to farmers can be mutually reinforcing.

Effective feedback systems are being developed. A monitoring program for beans and vegetable production has been initiated (analogous to "product testing" in CTTA parlance). Plans have been made for introducing a system of rural correspondents that will provide direct feedback from the communities as well as localized material for use in communication interventions. Feedback from extension workers to the Comayagua regional office, including research, has improved greatly. Formative evaluation studies will be undertaken early next year.

The summative evaluation is well underway, with data collection for a comprehensive baseline study scheduled for completion this month.

The pilot project continues to receive strong and active support from the Regional MNR Director. During our visit to Comayagua, he stated that CTTA is "a part of our life, completely integrated into the regional MNR program." He further stated that CTTA is the first project of all those with which he has had experience that has achieved such integration.



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Research workers in the region have been intimately involved in the project since its inception. As a result of such involvement, particularly in the developmental investigation, plans for next year's research program include work on problems identified in the field.

Full involvement of regional staff in all stages of the developmental investigation from design through data collection and interpretation has been a highly significant factor in achieving both understanding of the CTTA approach and the integration cited above. This has been achieved at high cost in terms of time taken from ongoing extension activities, however, and ways must be found to economize on time required of extension workers in future investigations of this type. Dr. Munoz and his Honduran colleagues are cognizant of this need, and planning accordingly. Availability of a microcomputer (just received) for data analysis will be important in this regard.

Progress in producing high quality, localized radio programs and graphic materials has been hampered by lack of facilities and equipment. This constraint will be alleviated upon completion of remodeling--currently in progress--of the regional communication department building to provide an audio studio and other needed space, and arrival in the near future of communication equipment provided under the project.

Regional staff capability to carry out the communication support program has developed rapidly. It has now progressed to the point that the nature of Dr. Munoz' role in the pilot project is gradually shifting from one of complete involvement in every activity to an advisory role for ongoing activities. This change permits him to concentrate more on helping to develop areas that are still weak, and on activities related to institutionalization at the national level.

Although the pilot project is now progressing exceptionally well, and observations indicate that many farmers have adopted improved early season practices, a disastrous drought is resulting in near or complete crop failure with beans this year. Therefore, farmers have not continued to make inputs into their bean crops (a right decision), and yields will be low. This must be taken into account in interpreting summative evaluation results obtained in the end-of-season study.

Progress at the national level, with continuing active support from the Minister and Vice Minister, has been equally significant. The Department of Agricultural Communication (DCA) is well-established and providing leadership in development of effective communication support within the MNR. A classification system for MNR publications has been developed and approved to assure that the audience for each type of publication is well-defined. A plan developed for preparation of the MNR Annual



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Report will result in involvement of all departments of the Ministry, and partially alleviate the strain on DCA staff in putting it together. The DCA has achieved a breakthrough in working with the Animal Husbandry Department that augurs well for future incorporation of animal agriculture into the total agricultural communication support program. The DCA has also participated and assisted in developing media materials to support several other MNR projects.

The DCA has surveyed the communication support situation in MNR regions outside Comayagua in preparation for expansion of the pilot project approach to all regions. Present plans call for sending selected staff from other regions to Comayagua for up to three months of on-the-job training before initiating the program in those regions.

In short, institutionalization of the CTTA approach and process is well-started at both the regional and national levels.

Funding constraints seriously affected performance during the first half of 1987, as GOH counterpart funds for 1987 were not released until mid-year. Consequently, most DCA staff received no salary and operational funds were minimal until July. The achievements described above become even more remarkable when considered in this context, and show the strong commitment and dedication of the entire DCA staff under the leadership of DCA Director Bueso, Regional Coordinator Fuentes, and CTTA Advisor Munoz. (A commitment has been received for a January release of 1988 counterpart funds to avoid a repetition of this problem.)

The USAID Mission expressed satisfaction with pilot project progress, and is continuing to support it effectively. Arrangements are being made for the Mission Director to visit Comayagua in mid-December.

2. <u>Funding issues</u>

The CTTA Pilot Project is presently funded completely from Central (AID/S&T) obligations to CTTA. Recent cutbacks in Central obligations have resulted in serious financial constraints for continuation of the Pilot Project as planned. Unless this situation is relieved, it will be necessary to seriously curtail the planned summative evaluation.

This situation was discussed in depth with USAID/H CTTA Project Manager Blair Cooper and Project Development Officer Elisabeth Kvitashvili, and the Mission was requested to consider the possibility of providing a portion of the funds required for pilot project implementation and evaluation through the remaining years of the project.

The Mission response was positive in terms of willingness to



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consider this possibility, but doubts were expressed concerning the availability of funds. Two avenues explored during the week were use of local currency and possible linking with the Mission's new irrigation project.

Outcomes from these discussions included: 1) AID/S&T/ED CTO Block submitted a memo to Cooper giving the background and justification, and requesting that the Mission provide partial funding to the pilot project activity; 2) the contractor is to provide the Mission with a detailed estimate of project costs by year, the projected shortfall in Central funding for completion of the Honduras pilot project, and the amount of local currency that could be utilized to help meet that shortfall; and 3) the Mission will determine whether or not funds can be made available to cover the estimated shortfall. Kvitashvili indicated that it should be possible for the Mission to inform S&T/ED by late January about the extent to which the Mission can respond positively to Block's request.

3. Administrative, management, and evaluation issues

Several administrative and management issues and details were discussed with Munoz and Hernandez that involve only matters internal to contractor operations and are consequently not reported here. In addition, several evaluation issues were discussed with Munoz, Hernandez and the DCA, including:

- Agreements were reached to increase the sharing of data between summative and formative evaluation.
- The summative evaluation design, including the sampling plan, was explained and discussed.
- Issues regarding training and advising of host country staff in evaluation were aired and alternative approaches discussed.
- After discussing the agencies to be included in the summative evaluation sample and the rationale for each, it was decided to add San Luis to the agencies included in the sample.
- Implications for summative evaluation of potential funding constraints were clearly identified and discussed.

D. FHIA

The major FHIA issue addressed during the trip was the recommendation of the FHIA evaluation team for early completion of CTTA technical services to FHIA. This issue was discussed at length with Cooper and Kvitashvili early in the week prior to traveling



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to La Lima to meet with FHIA Director General Fernandez and his staff on 2 December.

During the meeting with FHIA, Fernandez reviewed the current FHIA financial situation and its implications for continuation of planned CTTA technical services to FHIA. Ray indicated that the projected assistance to FHIA will have been virtually fulfilled by the end of FY1988. The Development and Communication Divisions have been established, and the two long term advisors provided by Cornell University under subcontract are now functioning in line rather than advisory capacities. (Exceptions will include completion of one long term advisor assignment and some short term technical assistance.) Therefore, an early completion date for CTTA assistance to FHIA could be considered.

Through discussion of various alternatives and the implications of each, an amicable agreement was reached that the Project Activity Completion Date (PACD) for CTTA technical services to FHIA will be changed to 30 June 1988. (All parties expressed the desire and need to continue and expand relationships on an informal basis.) Activities will continue as planned until that date with the exception that responsibility for procurement of remaining vehicles and library acquisitions will revert to FHIA.

The following procedure will be followed for changing the PACD and completing CTTA assistance to FHIA:

1. Fernandez will write to the Mission immediately, requesting early completion of CTTA technical services to FHIA as agreed:

   - the new PACD (Project Activity Completion Date) will be 6/30/88;
   - all activities will continue as planned to the new PACD;
   - procurement of vehicles and library acquisitions will revert to FHIA;
   - only closeout costs will be incurred after the new PACD.

2. Cooper will clear the request through the Mission and send it to Block for S&T clearance.

3. Block will approve the request and send to Academy for action.

4. Academy will officially inform Cornell of the early completion date as soon as notification is received from Block.

5. Steps 1 through 4 are to be completed by 12/31/87.



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6. Ray will inform Cornell immediately of the actions to be taken.

7. Academy will review and refine its estimates of the FY88 obligation needed carry to the new PACD, including closeout costs.

8. Ray will inform Cooper by telephone of the amount of the needed FY88 obligation, and then send it through channels.

## III. Conclusions and Recommendations

### A. MNR Pilot Communication Project

After a slow start in 1986, the pilot project has made exceptionally fine progress in 1987. M. Munoz has established excellent relations with the Ministry of Natural Resources and, in conjunction with M. Bueso, has provided strong leadership in developing the pilot project in Comayagua and the Department of Agricultural Communications in Tegucigalpa. Bueso, Fuentes, and the entire national and regional communication staff are to be commended for achievements to date and their plans for continued development of the pilot project and institutionalization of its findings on a national level.

The CTTA Project is receiving strong support from the MNR at both the regional and national level, and from the USAID Mission.

The following recommendations are offered for continued development and success of the project:

- The guide for preparing technology transfer projects developed by Munoz should be revised as soon as possible, based on experience in its use to date, and suggestions made by Ray.

- The extension staff training program now in progress is excellent. As the project progresses, field staff of other organizations and institutions, e.g., private sector firms, PVO's and other agrosupport institutions, should also be provided training that will enable them to serve effectively as dissemination and feedback agents.

- Use of techniques from social marketing and behavioral sciences, e.g., focus group and intercept interviews, should be increased in future developmental investigation and formative evaluation studies to economize on costs and time required to complete.



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- The present approach of active involvement of extension, research and communication staff in project activities is critically important and must be continued.

- Munoz should continue to give the Comayagua pilot project priority attention. However, his present gradual shift into an advisory role should continue, to allow him to devote more time and attention to institutionalization of the CTTA communication process.

- Close collaboration among the DCA, Munoz and O. Hernandez (long term evaluation specialist) should be nurtured, although lines of responsibility must be maintained (the DCA and Munoz are responsible for developmental and formative evaluation; and Hernandez is responsible for summative evaluation.

B. FHIA

FHIA research accomplishments to date have been excellent, the Foundation Development Program is well-started, and the Communication Division has been established. Dr. Fernandez and his staff are to be commended for their achievements. Development of the Communication Division is less advanced than the research programs, largely for reasons beyond its control, and merits priority attention. C. Millensted, development specialist provided by Cornell under subcontract, is serving effectively in that role. J. Cano, agricultural communication specialist, also provided by Cornell, has also been effective in developing plans and strategies for Communication Division media, training and library support.

It is recommended that the FHIA Communication Division staff direct greater attention toward working with their research colleagues in developing a comprehensive outreach programs to serve the Foundation's multiple audiences.

## IV. Followup Needed

### A. MNR Pilot Communication Project

- Continue interaction with USAID/H on possibilities for obtaining Mission financial support for the pilot project, following the steps described in Section II.C.2 above.

- Monitor developmental investigation and formative and summative evaluation activities to assure adequate coordination and collaboration between implementation and evaluation personnel and collection of essential information needed for



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both implementation and evaluation.

- Resolve administrative and management issues discussed with Munoz (reported separately).

B. FHIA

- Follow through on actions required for early completion of CTTA technical services.



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## Appendix A

### Schedule of Activities

Sunday, 11/29

Arrival in Tegucigalpa and preliminary meeting with D. Foote, M. Munoz and O. Hernandez to discuss week's program.

Monday, 11/30

Preliminary meeting at DCA office with DCA Director M. Bueso to introduce McClure and discuss program for week.

Two meetings of CTTA team with B. Cooper and E. Kvitashvili (C. Block arrived in pm in time for second meeting). Discussions focused principally on the FHIA request for early closeout of CTTA technical services and the funding situation with respect to the pilot project, including the possibility of a Mission contribution to funding pilot project activities.

CTTA team meeting to update Munoz and Hernandez on the present funding situation and implications for pilot project operation.

Tuesday, 12/1

All day at DCA offices.

Meeting with Munoz, Foote and Hernandez to discuss evaluation issues.

Extended meeting with Bueso, L. Fuentes, R. Nuila, and Munoz to update them on activities of CTTA worldwide, to obtain an update of Comayagua and DCA activities and progress, and to interact on virtually all aspects of the project.

Meeting with Munoz to discuss his concerns about evaluation and other issues, including administrative and management matters.

Wednesday, 12/2

Travel to La Lima to meet with FHIA Director General F. Fernandez, C. Millensted, J. Cano, C. Young, Cooper, Munoz, and Block regarding early completion of CTTA technical services to FHIA. Also met briefly with Cano and toured FHIA facilities.



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Thursday, 12/3

Visit to Comayagua with Bueso, Fuentes, Nuila, J. Pineda, Cooper, Kvitashvili, Munoz, Hernandez, Block and Foote. Met first with Ing. Soler, Regional MNR Director, and inspected remodelling of communication facility in progress. Then, the Comayagua Communication staff made a presentation of activities and progress in which Soler and the regional heads of research and extension also participated.

Friday, 12/4

Meeting with Munoz, Hernandez and Foote to discuss evaluation issues, including formative/summative relationships and responsibilities.

Tour of DCA facilities by McClure with Bueso as guide.

Meeting with Cooper, Kvitashvili, Block, Foote and Munoz to follow up on earlier discussions concerning possibility for Mission to contribute to pilot project funding. Also met briefly with R. Wilson, Mission Project Manager for irrigation project to learn more about the project and discuss possibilities for linking with CTTA pilot project for promotion and information dissemination.

Meeting with Bueso, Fuentes, Nuila, Munoz, Hernandez, Foote. Principal topic of discussion was summative evaluation.

Saturday, 12/5

Departure from Honduras.



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## Appendix B

### Principal Contacts

**Ministry of Natural Resources**

Dept. of Agricultural Communications (DCA)

| | | |
|---|---|---|
| M. Bueso | - | Director |
| L. Fuentes | - | Regional CTTA Coordinator, Comayagua |
| R. Nuila | - | Head, Investigation Section |
| J. Pineda | - | Head, Media Section |

Comayagua Regional Communication Staff

Comayagua MNR Regional Directorate

| | | |
|---|---|---|
| Ing. Soler | - | Regional Director |
| Ing. Trego | - | Head, Extension |
| Ing. Melendez | - | Head, Research |

Extensionists from Extension Agencies

**Honduran Agricultural Research Foundation (FHIA)**

| | | |
|---|---|---|
| F. Fernandez | - | Director General |
| C. Young | - | Principal Administrator |
| M. Contreras | - | Director of Research |

Long term Advisors (provided under Cornell Subcontract)

| | | |
|---|---|---|
| J. Cano | - | Agricultural Communication |
| C. Millensted | - | Foundation Development |

**USAID/Honduras**

| | | |
|---|---|---|
| B. Cooper | - | CTTA Project Manager |
| E. Kvitashvili | - | Project Development Officer |
| R. Wilson | - | Irrigation Project Manager |

**CTTA Project Long Term Advisors**

| | | |
|---|---|---|
| M. Munoz | - | AED CTTA Field Director for Honduras |
| O. Hernandez | - | Evaluation Specialist (ACT) |



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# TRIP REPORT

Honduras, December 14-17, 1987

William B. Ward, CTTA Coordinator, Cornell University

December 14 - Travel from Ithaca, NY, to San Pedro Sula, Honduras

Left Ithaca at 6:45 a.m. and arrived in San Pedro Sula at 4:10 p.m. Conferred with C. Millensted (who met me at the airport) and set up a schedule for December 15.

December 15 - FHIA

Briefly discussed with Millensted and J. Cano the circumstances leading up to the decision to terminate the FHIA portion of the subcontract at the end of June 1988. I expressed my disappointment in the action taken and the manner in which it was handled. I was assured that this action was primarily a matter related to FHIA finances and did not indicate any unhappiness with Cornell's performance under the CTTA subcontract. F. Fernandez was out of town on December 15 so this discussion ended with the agreement that I would talk with him on his return to FHIA the next day.

Because several cables and connectors for the desktop publishing equipment did not arrive in the recent shipment, I carried from Ithaca the missing parts and gave them to C. Pelkie at FHIA by 8 a.m. He is on a CTTA/Cornell consultancy to help set up the new equipment and train Communication Division personnel in its use.

For the next several hours (until FHIA's offices closed), I reviewed with Millensted the manuscript, illustrations, captions, and layout for the development prospectus. We also discussed the cost of printing the publication based on estimates I obtained from Wilcox Press in Ithaca.

December 16

Made arrangements for updating FHIA's organizational chart and contacted the Foundation's photographer to prepare better transparencies for the FHIA logo for use in the development prospectus. I asked Fernandez and key scientists to read the development prospectus manuscript and check its accuracy. The Director General approved the printing proposal from Wilcox



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Press. FHIA will pay for the printing out of the Development Office budget.

Fernandez explained to me the background and reasons for the early termination of the contract and again stressed the fact that FHIA appreciated the high level of technical assistance from Cornell and wished to explore the possibilities of a continuing relationship after June 30, 1988. I pointed out to him that if this were to be accomplished, a formal memorandum of agreement (or a similar "instrument") with a budget would have to be requested by FHIA and negotiated with Cornell. We would not be interested in an informal, "catch-as-catch-can" arrangement. Because of FHIA's financial situation, it is my opinion that a formal arrangement is not likely to be established.

Fernandez also said that the planned technical assistance between now and June 30 may have to be reduced.

<u>December 17</u>

I had individual conferences with Fernandez, Millensted, Cano, and M. Contreras. The latter requested that C. McCulloch's consultancy, originally planned for January, be postponed. Reason: FHIA scientists want more time to study their specific needs for technical assistance related to computer programming.

I finished my work on the morning of December 17 so decided to return to the United States one day early. Left San Pedro Sula at 11:30 a.m. on December 17 and arrived in Ithaca, NY, at 10:30 p.m.



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**Honduras Trip Report** December 10–22, 1987

Submitted by:
Chris Pelkie
215 CCC
Cornell University Computer Services
Ithaca, New York 14853-2601
(607) 255-8321

Copies to: William Ward, Cornell Department of Communication
Jairo Cano, Director of Communication, FHIA
Jeff Curtis, Cornell Department of International Agriculture

**Daily activities**

12/10 Thurs.—Travel from Ithaca to La Lima, Honduras

8:00 am left Ithaca, US Air to Pittsburgh at 9:05
9:30 am left Pittsburgh, US Air to Miami at 1:00 pm
3:00 pm left Miami, TAN Sahsa to San Pedro Sula at 4:30 pm (local time)
5:10 pm arrived at FHIA guest house via FHIA driver
8:00 pm brief meeting with Jairo Cano to plan next day; retired without dinner due to headache

12/11 Fri.

7:00 am breakfast at FHIA guest house
8:00 am FHIA driver to FHIA HQ; met the Communication staff and John Moran, librarian. Spent the morning opening shipping boxes and checking against shipping list. Talked to Kathryn Byrnes in Washington, D.C. (AED) about various irregularities in shipment (missing some relatively minor pieces). Also requested she contact Bill Ward before his departure to bring some necessary odds and ends.
12:00 lunch at FHIA guest house
1:00 pm set up Macintosh SE computer and LaserWriter Plus printer, started staff on self-teaching Guided Tour disks. Opened and checked out one IBM PC-AT. Started to translate some of the Macintosh menus into Spanish (with staff).
4:30 pm returned to FHIA guest house via driver; ate dinner at guest house (I was alone at the guest house each night after Rosa, the housekeeper, left about 6:00 pm; ate, watched TV, read computer manuals to prepare for next day's work)

12/12 Sat.

7:00 am breakfast at guest house
8:00 am to FHIA HQ with driver; meeting with Jairo Cano and several staff members to discuss and plan training and implementation of computer equipment. Cano discussed overview of expectations. I discussed what various types of computer software (word processing, graphics, communication, desktop publishing) are for, and what the capabilities of the newly acquired FHIA equipment were.



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10:30 am I demonstrated PageMaker on the Macintosh, then had Analia work under my supervision with other staff watching to recreate the same demonstration.

2:30 pm returned to FHIA guest house with driver. Ate lunch and dinner.

12/13 Sun.

no breakfast

8:00 am went to Puerto Cortes with the Cano family; ate lunch at the beach

4:30 pm returned to guest house for dinner.

12/14 Mon.

6:30 am breakfast at guest house

7:00 am to FHIA with driver; worked on setting up IBM computers. Office staff started working with PageMaker (Mac) and MacDraw with my occasional assistance. Upon opening the flat-bed (DEST) scanner, we found the shipment was missing a critical cable (one I couldn't manufacture from spare parts). Helped the group work on their first project (proposed by Cano)—a Christmas party invitation card, combining text and graphics from several different Mac programs, and using PageMaker to lay out the final master for the printer. They completed this project before lunch (!) and I showed them and the printer how to make spot color separations, then delivered the masters to the printer for color printing.

11:30 am to FHIA guest house for lunch

12:30 pm the printer delivers the finished cards in two colors (!). They pick me off the floor (try to get that kind of turnaround in Ithaca!). Went to San Pedro Sula with Hervé from the print shop to check computer stores for the missing scanner cable. Visited IBM dealer, Omega computer sales, and an electrical supply store but to no avail.

3:00 pm back to FHIA HQ. Helped staff solve some problems on the Mac. Everyone is working together on it when I walk in (very encouraging).

4:15 pm return to FHIA guest house for dinner

12/15 Tues.

6:30 am breakfast at FHIA guest house

7:00 am FHIA HQ with driver. Set up second IBM PC-AT, assisted office staff with another PageMaker/MacDraw project (overhead slide production). Staff worked together in a group of 4–6 offering advice and trading ideas of what to do next with whomever is currently "running" the keyboard and mouse.

10:00 am met briefly with Jairo Cano, Bill Ward, Chris Millensted; picked up cables that Dr. Ward had brought

10:30 am back to Communications office; continued setting up printers and installing network cards in PC's

12:00 lunch at FHIA guest house

1:00 pm FHIA HQ; assisted staff; installed and tested both PCs on TOPS network; traded notes with Mike Wilson from FHIA's Agricultural Economics division. Found that he has experience with WordPerfect word processor on IBMs (same program that Communications bought for theirs), and he



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says that he will be willing to assist Cano's staff with learning the program. TOPS network running at the end of the day.

4:30 pm returned to FHIA guest house.

7:00 pm went to San Pedro Sula with Juan Cano (Jairo's son) for dinner.

12/16 Wed.

6:30 am breakfast at FHIA guest house.

7:00 am FHIA HQ; installed Macintosh on TOPS network; installed MS-Word and MS-Excel on Macintosh; gave introductory training to some staff on Word (Macintosh word processor). Installed MS-Mouse on one IBM PC.

12:00 lunch at FHIA guest house with Jairo Cano

12:45 pm FHIA HQ; installed Lotus 1-2-3 and WordPerfect on one IBM PC; installed Microsoft Paintbrush on other PC; as usual, day is a continuous stream of installing and figuring out one thing while assisting people on the other two machines simultaneously. Stayed late to show Roberto (resident artist) how to manipulate Mac and PC graphics packages.

6:30 pm to FHIA guest house

6:45 pm Mike Wilson picked me up and took me to his house for dinner. Had a light supper and discussed computers both in general and specifically at FHIA. Mike is a avid IBM PC computer user, very interested in how Cano's shop is setting up the network, and in general interested in improving computer use at FHIA. One interest that I promise to experiment with is interconnecting the Wang word processor to the IBM PCs in the Communications office.

10:30 pm return to FHIA guest house to read graphics tablet manual in preparation for tomorrow.

12/17 Thurs.

6:30 am breakfast at FHIA guest house

7:10 am to FHIA HQ; installed MS-Mouse and Paintbrush on other PC. Moved equipment around to make room for more on tables. Instructed Analia on spreadsheets and charting data using MS-Excel (Cano is very pleased with the output from this operation). Instructed Dilcia in MS-Word on the Mac to develop a contract. Instructed Dalia in Paintbrush program on the IBM for graphics. Worked on installing the Kurta graphics tablet, having problems with lousy documentation. Bill Ward stopped by to pick up an organizational chart completed by Nadina on the Mac with the assistance of the FHIA artist.

11:30 am FHIA guest house for lunch

12:15 pm FHIA HQ; removed MS-Mouse card from one IBM to see if it was interfering with the graphics tablet, but finally gave up on the graphics tablet after inducing from the documentation and the failure of operation that we had been sold the wrong type of stylus. This tablet requires a wired stylus and we were sent a wireless type made by the same company. Reinstalled the MS-Mouse. Helped Dilcia finish a price sheet proposal for Communications office services. Very nice final result! Installed Lotus 1-2-3, WordPerfect, and PageMaker on second PC. Successfully sent MS-Paintbrush documents over TOPS network between the two IBM PCs.



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Also sent an IBM PC PageMaker document over the network to the Macintosh copy of PageMaker.

5:30 pm returned to guest house for dinner.

12/18 Fri.

6:30 am breakfast at FHIA guest house.

7:00 am FHIA HQ; transferred PC PageMaker and Paintbrush files to Mac PageMaker. Taught Dilcia more about MS-Word on the Macintosh.

11:30 am lunch at FHIA guest house

12:30 pm attempted to interface Wang and Macintosh unsuccessfully. Talked to Wang representative about his acquiring the Wang communication software for Communications office (Wang makes it, but Cano doesn't have it). This software would make data transmission to either the Mac or IBMs much easier (no guarantees). Helped Nadina with awards certificates for employees (to be given at employee Christmas party on Sunday), then added individual names to printed certificates and diplomas. Read TOPS manual for Macintosh and tried out all options (successfully). Hard to get to any of the machines today, since the office staff is eagerly learning on all three of them!

6:00 pm after working late (I get more done in the last two hours after everyone leaves), returned to the FHIA guest house.

7:00 pm picked up by Hervé to go to Cano's home for Communications office Christmas party. Did not eat dinner at guest house.

12/19 Sat.

8:00 am breakfast at guest house

8:30 am to FHIA HQ with Cano. Worked alone while Jairo met with others. Installed and tested the Apple ImageWriter printer connected to the Macintosh (this was acquired to run the ThunderScan scanner, but the scanner was lost in the shipment). Installed and tested the HP plotter connected to the Macintosh with MacDraw, MacDraft, and Excel. Set up PageMaker defaults on the second IBM.

2:00 pm to San Pedro Sula with Cano for lunch and shopping

6:00 pm returned to FHIA guest house for dinner.

12/20 Sun.

ate breakfast and lunch at guest house.

2:00 pm picked up by Cano and taken to FHIA employee's Christmas party at FHIA HQ. Ate dinner after party with Sr. and Sra. Cano at a restaurant.

12/21 Mon.

6:30 am Breakfast at FHIA guest house

7:00 am to FHIA HQ. Demonstrated the new equipment set up over the weekend (plotter, ImageWriter) to office staff. Installed dBase III on one IBM. Worked with German on desktop publishing issues.

11:30 am lunch at FHIA guest house.

12:30 pm worked on writing auto exec files so that staff could easily launch any of the IBM programs with only a few keystrokes. Wrote and printed a "cheat sheet" for office staff to refer to about this particular setup. Answered



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questions from staff as they came up on the different machines. Demonstrated how to use the network software to share files.

4:30 pm returned to FHIA guest house for dinner.

12/22 Tues. (breakfast)

6:30 am breakfast, and packing.

7:00 am FHIA HQ. Installed second copy of dBase III on second IBM. Printed second draft of cheat sheet after editing it last night. Tied up loose ends, paid the guest house bill (that is overpaid it, see below), forgot my field notes (they mailed them to me after I got back).

9:00 am taken to airport by FHIA driver.

10:30 am flew to Miami via TAN Sahsa.

1:30 pm Miami via US Air to Pittsburgh, arrive 7:10 pm

9:30 pm Pittsburgh via US Air to Ithaca, arrive 10:30 pm



B2'

**Overview of Problems**

DEST Scanner SCSI interface cable and cable terminator were not included in the shipment. This was an oversight on the part of the original consultant and/or retailer, although the problem is fundamentally DEST's. Since then, DEST has started to include the cable in the package, but in this case, it should have been known to the retailer that the cable was not included. Also, since I could not connect the scanner to the Macintosh as planned (or IBM), I could not determine if the scanner had been properly prepared internally for Macintosh connection. I recorded the name of the original ComputerLand dealer in New Jersey who had sold the scanner to FHIA and called them when I returned. They were totally unaware of the problem or its solution, a fairly typical response from ComputerLand—they sell the stuff, but know nothing about it. I then called our regional DEST dealer in Syracuse, and asked him to find out from DEST based on the serial and model numbers whether this scanner was configured or configurable for operation with the Macintosh. To date, he has not contacted me with the answer, but is working on it.

ThunderScan device was not shipped although it appeared on the packing slips. ThunderScan software was shipped in a separate package, but the package was torn and the disk was crushed and unusable. Assuming FHIA still wants this device, they should be sure to specify that it will be operating in an ImageWriter II and be connected to a Macintosh SE.

Kurta tablet was shipped with the incorrect stylus. Kurta makes two distinct lines of tablets with several models in one type. The first type uses a graphics tablet and a hard-wired stylus. The second type uses a completely different technology, and the tablet uses a wireless stylus. Unfortunately, we received a tablet of type one, and a stylus of type two. The advantage of the first type is that larger tablets are available; the disadvantage is that some people find the wire gets in their way. The second type uses a somewhat more flexible wireless stylus, but is only available with relatively small tablet surfaces (last time I checked). I recommended that the wireless stylus be returned and a wired stylus be purchased appropriate for the tablet model FHIA received.

**Items to be purchased as ongoing supplies**

For backing up computer work, floppy disks are required. We never have enough, so I would recommend purchase of at least 50 (5 boxes of 10) of each of the following kinds:

3.5" computer floppy disks for the Macintosh, preferably high grade like Sony. Double sided required.

5.25" computer floppy disks, also high grade, double sided, quad density for the IBMs.

Laser toner cartridges are rated for approximately 3000 pages, although we typically get closer to 3500-4000 out of them. Nevertheless, FHIA should have on hand at least 3 more LaserWriter Plus toner cartridges. These are identical to HP LaserJet (version 1) cartridges, but are not the same as Canon desktop copier cartridges although they look similar.



B3

The dot matrix printers will eventually require replacement ribbons, depending on how much they are used. There are two ProPrinters which use identical ribbons. Since these are the only printers directly connected to the IBMs they will probably be used more heavily. 3–4 replacement ribbons should be kept on hand for these, although they may be available from the IBM dealer in San Pedro Sula. The Apple ImageWriter II ribbon will probably be used very little, since the LaserWriter can print anything the ImageWriter can print, and the ImageWriter is really specified for use with the ThunderScan device (in a non-printing application). However, the ImageWriter II can also accept a color process ribbon and print color images from the Macintosh. Special color driver software is also required, but SuperPaint can print to a color printer, and other programs are coming out for the Macintosh. One disadvantage is that color ribbons must overstrike a lot to mix the various colors, so these ribbons tend to wear out quickly.

Overhead transparency foil can be run through the LaserWriter Plus. Foils rated for use in a Canon desktop plain-paper copier are recommended. Foils not recommended can and will melt in the printer, doing a lot of damage. We use Canon Type-D NP transparency film, item no. 9-70015-D1, from Canon USA. 3M also makes compatible foil material. 100 sheets to the box. Personally, I prefer to create foils on paper, then "xerox" the paper image onto foil in a copier, thus allowing me to get it right on paper before wasting foil material.

For use with the HP plotter, overhead foil material and special pens are available from HP. Jairo Cano has a catalog from HP enclosed in the documentation that shows the correct part numbers for these products. Other office supply companies (junk mail catalogs) will also contain these supplies probably for less money than straight from HP.

A number of third-party books are available that explain how to use the software better than the enclosed documentation. If FHIA staff find they are having problems understanding the documentation, I can make recommendations for better texts.

**Hardware and software installed**
Macintosh SE with internal 20 megabyte hard disk, 1 megabyte internal RAM
LaserWriter Plus printer, high quality laser printer
ImageWriter II printer, dot matrix printer, (also to be used to carry ThunderScanner)
HP 7475A Plotter, six color pen plotter that works with several Mac programs
Macintosh software:
Microsoft Excel, spreadsheet, business charts, simple database
Microsoft Word, powerful word processor
Aldus PageMaker, desktop publishing
Apple MacDraw, graphics (best for overhead slides, technical drawings)
SuperPaint, included with DEST scanner software, bitmap graphics for shading, free hand drawings, etc.
TOPS, network software to connect Mac to IBM
DEST Scanner software (couldn't test)
PlotStart, plotter driver software
HyperCard, information presentation software (I provided this, but they should buy a copy from Apple for $50 to get the full documentation)



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2 IBM PC ATs each with internal 30 megabyte hard disks
2 IBM Proprinters, dot matrix printers
2 Microsoft Mouses and interface cards
2 TOPS network interface cards
2 Quadram ProSync video cards, to connect the IBMs to the monitors
2 NEC MultiSync color monitors
2 Parallel/serial cards, to connect to printers or modems
2 Parallel/serial/extended memory cards, add memory to IBM for PageMaker, etc. (640K total is now installed in each computer)
2 Lotus 1-2-3, spreadsheet, business charts, simple database
2 dBase III Plus, powerful data base
2 WordPerfect, powerful word processor
2 MS-Paintbrush, color graphics free hand program (no color printer at FHIA)

**Equipment and software not installed**
2 Hayes modems
2 SmartComm II communications packages
There didn't seem to be anyone to call on the fairly unreliable Honduran phone system.

DEST scanner, because we didn't have the cable, and the device may not be properly configure anyway (see above).

ThunderScan device, because it didn't arrive, and ThunderScan software because it was crushed.

Microsoft Chart for the Macintosh. This program should not have been purchased since Excel completely subsumes the functions while providing many more as well.

Symphony for the IBMs. This program combines some of the functions of a word processor, a spreadsheet, and a data base, but FHIA has far more powerful and easier to learn programs installed. This was not a good recommendation in my opinion.

**Prognosis**
In general, the installation went smoothly and FHIA now has an effective and (potentially) productive desktop publishing and presentation preparation system installed. While I was there, the staff and I prepared some documents both on the Mac and on the IBM using the word processors, the graphics programs, and the desktop publishing programs. I demonstrated in more detail a different application program to different people on the office staff, so as not to overload any one person and to create individual "experts" so everyone would feel they were part of the team. I thought this group worked together extremely well while I was there. They are all very bright and friendly, and I think they will be able to make good progress by using the tutorials and working through the documentation. However, follow-up texts should be sent and classes should be held to demonstrate more advanced uses of these products especially in integrating the various functions. Personally, I would love to go back: I had a great time and enjoyed working at FHIA very much.



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January 22, 1988

**Expense Report for Honduras Trip, December 10-22, 1987**
Submitted by:
Chris Pelkie, Senior Technical Consultant
Cornell Computer Services, 215 CCC, Cornell University, Ithaca, New York 14853-2601; 607-255-8321
to:
Ann Whetzel
International Agriculture
384 Caldwell Hall, Cornell University

| | | |
|---|---|---|
| Air fare | 722.40 | US Air and TAN Sahsa airlines round trip Ithaca to San Pedro Sula, 12/10 and 12/22/87 |
| Phone call | 37.99 | 10/12/87, from Chris Pelkie (home) to Jairo Cano to discuss consultancy |
| Passport photo | 9.63 | 10/19/87, Cornell Photo services fee |
| Birth certificate | 25.00 | 10/20/87, $11 for certificate, $14 FedEx |
| Passport office | 35.00 | 10/21/87, to acquire passport |
| Passport office | 7.00 | 10/22/87, Tompkins County clerk fee |
| English-Spanish dictionary | 3.38 | 12/8/87 |
| Halazone | 6.69 | 12/10/87, water purification tablets |
| Flashlight batteries | 3.09 | 12/10/87 |
| Entrance visa | 10.00 | 12/10/87 |
| Inspection fee (exit) | 10.00 | 12/22/87 |
| Exit fee (Honduras) | 2.00 | 12/22/87 (no receipt) |
| Tip to housekeeper | 25.00 | 12/22/87 (no receipt) |
| Consulting fee | 1260.00 | 12 days at $105 per day |
| Per diem allowance | 1032.00 | 12 days at $86 per day (I think this is right) |
| Less Advance | –900.00 | 12/9/87, received from International Agriculture |
| **Total** | **$ 2289.18** | |

| | | |
|---|---|---|
| FHIA guest house | 592.50 | 12/22/87, a number of meals were charged for that I didn't eat, amounting to $72.50 in overcharges; bill should be $520.00 |
| Lunch (airport) | 1.75 | 12/10/87 (no receipt) |
| Lunch (airport) | 2.25 | 12/22/87 (no receipt) |
| **Total** | **$ 2885.68** | Including above room and board charges (I don't remember if per diem is supposed to cover these already so I did both sums) |

| Meals claimed by | FHIA | Me | Cost@ (2L.=$1) | Difference $ |
|---|---|---|---|---|
| Breakfast | 12 | 11 | 5.00 | 5.00 |
| Lunch | 11 | 9 | 7.50 | 15.00 |
| Dinner | 12 | 7 | 7.50 | 52.50 |
| **Total** | | | | **$ 72.50** |

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June 27, 1988

From: Chris Pelkie
To: Jeff Curtis, Roy Colle, Jairo Cano
Re: Report on trip to FHIA, La Lima, Honduras; June 10–25, 1988

Friday, June 10– Travel from Ithaca (7:00 am), via Philadelphia and Miami to San Pedro Sula and La Lima (4:00 pm), via USAir and TAN. Carried two cartons of books and software, and the Macintosh SE sent to Ithaca for repair. Macintosh was repaired locally by Baka Industries, a local Apple dealer, in one day. They are to be commended for helping us out on this critical matter on short notice. The repaired machine worked perfectly upon return to FHIA.

Saturday, June 11– Worked at FHIA with staff of Comunicacion from 7:00am to 1:30 pm. Discussed plans for the coming two weeks of training, problems encountered in the last six months, and new software, books, and equipment that would be available. I examined a number of documents the staff has created and was pleased to see that they are being very productive with the desktop publishing and word processing software.

Sunday, June 14– Went to Tela with the Cano's for a day at the beach.

Monday, June 13– Macintosh has been delayed by TAN, so we spent the day working with IBM applications, like WordPerfect. Some problems had developed that generated strange error messages, probably due to power outages confusing software that was running at the time. In some cases, I reinstalled the offending software from the original disks; in others, I determined the source of the problem and adjusted it. Normal workday of 7:00am – 4:00pm with lunch break.

Tuesday, June 14– The Mac and the other software arrived today. Mac was reinstalled, and the flat-bed scanner was attached and demonstrated. Staff had a chance to try some different photos and line art, as well as a less than successful attempt at text scanning. This failed because the English language recognition algorithm can't deal with accented characters. However, I'm not a great fan of Optical Character Recognition scanning that can only read a limited number of typewriter faces (like this does) so I don't consider it any lost capability to this office. Demonstrated some other new software or new capabilities available on the Macintosh, then got out of the way, since the staff was eager to get back to work on this machine! Worked on IBM, cleaning up disorganized directories and checking for other problems. Normal workday.

Wednesday, June 15– Today, I installed Microsoft Word word processing program on the IBM PCAT. The intention for bringing this was the expectation that it would be very highly compatible with the Macintosh version of Microsoft Word that is already in use here. Also, the IBM MS Word program takes advantage of an easier to learn user interface similar to the Mac, using the IBM MS Mouse and on-screen menus. Although the staff

appears to be comfortable with Word Perfect, that program has a number of incompatibilities with Macintosh software that tend to isolate it from the rest of the work environment here. While Word Perfect is very capable in its own domain, it is not completely satisfactory in this particular office because of those incompatibilities. The version (4.2) that is installed is virtually completely incapable of printing to the Apple LaserWriter printer, so the staff is limited to using the relatively poor quality dot-matrix Proprinters attached to the IBMs. One feature of MS Word is its high degree of compatibility with the Apple LaserWriter, as well as with the Macintosh itself. Continued working on other problems that appeared to be related to the TOPS network software when Word Perfect was in use. Normal workday.

Thursday, June 16– Installed new Kurta graphics tablet software and the (finally) correct stylus pen for drawing. No thanks to the Computerland that sent the original order last year, we received a completely incompatible pen with the tablet in December. Again thanks to our local Apple dealer, Baka, we got the right stylus this time. The new software is a great improvement over the last version, and in no time, we had added the capability for an artist to draw originals directly into the computer, or for a non-artist to trace the work of another into the computer using the tablet. I took a copy of Aldus FreeHand to demonstrate the capability of the newer more professional drawing programs that have become available in the last six months. I have encouraged Dr. Cano to purchase a complete copy of FreeHand since I think the staff will be able to use this program to create very high quality illustration artwork for publications. I would have simply bought a copy but its street price in Ithaca is about $400 and I didn't want to spend that much until I could gauge their interest. I believe they found it very useful and will benefit even more after they receive a full version with documentation (I took just the disks). Today a group of us worked on a brochure for an upcoming conference. We used PageMaker on the Mac to design and render a fairly complete first draft from the pencil notes we were given. This draft has gone to be reviewed. Normal workday.

Friday, June 17– I've decided that we have another problem related to Word Perfect. Today, I installed TOPS Print, a utility program that purports to allow the IBM to print to the Apple LaserWriter over the network in the same fashion as the Macintosh has always done. At this point, I could only install this capability on one IBM machine since I had mistakenly thought it enabled all IBMs on the network but in fact requires a separate copy for each IBM (I only bought one since it costs $150). Anyway, after installing TOPS Print, a whole new set of problems appeared when we ran Word Perfect. After trying various combinations of software, I've decided that TOPS, TOPS Print, and Word Perfect can't coexist because there is not enough memory available even though the IBMs have the maximum allowed by DOS. Solution seems to be that you can start Word Perfect and perform all functions, save the work, quit Word Perfect, start TOPS, send and receive files over the network, but you must restart the machine before starting Word Perfect again or strange errors will occur. No such problems occur with Microsoft Word on the IBM. TOPS Print and Microsoft Word function together very well, so the

office now has two machines that can take advantage of the Apple LaserWriter, the Mac for all programs and one IBM for word processing. Unfortunately, PageMaker on the IBM doesn't print properly to the LaserWriter. I suspect this is a temporary bug that has been or will be worked out by one or the other manufacturer and I intend to call when I get back. Worked on the second draft of the brochure. Scanned a front cover of a printed manual and reduced the cover art for use on the brochure cover. Normal workday.

Saturday, June 18– Worked from 7:00am to about 2:00 pm, pretty much alone. This gave me the opportunity to move back and forth between all machines trying out different combinations of software for compatibility. Attempted to interface the Wang word processor to the IBM unsuccessfully, then tried to interface the Wang to the Mac, also unsuccessfully. Unfortunately, I didn't bring my electronic toolkit this time like I did in December, so I'm working on logic and with only the cables that are lying around here. The Wang people in San Pedro have provided Comunicacion with the apparently correct communication software and a purportedly correct cable to interface to the IBM, but it is not working. After leaving FHIA, I went to San Pedro and met with Julio (I've forgotten his last name) who makes pamphlets and books on a Macintosh and LaserWriter, including some documentation for FHIA in the past. We had a wonderful talk about how desktop publishing is changing the face of printing in the Third World. Had dinner with the Cano's.

Sunday, June 21– Visited the Ruinas de Copan with the Cano's. Terrific!

Monday, June 20– Trained and instructed several people in different software as they work on projects for the office. Gave special assistance in word processing with MS Word on the IBMs to those people who do the most word processing, helped Dalia and Nadina with PageMaker on the Mac, since they appear to be the most involved with desktop publishing tasks, showed Analia some advanced capabilities of MS Excel for charting numbers, etc. The best strategy seems to be to check over people's shoulders while they work to see what habits they have and where they are doing things inefficiently or not doing things that represent unknown capabilities to them. Helped Nadina redesign her approach to laying out the Noticia de Prensa that this office produces about weekly. She was preparing text for manual pasteup, but I showed her how to make a more complete template of the entire page in Pagemaker to reduce the amount of physical pasteup she has to do.

I am emphasizing both to the staff and to Dr. Cano that the documentation, manuals, and books must be made readily available so the people will be encouraged to turn to them when they have a problem (as I do!). Since the manuals are kept in a cabinet in Dr. Cano's office, I don't think the people are always comfortable in going in to get these books. I can understand the need for security since the office is heavily trafficked during the day, but I think the books should be out in the main office in general. I have been showing the people how to take more advantage of the network now that they are more comfortable with the individual application software. Particularly, they need

to understand that they can do desktop publishing on either IBM using PageMaker even though they can't print to the LaserWriter with the IBM. However, the Macintosh version of PageMaker is fully compatible with documents created by the IBM PageMaker, so they can move these virtually complete documents to the Mac for any final touch-up, then they can print from the Mac. Normal workday.

Tuesday, June 21– Assisted people on various projects, suggesting better or new ways to perform tasks. Advised Dr. Cano and Carlos Young on the best uninterruptable power supplies to purchase for protecting the computers against the inevitable power failures. Remapped the Spanish accent keys for Word Perfect to be the same as in Microsoft Word so they only have to remember one pattern regardless of which word processor they use. Worked unsuccessfully on interfacing the Wang to the IBM. Taught some people how to better manipulate and save their files on the hard disks. Normal workday.

Wednesday, June 22– Instructed people on how to use the TOPS network more effectively. I must be doing something wrong, because they seem to have a very hard time grasping how this works, when I think it is a very easy and elegant system to understand. Will try again later in hopes they will understand more next time. Worked as before with people on their daily tasks suggesting better ways or improvements to the style or appearance of their projects. Normal workday.

Thursday, June 23– Finally! Got the Wang to talk to the IBM. It turns out that the cable the Wang guy made wasn't even attached to the right interface port and I hadn't even thought about it until now. I had to scramble to find a cable that had the right connectors–fortunately, it's the same cable as the Hayes modem uses so I borrowed a cable bought for the modems. Then it turned out that the complicated cable the Wang guy had built still didn't contain an important (critical) connection, so I borrowed a paper clip and shorted the appropriate two wires together. It worked! We got the connection communicating then discovered that the Spanish accents don't work the same way on the Wang as on the IBM. I told the people that I needed to know how to globally search and replace on the Wang but they said it couldn't be done. So I asked for the Wang documentation and after some thought they remembered that another office had a copy. Naturally it was written in Spanish but I'm getting better so I found the section we needed before they did. What they need to do is convert each accented character to a string of characters that will pass correctly over to the IBM, then when it is there they convert the string of characters back to the accented character. For instance, they must turn á into *a* on the Wang (using global search and replace), then perform the opposite on the IBM to regain the á. I demonstrated more of the features of Microsoft Word on the IBM once we had communicated the file, and taught them how to set up the communication programs on the Wang and on the IBM. Four visitors from St. Lucia came in to see the desktop publishing network and received a 45 minute demonstration of word processing, publishing, and artwork, including graphing some data they had on banana production right before their eyes, then printing it out on the

LaserWriter so they could take it with them. I think they were suitably impressed. Normal but exhilirating workday.

Friday, June 24– Wrote small programs (called macros) to speed up some of the more common functions that the people will use in Microsoft Word including especially the "de-translation" of Wang documents into Spanish on the IBMs after communicating them from the Wang. Now in a couple keystrokes they can find and replace all our codes that stand for the accented characters and turn them back into properly accented characters on the IBM. This output can be placed on the network for other computers to have access so that the file can be desktop published or simply printed out on the LaserWriter from MS Word. In the afternoon, we went over the complete operation of the network once again, and moved a document completely down the line from the Wang to the IBM to MS Word on one IBM to MS Word on the other IBM to PageMaker on the second IBM to PageMaker on the Mac to the LaserWriter, not because every job has to be this complicated but to demonstrate the complete portability of documents over all four machines and through several programs.

Saturday, June 25– Travel day, return from La Lima (10:30 am) to Ithaca (10:45 pm), via Miami and Pittsburgh on TAN and USAir. Met Dr. Fernando Fernandez in the airport and sat next to him on the flight to Miami. We had a nice chat about the computerization of FHIA including my drawing a complete network diagram at his request showing all the functions as they exist currently. A very pleasant conversation with a very capable man.

Recommendations for the next six months:
Send in all registration cards for software and hardware. Many manufacturers will inform their customers of improved versions of their products, and usually these improved versions are sold cheaply or given to recent customers.

Buy Aldus FreeHand to do professional quality artwork. This program works well with the graphics tablet and the LaserWriter. Art can be traced from scratch or from an existing piece of artwork, or the art can be scanned and the scanned picture opened in FreeHand and traced on the screen. about $400.

Acquire the upgrade to TOPS and TOPS Print. If necessary, acquire TOPS Print for both IBMs (if both stay in contact with the LaserWriter, see next item).

Plan to move at least one IBM AT to full time service in the library. These machines are not being used effectively as desktop publishing workstations but should make good data base workstations for maintaining the library functions.

Buy a second Macintosh SE since the load is very heavy for many applications on the one Mac. This will also serve as a backup machine in case of future repair problems (hopefully diminished by the power supply backups). Do not buy a Mac with a built-in hard disk. Buy an external hard disk which can be

easily disconnected and shipped if it fails without disabling the whole office by sending the Macintosh away (it was a hard disk that failed after the power outage). I won't recommend a Mac II at this time since Apple appears to be on the verge of announcing new machines within the next six to nine months that may make the Mac II or its equivalent cheaper. The biggest advantage of a Mac II would be a larger screen for desktop publishing, but other manufacturers make large screens for the SE at around $1500-1800.

Purchase and install uninterruptable power supplies, one per computer immediately. (This is already in progress.) I have recommended a "true" uninterruptable power supply that always runs through the battery so there is absolutely no delay in switching to battery power in the case of a power failure. Nevertheless, disconnect computers during severe lightning storms: no power supply can adequately protect against a nearby lightning strike on your power line.

Request the Wang dealer to investigate the possibility of writing a "macro" for the Wang that automatically converts all Spanish accent characters into the "safe" format using asterisks as documented above. This will save the people in the office a lot of time in converting documents. I don't know if this capability is available on the Wang.

Purchase extra toner cartridges for the LaserWriter. Purchase overhead transparency material rated for a Canon desktop copier to make overheads directly on the LaserWriter's manual feed (however, remember to print first drafts on regular paper).

With the Cornell contract ending, FHIA should consider contacting major computer software and hardware manufacturers directly to negotiate volume discounts or to submit grant proposals. Many computer oriented companies are interested in helping educational and scientific organizations which are computerizing with either outright gifts or large discounts on their products. As FHIA continues to add computers, it should be able to save a lot of money by dealing directly with manufacturers. Even if this is not possible, I hope that FHIA will never again have to pay list price for goods they buy in the United States. I don't have all the facts on export regulations, etc., but this seems to be a travesty since no one in the States would ever pay list price for computer software (and almost never for computer hardware).

# Consultant's Report:
# FHIA Library

Prepared for:

Communication Division
Fundacion Hondurena de
Investigacion Agricola
(FHIA)
San Pedro Sula, Honduras

Prepared by:

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July 1988

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## Scope of the Consultancy

I spent the four working days from June 27 to July 1, 1988 at FHIA (Fundacion Hondurena de Investigacion Agricola) in San Pedro Sula, Honduras. The intent of my consultancy to examine the operations of the science library at FHIA, to study the service and processing issues that confront the library and possible approaches to the improvement of information services to researchers, to consider the staffing pattern of the library and training opportunities for staff, and to consider the possible application of computer and telecommunications technologies to the enhancement of current information services at the FHIA library.

According to the original statement of "scope of work," I was to undertake to:

(1) Assist Communication Division personnel in planning the transition of the FHIA library into a documentation and information center.

(2) Analyze training needs associated with development of the center.

(3) Gather information for a report to be completed upon return to Cornell recommending personnel and technology systems for the FHIA library.

This document represents the report specified in (3) above.

## Methodology

I have proceeded on the assumption that the primary purpose of the library at FHIA is to support and facilitate the work of researchers within the programs and scientific departments of the Research Division. As secondary purposes, it has been suggested that the FHIA library may serve in the future as a nationally important repository of literature in the agricultural sciences within Honduras, and that, with the addition of graduate students to the scientific staff of FHIA, the library may come to support thesis-level research and the acquisition of information-seeking and information-retrieval skills by graduate students.

Because of the vital link between library services and the work of researchers, I interviewed FHIA researchers as well as the staff of the library in the course of my consultancy. In total, I interviewed the following individuals:

| | |
|---|---|
| Jairo Cano -- | Director, Communication Division |
| John Moran -- | Head of the Library |
| Esther Urmeneta -- | Library Assistant |
| Joseph Krausz -- | Head, Plant Pathology Department |
| Pablo Soto -- | Head, Entomology and Nematology Department |
| Mario Contreras -- | Director, Research Division |

In speaking with library staff members, I sought to understand the library's background, the nature of its collection and files, and the current state of its services. The purpose of speaking with research staff members was to determine their patterns of use of scientific information and journal literature, the sources of scientific information that they employ in their research, the nature of their use of the FHIA library, and their experience with, their level of satisfaction with, and their expectations of the library. A list of the questions which were posed to research staff is attached as Appendix A.

In addition to the interviews described above, I spent approximately one day familiarizing myself with the collections and facilities of the library. I looked at the building into which the library will move in the next year, and studied the floor plans for the library portion of the new facility.

## Issues Facing the FHIA Library

What follows are descriptions of the major "problem" areas that confront the FHIA library. These are collection development; document delivery services; under-utilization of scientific information resources by researchers; cataloging backlog; space planning; internal library management system; and maintenance of FHIA document archives. For each area of concern, there follows a description of the key issues, and a definition of possible courses of action.

### A. Collection Development

During the years when the United Brands Corporation operated and funded what is now the FHIA library, the library maintained subscriptions to a considerable spectrum of scientific journals. This collection appears to have been adequate to most of the needs of the research staff at that time for access to scientific journal literature. In addition, the library assembled a collection of approximately 12,000 pamphlets, primarily related to banana breeding and cultivation, that is world class in its field. The library staff undertook full cataloging for the pamphlet collection, interfiling these cards with those for the library's monographic and journal collections.

Most of the journal subscriptions lapsed in 1982-83, when United Brands terminated its research operation. Although some subscriptions have been reinstituted since 1985, and some new subscriptions initiated, the stock of journals and serial publications under current subscription is entirely inadequate to the needs of the FHIA research staff. In late-1987, FHIA librarian John Moran conducted a survey of institute researchers, to identify which scientific journals and other serial publications they wish to see in the library. Some 15 researchers, or approximately one-third of the research staff of the institute, responded to the survey. The result of this work is a list of approximately 200 journals and serial publications rated "essential" or "necessary" by one or more researchers.

Although recent developments in information technology present mechanisms to improve access to information resources not located in the FHIA library, there is at this time no realistic alternative to maintaining subscriptions to the "core" journals and serial publications required by FHIA researchers. The substantial questions in this area concern the extent of the scientific literature that truly constitutes the "core" for FHIA researchers, the nature of the data that should be used to determine the core, and the level of funding that can be committed to purchases and subscriptions for the FHIA library. Given that FHIA's financial resources are limited, an overly broad commitment to journal subscriptions may reduce the scope of the other information services that the library is able to offer.

Alternative Courses of Action: There is no good alternative to initiating subscriptions to some additional journals and serial publications, or to attempting to fill in the gaps that have developed in the runs of certain key journals. The following represent the spectrum of possible actions:

(1) Initiate subscriptions to all the publications on the survey list, and attempt to fill in the 1982-83 to present gap for all those publications on the list that were subscribed to previous to 1982.

(2) Initiate subscriptions to all the publications on the survey list that more than one or two researchers identified, and attempt to fill in the 1982-83 to present gap for selected, "key" publications on the list that were subscribed to previous to 1982.

(3) Have the FHIA librarian, possibly in conjunction with representatives of the academic departments, review the survey list and identify a subset of the list consisting of only the highest priority subscriptions and continuations. Initiate subscriptions to this subset of the publications on the survey list and fill in the 1982-83 to present gap for the selected publications.

(4) Make arrangements for document delivery services (see Section B below) with a major research library and track the actual requests of FHIA researchers for articles from the scientific literature for a period of one year. Use this data to determine what set of core publications the FHIA library should subscribe to.

It should be noted that even if FHIA has financial resources adequate to undertake the first option, the substantial core collection that results will still only be adequate to meet a proportion of the information needs of FHIA researchers, making it critical that the library also establish other information services, described below. These services will require staff time and money. Administration should realize that the combination of the inflation of the prices of scientific journals and the depreciation of the American dollar against other major currencies has resulted in an increase

in the cost of scientific journals in the United States of approximately 15 percent annually over the last several years. The library should commit itself to a level of subscriptions to journals and other serial publications that FHIA can realistically maintain over the next five years. Funds will also be required for training staff, outfitting the new building, purchasing computer-based information systems, and obtaining document delivery services.

B. Improved Access to External Sources of Scholarly Information

A major frustration of FHIA researchers with the current service structure of the FHIA library is that there is little provision for securing copies of articles and documents that do not exist at FHIA. To fully address this problem will require progress in two areas: (1) the provision of improved bibliographic searching services, and (2) the establishment of a document procurement and delivery service.

B.1. Bibliographic Searching Service

The FHIA library currently provides citation-level access to the literature of agricultural science through a number of printed indexes and abstracts, including the FAO (AGRIS) Indexes and specific subject subsets of the CAB indexes. Researchers do not use these sources as much as they might, in part because searching multiple issues of a printed index is extremely time-consuming and subject access is limited by the subject headings included in the publications.

Modern information technology offers several enhancements to searching print indexes and abstracts, including the searching of online databases and the searching of databases mounted on compact disk.

Alternative Courses of Action: The alternatives in this area can be summarized as follows:

(1) Continue the present system of providing only printed versions of indexes and abstracts, with possibly the addition to the collection of new sources of citation information.

(2) Develop an online search service that will permit the computerized searching of the systems of database vendors such as BRS and Dialog (both located in the United States) through telecommunications channels.

(3) Implement a computer system that will permit the searching of substantial bibliographic (and, potentially, numeric and full-text) databases on compact disk, while licensing compact-disk databases from information-sector vendors.

The implementation of a computerized search service would improve the breadth, power, and specificity of the bibliographic search tools available

to researchers at HFIA. This technology would also allow the HFIA library to offer a mediated database searching service to researchers at the institute, which would save researchers substantial time in the conduct of literature searches.

Although the online commercial database services continue to offer a range of databases and a currency of information which cannot practically be replicated locally, online searching is expensive, difficult to budget in that cost depends on demand, and subject to the vagaries of international telecommunications connections. The acquisition of essential bibliographic databases on compact disk offers a dependable local alternative at a reasonable and fixed cost. At this time, both the AGRICOLA and CAB databases are available on compact disk. An approximate budget is attached for the implementation of a compact-disk based search service as Appendix B.

B.2. Document Delivery Service

Together with the paucity of the FHIA library's present journal subscriptions, the major frustration of FHIA researchers with library services is that they cannot secure copies of journal articles or research reports which they need in their work. An enhancement of bibliographic searching services, as outlined above, will actually exacerbate this problem, in that the research staff will become aware of the existence of additional articles that they cannot secure.

Although an improvement in the journal holdings of the library is essential, this will not solve the problem of document procurement. The HFIA library cannot realistically hope to acquire the entire spectrum of scientific literature that the research staff requires, a task that is increasingly beyond the means of even the largest research libraries. The HFIA library should thereby move to create a document procurement and delivery service and to actively inform the HFIA research staff of its existence and potential.

New information technologies, such as electronic mail networks and telefacsimile, can play a role in document delivery, but the fundamental problems probably involve the commitment of human and financial resources and the creation of new relationships with libraries and information centers abroad.

Alternative Courses of Action: The following points suggest some of the possibilities open to HFIA in creating an efficient document delivery service. The list is not comprehensive.

(1) Work with U.S. AID to establish an agreement with the United States National Agricultural Library whereby NAL photocopies and sends needed articles and documents to FHIA at favorable rates.

(2) Establish relationships with the libraries of the major international agricultural research centers (CIP, CIAT, CIMMYT, IITA,

etc.) for the photocopying and delivery of needed articles and documents. Access to the electronic mail network CG-NET would facilitate such an arrangement.

(3) Work to establish an interlibrary loan or document delivery relationship with one or more major research libraries outside Honduras (this would presumably require grant funding or a financial commitment on the part of HFIA) that have strong collections in the agricultural sciences and life sciences.

(4) Strengthen relationships for the purposes of interlibrary loan and document delivery with other libraries in Honduras, such as the library of the Pan American Agricultural University in Tegucigalpa (HFIA could presumably function as a lender as well as a borrower in such a relationship).

(5) Create a two-year budget for the provision of a specified level of document delivery services to HFIA researchers, and beyond this have the Communications Division charge the scientific departments for document delivery services according to levels of use.

(6) Employ electronic mail systems for document requests and telefacsimile for document delivery in order to speed the procurement of documents (see Appendix C for features of telefacsimile devices important in the transmission of pages from journal articles).

C. Underutilization of Information Resources by Researchers

Several interviewees stated their sense that FHIA researchers in general do not fully exploit scholarly information resources in their work. In some cases it appears that researchers primarily gain access to scientific literature in ad hoc fashion, through collegial contacts, without using the formal channel--the institute library. The failure of researchers to better exploit scholarly information through the library is due partly to the frustration of frequently finding themselves unable to secure the documents that they want. A second factor, in some cases, is a lack of familiarity with the full spectrum of resources available to them. The implementation of a computerized bibliographic searching service and an improved document procurement and delivery service, as outlined in the preceding section, presents the library with the opportunity to better "market" its services to the research community and to increase researchers' awareness of information resources. The goals of such a program would be to enhance the efficiency and quality of research activity at FHIA and to advance the credibility of the library.

Alternative Courses of Action: The following represent several possible approaches improving the credibility of the library and to encouraging FHIA researchers to make more thorough use of scientific information resources:

(1) Have the Head of the Library meet regularly on a collegial basis

with the FHIA research staff and attend meetings of the research staff. The Head of the Library would make periodic presentations to the researchers concerning the information services of the library and make a continuing effort to keep abreast of research projects underway at FHIA.

(2) With the implementation of a literature search system employing compact-disk based databases, as described in Section B above, implement and actively market a database search service whereby the library staff perform literature searches at the request of the FHIA research staff.

(3) With the implementation of a literature search system employing compact-disk based databases, as described in Section B above, implement and actively market a database search service whereby the library staff train researchers to perform their own literature searches on the library's system.

(4) With the implementation of a document delivery service as described in Section B above, actively encourage the FHIA research staff to request articles through the new service.

D. Cataloging Backlog and Technical Processing

Two issues--one short-term and the other long-term--confront the FHIA library in the area of technical processing. The short-term problem involves the existence of a cataloging backlog of approximately 1,000 items, most of them monographs. Although library staff have created acquisition records for these items and grouped them roughly according to subject, the material awaits cataloging and classification. At this time, John Moran is the only staff member with the training to perform cataloging and classification, and he has been unable to undertake the cataloging work in question because of the commitment of his time to editorial projects.

In the long term, the FHIA library must settle on a classification scheme for use with its collection, arrange for the training of appropriate staff in cataloging and classification practice, and determine what automated systems, if any, will be used in the technical processing area.

Alternative Courses of Action (A): The following represent some options that the FHIA library might pursue in addressing the problem of the cataloging backlog:

-- Relieve John Moran of his editorial responsibilities for several months in order to allow him to dedicate blocks of time to cataloging and classification.

-- Arrange to train another staff member in Dewey Decimal cataloging and classification practice and then have this individual begin to work on the backlog.

-- Contract with a vendor or another library to produce cataloging copy,

card sets, and proposed classification numbers based on photocopies of title pages (this alternative poses several problems in the assignment of classification numbers and subject headings).

Alternative Courses of Action (B): The following represent some options that the FHIA library might pursue in addressing the longer-term issues of technical processing:

-- Settle on the use of the Dewey Decimal System for subject cataloging and classification over the long term, train a library staff member in the use of this system, and make this individual responsible for keeping up with cataloging and classification work.

-- Settle on the use of an alternative system to the Dewey Decimal System for subject cataloging and classification over the long term, train a library staff member in the use of this system, and undertake all future cataloging and classification in the new system. In addition, undertake a project to convert the present collection to the new system.

-- In conjunction with the first or second alternative above, purchase and install a cataloging support system consisting of a microcomputer, printer, compact disk reader, and a bibliographic database on compact disk.

Note that the effort required to switch from the Dewey System to some alternative system of cataloging and classification, as described in the second option above, would entail a major commitment of staff time.

E. Space Planning

When the Communication Division moves to its new building, the FHIA library will enter new and much larger quarters. It is critical that the new facility meet four needs: (1) improved and expanded study areas for researchers, (2) increased space for the shelving of the print collection; (3) dedicated work areas for library staff members; (4) support for modern computing and telecommunication technologies. The plans that FHIA has developed for the new facility provide for all four of these needs. Converting the proposed floor plan to a workable reality, however, will involve a great deal of work. The results of this activity will be critical to the success of the FHIA library over the next decade or more. The Head of the FHIA Library should thus be closely involved in the remaining stages of the planning process for the new building.

F. Internal Library Management

Increasingly, libraries of small and medium size in the United States are using microcomputer-based systems to control internal processing functions such as materials ordering and acquisition, cataloging, database management, serials check-in and claiming, and circulation control. Library systems based on networked microcomputers have also begun to make public access

online catalogs available.

Alternative Courses of Action: The FHIA library currently handles all internal processing functions in the FHIA library, including the generation of correspondence, without computer support. A wide range of options exist in this area. The scope of possibilities may be summarized as follows:

> (Modest approach) Procure a microcomputer for library staff and install word processing software on the machine. Use this facility for the placement of orders and for correspondence with vendors and other libraries. For the present, continue to use manual methods for acquisition, cataloging and classification, database maintenance, and circulation. Continue to support public access to the collection with a card catalog.

> (Intermediate approach). Procure one or more microcomputers for library staff and implement word processing and a library management software package on this hardware. Use the computers for the placement of orders and for correspondence with vendors and other libraries, for acquisition, for database maintenance, and for circulation control. Continue to support public access to the collection with a card catalog.

> (Technology intensive approach). Procure four or five microcomputers, together with networking hardware and software. Also procure a cataloging support system based on compact-disk technology. Use this facility for all the activities mentioned in alternative two above. In addition, use a cataloging support system in the cataloging and classification process and establish an online catalog for use by researchers.

Note that the third alternative would probably require the support services of a technician skilled in the installation, configuration, and maintenance of local area networks and microcomputer software.

G. Maintenance of FHIA Document Archives

The Director of the Research Division at FHIA believes that there is a need for the institution to create a comprehensive collection of its own publications and scientific data (laboratory notebooks, records of experimental data, and so on). This collection would serve as FHIA's "institutional memory." At this time, the Division of Communication maintains a collection of the publications of the institution. The Division's Communication Section manages this collection and controls it using a coding system that is better adopted to the classification of research data than to the description of bibliographic items. The Division should give consideration to the possibility of transferring the control of this collection to the library.

Alternative Courses of Action: The following suggest the spectrum of options in this area:

> Continue to operate under the present model, with the Communication Section responsible for maintaining a modest collection of the formal publications of FHIA.

> Transfer responsibility for the maintenance and control of this collection of FHIA publications to the FHIA library, with the library cataloging the materials as well as organizing and storing a copy of each publication (storing multiple copies of Institute publications--a wharehousing function--could be undertaken elsewhere).

> Proceed as in option two above, but also charge the library to seek out, collect, control, and store the research records and other unpublished scholarly information of the Institute.

Recommendations

In the preceding sections, I have described the major issues that confront the HFIA library and indicated the spectrum of possible responses. In this section, I make specific recommendations for courses of action I believe to be desirable based on my professional knowledge, my observations of the HFIA library, and my interviews of the library staff and HFIA researchers. In all cases, I am recommending those actions which I believe, (1) can be practically implemented within the HFIA environment, and (2) will have the greatest effect in improving the utility of the HFIA library to its research clientele. At the end of each section, I have stated an approximate number of months that the accomplishment of the given task may be expected to require.

Library Organization and Staff Training

(1) Move toward an organizational structure in which three full-time employees report to the Head, HFIA Library. These three positions would be Acquisitions and Technical Processing Specialist; Database Management Specialist; and Information Services Specialist. The specific duties proposed for these four positions appear in Appendix D below. Arrange training opportunities for these staff members as follows (in each case, the area of highest priority for training is underlined): (6-12 months)

Head, HFIA Library: Management skills; application of computing and telecommunications technologies to scientific information services; budgetary procedures; collection development.

Acquisitions and Technical Processing Specialist: English language; word processing.

Database Management Specialist: Cataloging and classification practice; use of database management software on a microcomputer.

Information Services Specialist: Database searching; use of telecommunications software and search-and-retrieval systems on a microcomputer; communication with research staff.

(2) As highest priorities in staff training, arrange, if possible: (1) for Patricia Cervantes to undertake an internship in a major science library to gain exposure to the management of information services and to the applications of information technologies to the provision of access to scholarly information, and (2) for Esther Urmeneta to undergo structured instruction in cataloging and classification theory and practice.

(3) Provide additional clerical support to the library staff as necessary, particularly in connection with resolving the cataloging backlog and making the move to the new building.

Collection Development and Information Services

(1) Convene a task force consisting of the Director, Communications Division, the Head of the Library, and representatives of the academic departments of the Research Division. Announce a commitment to improving the "core" journal collection of the HFIA Library, to be achieved in two steps:

(A) The task force, working within a prescribed budget, will recommend a set of key journals. John Moran's list of proposed serials subscriptions will facilitate this work. Subscriptions to these journals will be entered immediately.
(2-3 months)

(B) Having entered an agreement with a large research library (see below), HFIA Library staff will monitor researcher requests for journal articles for one year. This data will then be used to determine which additional subscriptions to initiate in order to complete the core collection.
(15 months)

(2) Negotiate an agreement for document delivery services with one or more large research libraries with collection strengths in the agricultural sciences and life sciences. Provide budget for a two-year pilot project under which HFIA researchers can order a certain number of copies of articles from the scientific literature, without charge to the researcher or academic department. Train library staff to support an efficient document delivery service.
(establishment of agreement 3-6 months; duration of project 24 months)

(3) As an adjunct to (2) above, create a photocopying service, to be coordinated by the Information Services Specialist. Through this service, HFIA researchers would be permitted to request photocopies of articles in scientific journals available in the HFIA library. The library would then arrange for the copying and the delivery of the material to the offices of researchers.

(1-2 months)

(4) Purchase the hardware necessary to support one "database searching workstation" (microcomputer, monitor, printer, modem, compact disk reader). Initiate a subscription to the AGRICOLA database on compact disk. Secure the CAB and AGRIS databases on compact disk when they become available (both organizations are planning compact disk products). Train the Information Services Specialist in the searching of scholarly databases on compact disk. Commence a database searching service whereby the Information Services Specialist would search databases on compact disk at the request of researchers and provide sets of pertinent citations.
(6 months)

(5) Closely involve the Head of the HFIA Library in the detailed space planning for the new library facility. The goals of this work should be to maximize: (1) the comfort and attractiveness of the facility for researchers using library materials, (2) the practicality and utility of the work areas for library staff, (3) the capacity of stacks areas to accommodate increased print holdings for at least a ten-year period, and (4) the capability of the facility to support microcomputer and telecommunications technologies.
(12-18 months)

Internal Processing Functions

(1) Undertake to eliminate the current cataloging backlog by either (1) relieving the current Head of the HFIA Library of his editorial responsibilities for several months so that he can concentrate his time on cataloging, (2) arranging training for Esther Urmeneta in cataloging and classification practice, (3) hiring an employee with background in cataloging and classification.
(4-5 months)
For at least the next year, in the technical processing area: (1) retain the use of the Dewey Decimal System, and (2) avoid the investment in a microcomputer-base cataloging support system (such as "Bibliofile") until the staffing arangement that will support technical processing is clear.

(2) Purchase one microcomputer, together with word processing and file management software, in order to facilitate the placement of orders, acquisitions, claiming, and correspondence with vendors. Train the Acquisitions and Technical Processing Specialist and the Database Management Specialist in the use of this system.
(3 months)

(3) When a Database Management Specialist has been trained and the cataloging backlog eliminated, transfer to the library the responsibility of cataloging and controlling all publications of HFIA. When the library has taken this activity under control, explore, with the Director of the Research Division, the possibility of expanding the role of the library

in controlling the research documentation generated by the institute. (Step 1 6-12 months; Step 2 12-24 months)

Conclusion

Over the last two years, FHIA has clearly made great progress in re-invigorating the research establishment that it inherited and in defining its own research programs. The Communications Division has succeeded in re-opening the FHIA library--a critical part of the institute s research support apparatus--and in creating the nucleus of a library staff. In the next year to 18 months, the Communications Division must work actively to improve library staff skills, collections, and information services. Although new information technologies can assist in this effort, in ways identified in this report, they will not provide a quick and easy solution to the challenges that face the library. To improve its role in support of the research process, and to enhance its credibility with the research community, the FHIA Library must make a measured but solid commitment to the improvement of its collection of scientific journals, institute a competent document delivery service, grow more proactive in its interactions with FHIA researchers, solve its technical processing problems, improve and modernize its information services to researchers, and upgrade the skills of its staff.

07/12/88

## Appendix A
## Questions Asked in Interviews of FHIA Researchers

(1) How frequently do you use the scientific literature in your research?

(2) Other than the library, what are your sources of the scientific literature that you use?

(3) How often do you use the HFIA library?

(4) Why don't you use it more often?

(5) Do you use a computer in your research work?

(6) Do you anticipate using a microcomputer in your office or lab in the next two years?

(7) What to your thinking is the strongest point of the library as it stands now?

(8) What are your frustrations with the library?

(9) What would you like the library to do for you that it doesn't do now?

## Budget for Implementation of Compact-Disk Based Database Searching Service at the FHIA Library

The following represent the approximate costs of establishing and maintaining a database search service employing compact disk technology. Prices for computer hardware are based on prevailing market prices in the United States and would need to be adjusted on the basis of the situation in Honduras. No cost is attached to the staff time that would be required to establish this service.

### Start-Up Costs

| | | |
|---|---|---|
| (1) | IBM PC-AT compatible microcomputer | $2,000 |
| (2) | Dot-matrix printer | $500 |
| (3) | Compact disk reader | $850 |
| (4) | AGRICOLA database archival file | $1,000 |
| (5) | CAB archival file (product planned but not yet available) | |
| (6) | AGRIS archival file (product planned but not yet available) | |
| | TOTAL | $3,350+ |

### Annual Costs

| | | |
|---|---|---|
| (1) | AGRICOLA subscription | $1,750 |
| (2) | CAB subscription | NA |
| (3) | AGRIS subscription | NA |
| (4) | Paper, printer ribbons, diskettes | $400 |

Appendix C
Materials on Library Use of Telefacsimile Devices
in Document Delivery

[See attachments]

## Appendix D
## Proposed Organizational Structure--FHIA Library with Major Job Responsibilities

### Head, FHIA Library

> Conduct programmatic and fiscal planning for the FHIA Library
> Manage the personnel and day-to-day activities of the library
> Represent the interests of the library to the Director, Communications Division, and to others in the FHIA administration
> Conduct liaison and outreach activities with FHIA researchers and external parties
> Undertake collection development planning and make collection development decisions on behalf of the library
> Undertake space planning in the process of defining the details of the library space in the new Communications Division building

### Acquisitions and Technical Processing Specialist

> Order materials identified for addition to the collections of the FHIA library
> Work with staff of the business office of FHIA to arrange payments for materials ordered
> Check in materials received; create acquisitions records pertaining to materials received; prepare accessions lists
> Undertake collection management to insure that the print collections of the FHIA library are consistently and neatly arranged
> Maintain the library's circulation file
> Identify library materials for repair or rebinding, as necessary
> Coordinate the binding of journals
> Develop expertise in the use of word-processing and file management software on a microcomputer
> Share Reference Desk duties

### Database Management Specialist

> Catalog and classify all monographic and serial acquisitions of the FHIA library
> Maintain the bibliographic database of the FHIA library
> Catalog and maintain a database of the publications of FHIA
> Coordinate gifts-and-exchange activities on behalf of the FHIA library
> Support development of program to track and control FHIA research documentation
> Maintain referral and directory files of governmental and private sector contacts of FHIA
> Develop expertise in the use of file management and database management software on a microcomputer

> Share Reference Desk duties

Information Services Specialist

> Conduct database searches on computer-based systems for FHIA researchers
> Interpret database search results for FHIA researchers
> Assist FHIA researchers in taking maximum advantage of the print and non-print information resources available in the collections of the FHIA library
> Manage and coordinate the FHIA Library's document delivery service
> Manage and coordinate the FHIA Library's photocopying and article delivery service
> Conduct outreach sessions in the availability and use of information resources for FHIA researchers and external parties
> Develop expertise in the use of search-and-retrieval systems and telecommunications software on a microcomputer
> Share Reference Desk duties

07/14/88

# APPENDIX II
## Equipment Procurement

COMMUNICATION FOR TECHNOLOGY TRANSFER IN AGRICULTURE (CTTA) PROJECT
CONTRACT NO. DPE-5826-C-00-5054-00

PROCUREMENT FOR FHIA

| Group | Description | Quantity | Per Item Dollar Amount | Total Equipment Dollar Amount | Freight/Fee Charges |
|---|---|---|---|---|---|
| Vehicles | Jeep Cherokee | 1 | 13,297.00 | 13,297.00 | 563.00 |
| Offset Printshop | Model 1650 Offset Press | 1 | 10,230.55 | 10,230.55 | 714.33 |
| | Chain Delivery | 1 | 3,795.00 | 3,795.00 | 169.09 |
| | Model 885, Platemaker | 1 | 9,785.55 | 9,785.55 | 1,462.22 |
| Computers | IBM A763D, IBM AT, 512K, 1.2 Dr., 30MB, P/S | 2 | 3,829.00 | 7,658.00 | 714.33 |
| | DRIV-F0002, 360K Drive | 2 | 135.00 | 270.00 | 1,279.63 |
| | CHIP-80287 | 2 | 230.00 | 460.00 | |
| | NECA-E9010, NEC Multisync Monitor | 2 | 645.00 | 1,290.00 | |
| | QUAD-B0030, QYAD Prosync EGA BD | 2 | 435.00 | 870.00 | |
| | IBM-K6702, DOS 3.2 | 2 | 75.00 | 150.00 | |
| | INTL-B2110, INTL P/S, 128K | 2 | 475.00 | 950.00 | |
| | TOPS-K002, TOPS Network IBM | 2 | 390.00 | 780.00 | |
| | MSPT-D149N, Mouse W/PC Brush | 2 | 125.00 | 250.00 | |
| | Lotus K-3464, Lotus 1-2-3 | 2 | 395.00 | 790.00 | |
| | Lotus K-5448, Symphony | 2 | 550.00 | 1,100.00 | |
| | STLT-K3535, Wordperfect | 2 | 275.00 | 550.00 | |
| | ASHT-K5388, D-Base III Plus | 2 | 525.00 | 1,050.00 | |
| | HAYS-K3566, Smartcom II | 2 | 105.00 | 210.00 | |
| | CLND-R0104, Serial Cable for Modem | 2 | 30.00 | 60.00 | |
| | HAYS-I912D, HAYES Ext 2400B | 2 | 540.00 | 1,080.00 | |
| | APPL-I9090, Letter Paper Cassette | 1 | 65.00 | 65.00 | |
| | APPL-R0701, Cable for Image II | 1 | 25.00 | 25.00 | |
| | APPL-C136D, Appletalk Connectors - IBM & Laser | 3 | 60.00 | 180.00 | |
| | APPL-R0728, Appletalk Conn. - MAC | 1 | 60.00 | 60.00 | |
| | APPL-R0546, 10 Meter Ext. Cable | 3 | 60.00 | 180.00 | |
| | APPL-PLOT, Plotstart (Inc. Cable) | 1 | 125.00 | 125.00 | |
| | I235032, 2-Station (A&B) Switch Box | 1 | 99.75 | 99.75 | |
| | HPCD-E4900, Hewlett Packard Plotter 7475A | 1 | 1,615.00 | 1,615.00 | |
| | ALDS-K6808, Pagemaker IBM | 2 | 550.00 | 1,100.00 | |
| | IBM-5918D, IBM Proprinter II-80 Col | 2 | 450.00 | 900.00 | |
| | CLND-R0117, Printer Cable | 2 | 30.00 | 60.00 | |
| | APPL-I272E, Adapter Cable | 2 | 20.00 | 40.00 | |
| | APPL-A841E, MAC SE, 20 MB | 1 | 3,045.00 | 3,045.00 | |
| | APPL-D367D, Keyboard | 1 | 110.00 | 110.00 | |
| | TOPS-K0001, TOPS | 1 | 350.00 | 350.00 | |
| | APPL-E9990, Image II | 1 | 500.00 | 500.00 | |
| | APPL-E912D, Apple (Writer Plus) | 1 | 4,790.00 | 4,790.00 | |
| | APPL-K0111, Thunderscan | 1 | 235.00 | 235.00 | |
| | MSFT-K6768, MSFT Word | 6 | 275.00 | 1,650.00 | |
| | MSFT-K5120, MSFT Chart | 6 | 100.00 | 600.00 | |
| | APPL-K1010, Pagemaker | 6 | 460.00 | 2,760.00 | |
| | APPL-K5965, MAC Draw | 6 | 155.00 | 930.00 | |
| | APPL-K6243, MFST Excel | 6 | 275.00 | 1,650.00 | |
| | APPL-K5636, MAC Terminal | 6 | 100.00 | 600.00 | |
| | DEST-COBAU, MAC Interface Cable | 1 | 80.00 | 80.00 | |
| | DEST-D339U, PC Scan Plus Graphics/OR Scanner | 1 | 2,018.00 | 2,018.00 | |
| | DEST-K6780, Plubish PAC for MAC | 1 | 550.00 | 550.00 | |

COMMUNICATION FOR TECHNOLOGY TRANSFER IN AGRICULTURE (CTTA) PROJECT
CONTRACT NO. DPE-5826-C-00-5054-00

PROCUREMENT FOR FHIA

| Group | Description | Quantity | Per Item Dollar Amount | Total Equipment Dollar Amount | Freight/Fee Charges |
|---|---|---|---|---|---|
| | 233034, Series 2 Tablet 12 x 12 | 1 | 485.00 | 485.00 | |
| | 233038, Interface Kit | 1 | 42.00 | 42.00 | |
| | 233030, Corder Pen | 1 | 75.00 | 75.00 | |
| | INCO-1301U, Disk Holder | 3 | 20.00 | 60.00 | |
| | 235034, Cleaning Kit | 3 | 25.00 | 75.00 | |
| | 235022, Vinyl Cover | 6 | 10.25 | 61.50 | |
| | APPL-1272E, MAC Adapter Cable | 1 | 20.00 | 20.00 | |
| Graphic Arts Production | Mayline E-Z grip straight edge parallel rulers | 2 | 79.95 | 159.90 | 1,776.55 |
| | 60", wood surface table, side guides, trans | | | | 1,899.44 |
| | parent edges; 1 1/4 with 5/16 thick finger lift, | | | | 483.41 |
| | blade attachment, ball bearing pulleys, cable and | | | | |
| | mounting instructions. | | | | 1,656.41 |
| | Upholstered Tilt Stools, Model D-44HC | 2 | 249.95 | 499.90 | 678.53 |
| | Ledu Combination Lights, Model K1-C10D | 2 | 99.95 | 199.90 | |
| | Portable Tracing Box 16"x20" glass surface | 1 | 199.95 | 199.95 | |
| | Paper Trimmer, 30" Premier Trimmer | 1 | 264.95 | 264.95 | |
| | Professional Lettering Set, Blick Prof. Lettering | 1 | 169.95 | 169.95 | |
| | Guide w/ 3 Reservoir Pens, Pen Holder, Point key, | | | | |
| | 2 Clutch Lead Holders, Silicon Cloth & Fitted Case. | | | | |
| | Art Waxer | 1 | 415.00 | 415.00 | |
| Offset Printshop | Mercury Lamp Platemaker, Model N-750 | 1 | 1,395.00 | 1,395.00 | |
| Offset Printshop | Model 111 PM Commercial Bind & Punch Machine | 1 | 1,995.00 | 1,995.00 | |
| | Model 1620, Desk-Top Binder | 1 | 695.00 | 695.00 | |
| | Model 412 LM, Roll Laminator | 1 | 809.40 | 809.40 | |
| Graphic Arts Production | Stacor K5340, 5 Draw Flat File | 1 | 497.63 | 497.63 | |
| | Stacor S5340, Base for Above | 1 | 78.00 | 78.00 | |
| | Tennesco, 36x72x18 Metal Double-Door Storage Cabinet | 1 | 169.00 | 169.00 | |
| | Drawing Pens | 2 | 65.20 | 130.40 | |
| | Ultra-Sonic Pen Cleaner | 1 | 79.60 | 79.60 | |
| Offset Printshop | MC Champion Power Paper Cutter w/ split backage | 1 | 9,995.00 | 9,995.00 | |
| | Semi Automatic Collator w/ 16-20 pockets | 1 | 765.00 | 765.00 | |
| Audio Production | TEC SA-130 AM AM/FM Receiver, Technics | 1 | 177.00 | 177.00 | |
| | Numark DM-175 DAM Mixer/Preamp | 1 | 487.00 | 487.00 | |
| | TEAC A888X Cassette Recorder | 1 | 589.75 | 589.75 | |
| | TEC SL-1200 Turntable, Technics | 1 | 389.95 | 389.95 | |
| | "Mission" Component Bookshelk Dynamic Speakers | 2 | 150.00 | 300.00 | |
| | EVI EV-635A Microphone | 3 | 125.00 | 375.00 | |
| | AKG KM-201/A2 Microphone Stand | 1 | 75.00 | 75.00 | |
| | AKG-231/1 Microphone Desk Stand | 2 | 15.00 | 30.00 | |
| | SKG K-141 Headset | 1 | 85.00 | 85.00 | |
| | Sharp RD-660 AV Battery Operated Cassette Player | 2 | 78.00 | 156.00 | |

COMMUNICATION FOR TECHNOLOGY TRANSFER IN AGRICULTURE (CTTA) PROJECT
CONTRACT NO. DPE-5826-C-00-5054-00

PROCUREMENT FOR FHIA

| Group | Description | Quantity | Per Item Dollar Amount | Total Equipment Dollar Amount | Freight/Fee Charges |
|---|---|---|---|---|---|
| Video Production | Sony PVM2030B 19" Monitor with Video Jacks | 1 | 985.00 | 985.00 | |
| Slide/Transparency Production | Chroma-Pro 45 Slide Duplicator with camera & lens adapter | 1 | 1,552.00 | 1,552.00 | |
| | Three Volume Set | 1 | 175.00 | 175.00 | |
| | Basic Copying & Duplication | | | | |
| | Basic Titles & Graphics | | | | |
| | Advanced Graphics & Special Effects | | | | |
| | Polaroid 35 MM Power Processor | 1 | 299.95 | 299.95 | |
| | Kroy 80 Lettering Machine, electric | 1 | 695.00 | 695.00 | |
| | 36 pt. Helvetica Medium typefont | 1 | 54.95 | 54.95 | |
| | 18 pt. Helvetica Regular typefont | 1 | 54.95 | 54.95 | |
| | 36 pt. Cent. Schoolbook | 1 | 54.95 | 54.95 | |
| | 18 pt. Cent. Schoolbook | 1 | 54.95 | 54.95 | |
| | Kroy 100 Photo-Quality Tape | 1 | 99.95 | 99.95 | |
| | Bretford 6220 Hanging Slide Panels | 40 | 67.95 | 2,718.00 | |
| | Palette Computer Image Recorder | 1 | 2,300.00 | 2,300.00 | |
| Conference/Training | NADY 101-LT VHF Bank Wireless Microphone | 1 | 389.50 | 389.50 | |
| Offset Printshop | Electric Stapler, Faber Castell Model 100E | 1 | 220.00 | 220.00 | |
| Audio Video | Reel to Reel Recorder, TEAC X-300R | 1 | 680.00 | 680.00 | |
| | Stanton 680 EL Cartridge | 2 | 60.00 | 120.00 | |
| Slide/Transparency Production | Graphic Slide Composer Deluxe 1224 | 1 | 700.00 | 700.00 | |
| Conference/Training | Slide Project w/ Case, Mdl. Ektagraphic III AMT | 4 | 331.00 | 1,324.00 | |
| | 100-150mm Ektagraphic Zoom Lens | 4 | 64.02 | 256.08 | |
| | Transvue 140 Slide Tray | 4 | 7.62 | 30.48 | |
| Offset Printshop | Production Folder, Martin Yale Mdl. 9520 | 1 | 1,610.75 | 1,610.75 | |
| Audio Video | Cassette Tape Duplicator, Telex 1 + 3 Duplicator | 1 | 849.00 | 849.00 | |
| Video Production | Stereo Video Cassette Recorder | 1 | 875.00 | 875.00 | |
| | Sony DXC 660A Camcorder | 3 | 1,240.00 | 3,720.00 | |
| | Sony SL HF 350 Recorder | 1 | 399.00 | 399.00 | |
| | Portable Television, Sharp Model 19MP37 (19") | 1 | 289.00 | 289.00 | |

COMMUNICATION FOR TECHNOLOGY TRANSFER IN AGRICULTURE (CTTA) PROJECT
CONTRACT NO. DPE-5826-C-00-5054-00

PROCUREMENT FOR FHIA

| Group | Description | Quantity | Per Item Dollar Amount | Total Equipment Dollar Amount | Freight/Fee Charges |
|---|---|---|---|---|---|
| Slide/Transparency Production | 35mm Illuminated slide mounter (Polaroid) | 1 | 34.00 | 34.00 | |
| | Radmar 1601B Dupe Pro Slide Duplicator | 1 | 603.00 | 603.00 | |
| Slide-Tape Production | Mate-Trac-Four Plus Dissolver, Model 824A | 1 | 1,168.00 | 1,168.00 | |
| | Tiffen Pro Dissolve Unit | 1 | 536.00 | 536.00 | |
| | Sync/Dissolve Recorder, Sharp RD 685 Recorder | 1 | 246.00 | 246.00 | |
| Conference/Training | Projection System, Sony VPH 1040Q system | 1 | 5,045.00 | 5,045.00 | |
| | Sony SU 722, pedestal | 1 | 455.00 | 455.00 | |
| | Sony VPR 722, remote | 1 | 406.00 | 406.00 | |
| | Dalite 10X10 Senior Electro Screen | 2 | 995.00 | 1,990.00 | |
| | Dalite 84X84 Senior Electro Screen | 2 | 845.00 | 1,690.00 | |
| | Glass Stage, 78 8052, 3M glass plate | 1 | 75.00 | 75.00 | |
| | Portasound 231A P/A system | 1 | 535.00 | 535.00 | |
| | Bell/Howell 3185 recorder | 2 | 110.00 | 220.00 | |
| | Luxor OHT 30 sit down table | 1 | 165.00 | 165.00 | |
| | Dukane 28A60A Filmstrip Projector | 1 | 355.00 | 355.00 | |
| Slide-Tape Production | Telex Caramate Audio Cassette Slide Projector | 2 | 683.00 | 1,366.00 | 187.48 |
| | | | | | 293.00 |
| | | | | | 893.34 |
| | | | | | 3,752.21 |
| | | | | | 4,900.00 |
| | | | | | 3,070.00 |
| TOTAL | | | | 136,342.14 | 24,492.97 |

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# APPENDIX III
# Budget Summary

COMMUNICATION FOR TECHNOLOGY TRANSFER IN AGRICULTURE (CTTA) PROJECT
CONTRACT NO. DPE-5826-C-00-5054-00

SUMMARY OF EXPENDITURES FOR TECHNICAL SERVICES TO FHIA
Fiscal Years 1986, 1987, and 1988 to date

| CATEGORY | Summary |
|---|---|
| 1. Salaries & Benefits | 48,556 |
| 2. Consultants | 19,045 |
| 3. Travel & Transportation | 21,423 |
| 4. Other Direct Costs | 4,009 |
| 5. Indirect Costs | 26,047 |
| 6. Allowances | 0 |
| 7. Equipment & Shipment | 160,835 |
| 8. Subcontract | 535,379 |
| 9. Subcontract G&A | 10,708 |
| TOTAL | 826,002 |

* Estimated Final Accounting

# APPENDIX IV
# Publications and Reports

## Promotional Publications

*A New Dynamic Organization of Agricultural Research: Fostering Economic Development in Central America: A FHIA Prospectus*

*Plantain and Banana Breeding* (The International Program) (English & Spanish)

*El Cuerpo de Paz en Honduras* (Spanish)

*Non-traditional Export Crops* (English & Spanish)

*Plantain Production* (English & Spanish)

*Vegetables* (English & Spanish)

*Cacao* (English & Spanish)

*Citrus* (English & Spanish)

Articles in *Discover* and *Time*

## Research Publications

*Army Worm*

*Situacion y Perspectivas de la Toronja en Honduras*

*Avances de Investigacion en las Polillas Perforadoras de los Citricos (Othreis scabellum y o. Serpentifera) en Honduras*

*Cacao Diseases* (in press)

*Produzca Cacao de Calidad y Entre en un Mercado Mas Seguro y Rentable*

## Reports

*Implementation Plan* (in combination with MNR)

*Letter of Understanding* (in combination with MNR).

*FHIA Annual Report 1985*

*A Characterization Study of Orange Growers in the El Progresso Region of Honduras*, K.J. Byrnes, March 7, 1986

*Integrated Action Plan*, February 1987

*Report on Computing and Biometrics*, C. McCulloch, February 1987

*FHIA's Mandate, Financial Projection and Sustainability: A Funding Strategy Draft Document*, August 1987.

*Summary Status of FHIA's Development and Fund Raising Program*, G.C. Millensted, June 1988 (Terminal Report).