

UNCLASSIFIED
CLASSIFICATION

PROJECT EVALUATION SUMMARY (PES) - PART I

Report Symbol U-447

1. PROJECT TITLE Science and Technology Information Transfer			2. PROJECT NUMBER 598-0572	3. MISSION/AID/W OFFICE AID/W
			4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY)	
			<input checked="" type="checkbox"/> REGULAR EVALUATION <input type="checkbox"/> SPECIAL EVALUATION	
5. KEY PROJECT IMPLEMENTATION DATES			6. ESTIMATED PROJECT FUNDING	
A. First PRO-AG or Equivalent FY <u>77</u>	B. Final Obligation Expected FY <u>82</u>	C. Final Input Delivered FY <u>83</u>	A. Total \$ <u>1.816</u>	7. PERIOD COVERED BY EVALUATION
			B. U.S. \$ <u>1.816</u>	From (month/yr.) <u>10/1/78</u>
				To (month/yr.) <u>5/1/80</u>
				Date of Evaluation Review <u>5/2/80</u>

8. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIQ, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
1. Additional emphasis should be given by NTIS/W to obtaining timely, accurate data on document sales and end-users from national cooperating agencies.	T. Lindemann NTIS/W	Continuing basis
2. More effort should be given to the translation into Spanish of appropriate technology documents.	"	"

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS			10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT		
<input type="checkbox"/> Project Paper	<input type="checkbox"/> Implementation Plan e.g., CPI Network	<input type="checkbox"/> Other (Specify) _____	A. <input checked="" type="checkbox"/> Continue Project Without Change		
<input type="checkbox"/> Financial Plan	<input type="checkbox"/> PIO/T	<u>None</u>	B. <input type="checkbox"/> Change Project Design and/or		
<input type="checkbox"/> Logical Framework	<input type="checkbox"/> PIO/C	<input type="checkbox"/> Other (Specify) _____	<input type="checkbox"/> Change Implementation Plan		
<input type="checkbox"/> Project Agreement	<input type="checkbox"/> PIO/P		C. <input type="checkbox"/> Discontinue Project		

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER BANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)			12. Mission/AID/W Office Director Approval		
Helen M. Ortiz Education Specialist	Richard R. Martin Acting Chief	Terrance Lindemann	Signature <i>[Signature]</i>		

Project Evaluation Summary - Part II

13. Summary

The National Technical Information Service of the Department of Commerce and AID have worked closely together since late 1971. It was then that the Office of Science and Technology (TAB) first funded activities to broaden developing country access to scientific and technical information. While the program was worldwide in its inception, in late FY 77 that part dealing with Latin America and the Caribbean was transferred to the regional bureau. Under bureau management, the program took on a second focus, that of fostering the availability of information on "appropriate technologies" (including agricultural techniques, environmental sanitation, low-cost energy sources, small-scale industry, construction, and the like) for the rural and urban poor. Since that time, the NTIS network has been expanded to include working relationships with information centers in nineteen countries.^{1/}

Under the program, NTIS offers to AID recipient countries a 25% discount on documents for local agencies, free airmail postage, training courses for agency personnel as well as end-users of information, and marketing materials. Under the appropriate technology component, NTIS has gathered an extensive bibliography of documents from available sources which are available at no cost to groups working with the poor in all countries of the region. In the period of FY 79 and the first two quarters of FY 80, this latter component has received primary emphasis.

14. Evaluation Methodology

This is a regular project evaluation. For the evaluation, NTIS prepared two documents (attached): (1) FY 79 Annual Review and (2) FY 1980 First and Second Quarter Review. These documents were evaluated at a meeting which included the NTIS Foreign Affairs Administrator, the NTIS Foreign Affairs Specialist, the NTIS Central America Desk Officer, the AID project manager, the chief (acting) of LAC/DR/HR, and the DS/DIU project manager for the NTIS worldwide project (excluding LAC).

15. External Factors

The lack of passage of an OYB for AID for FY 80 caused a severe cutback in project activities, which were programmed to expand

^{1/} National agencies receive varying benefits according to their status as LDCs, MDCs or AID graduate countries.

significantly in the area of appropriate technology. From a CP level of \$576,000, the annual budget was restricted to only \$200,000 (that figure being raised to \$300,000 in the third quarter). This meant a severe cutback in such activities as travel (for training and promotional purposes), document translation, and publication of the monthly AMTID marketing tool in Spanish. Moreover, personnel assigned specifically to the LAC program had to be moved to other positions.

16. Inputs

Due to the lack of an OYB (as stated above), the expected financial inputs from AID were not available in FY 80. This led to a decrease in travel, personnel and other costs for NTIS.

17. Outputs

For the reason stated in the parts 15 and 16, the expansionary program planned for FY 80, especially in the area of appropriate technology, was slowed in the first two quarters of that fiscal year. Nonetheless, the sale of documents continued to grow, twenty-five AT documents were translated, 125 AT documents were received from cooperating agencies, an expanded AT bibliography was published, and a successful meeting of directors of the network's cooperating agencies was held in the Dominican Republic in February of 1980.

18. Purpose

"To (1) improve LAC access to scientific and technical information and patents resulting from U.S. Government investment in research and development; and (2) improve LAC access to appropriate technology information resulting from worldwide research and development".

All conditions stated in EOPS are being adequately or better fulfilled.

19. Goal

"To broaden and maximize the use of scientific and technical information in solving development problems in Latin America and the Caribbean America and the Caribbean, with special emphasis upon appropriate technology".

The sale of NTIS documents has shown a progressive increase annually since FY 77. The newsletter AMTID (Applications of Modern Technology to International Development), the principal marketing tool of NTIS, is currently being received by more than twenty-thousand individuals and institutions. A case studies handbook (attached) was prepared and circulated as an aid in evaluating the utilization of scientific and technical information within developing countries.

20. Beneficiaries

Beneficiaries of the project fall into two groups: (1) industrialists, businessmen, scientists, universities, libraries, and others with a capability to utilize sophisticated scientific and technical data; and (2) the rural and urban poor who, generally through intermediaries (government programs, private voluntary organizations, etc.), receive appropriate technology information.

21. Unplanned Effects

Not pertinent at this time.

22. Lessons Learned

In the course of development and execution of the project, it has become apparent that the simple availability of technical data, particularly appropriate technology information, is a necessary but not sufficient condition to ensure its effective use. In order to be effective, such programs must go one step beyond supply to the identification and utilization of local institutions with the capability to translate such information into the native language of the country or region and to present it in a form readily understandable both by the intermediaries (such as agriculture extensionists and health workers) and by the ultimate beneficiaries (the rural and urban poor).

23. Special Comments or Remarks

The following documents prepared by NTIS are attached:

- (a) FY 79 Annual Review (88 pp.);
- (b) FY 1980 First and Second Quarter Review (24 pp.); and
- (c) Case Studies Handbook (81 pp.).

ATTACHMENT A

FY-79

ANNUAL REVIEW

THE U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT
LATIN AMERICA & THE CARIBBEAN REGIONAL NETWORK
TECHNICAL INFORMATION FOR DEVELOPMENT
PROJECT NO. 598-0572

MANAGED BY

THE NATIONAL TECHNICAL INFORMATION SERVICE

FOR

THE DIVISION OF EDUCATION & HUMAN RESOURCES
OFFICE OF DEVELOPMENT RESOURCES
BUREAU FOR LATIN AMERICA



UNITED STATES DEPARTMENT OF COMMERCE
National Technical Information Service
425 13th Street, N.W., Room 620
Washington, D. C. 20004

January 25, 1980

Dr. Robert W. Snail
Chief, Office of Human Resources
USAID
Room 2245 - New State
Washington, D. C. 20523

Dear Dr. Snail:

Attached is NTIS' FY 1979 Annual Report pertaining to International Technical Information Network Project No. 598-0572 (PASA No. CZ/LAR-0572-1-1977). The report examines what the Staff has done over the past year to meet the overall goals of this project which is "to broaden and maximize the use of scientific and technical information in solving development programs in Latin America, with special emphasis upon appropriate technology." It is divided into three sections: an overview of NTIS activities that concern the Project; a review of network agency operations in Latin America and the Caribbean; and a series of attachments reporting on the status of specific work being completed.

A log frame was designed to summarize the project objectives when it was initiated three years ago. Despite the lack of funding in the first year, I believe you will agree the project objectives have generally been surpassed. The Network has grown to eighteen subsidized and unsubsidized agencies, as agencies in Paraguay, Barbados and Jamaica joined the Network in 1978, compared to the initial objective of fifteen agencies. The Western Hemisphere Network operations, with the exception of Guyana, now encompasses every South and Central American country in which USAID has a mission. Moreover, Barbados provides services to many smaller areas in the Eastern Caribbean in which USAID has interests.

There are four regional networks now in operation, three outside the United States, Central America, including Mexico and Panama; the Andean Pact countries, together with Paraguay and Brazil, and the Caribbean, where it is expected that Haiti will join the Dominican Republic, Barbados and Jamaica agencies early in 1980. NTIS is the final regional network.

NTIS organized regional seminars with representatives of the Latin America network in both of the past two years. The South and Central American operations have generally been combined in instances such as these meetings for economy, language compatibility and because most of the agencies have similar interests and are able to effectively learn from each others experience. The attendees review the progress of the project and discuss how to improve services.

In addition, Staff officers attended a September 1979 seminar with officials from a number of Caribbean nations. It was sponsored by the Caribbean Development Bank which, using a large USAID grant, recently established a technology-unit to provide appropriate technical information to Eastern Caribbean groups and individuals. NTIS used this first-time seminar to discussed the USAID project with an interested audience of over 40 individuals.

Over the years, staff visits to the agencies have proven, although often arduous and time consuming, to be the most effective and efficient way to provide support to local agencies. A determination can be made whether the agencies are working within the understanding of the USAID project, local training is given and seminars held before interested local citizens. Staff members were able to visit every country, except Nicaragua, at least once during the past year.

A major goal of the program is to provide appropriate technology to the poorest of the poor in Latin America. The Staff has been especially pleased with the Latin American and Caribbean agencies growing interest in this aspect of the project. The agencies have now learned that, through USAID subsidies, they have quick and easy access to publications on technical information appropriate to disadvantage groups. They also are more willing to promote technology as they realize the advantages that it can bring to even the poorest sector of society. Other local social organizations as well have been using NTIS material to help solve local problems. This awareness is reflected in their requests for over a thousand appropriate technology publications during the last half of FY 1979.

The increased demand for appropriate technology documents for regular NTIS products and services demonstrates the growing Latin American responsiveness to acquiring U. S. sponsored research and development. Much of this enlarged demand can be directly related to the continuing growing popularity of AMTID, which is the project's principal means of disseminating information on technical publications that can be put to use in developing countries. The rise in demand for AMTID has been particularly strong in 1979. Over 11,000 English copies are distributed each month; to our great satisfaction, almost 13,000 more copies of the Spanish version, which is translated and printed by INFOTEC in Mexico, are mailed every month. In addition to AMTID, NTIS also publishes ACCESS which is distributed to the overseas network agencies, the overseas and local USAID offices and to other interested offices.

NTIS staff officers held user education seminars with local citizens in Honduras, Chile, Panama, the Dominican Republic, Jamaica, El Salvador, Barbados and Peru. More than one seminar was held in many of these countries during each visit and, in the past year alone, 384 people attended these meetings. Additionally, NTIS holds a semi-annual Information Systems Workshops and has trained 35 employees from the Latin American and Caribbean network agencies. These various sessions have proven to be an excellent means of introducing the USAID program and proving knowledge about U. S. and worldwide information sources.

A book listing many of the global appropriate technology organizations and sources was published by NTIS and provided to the network agencies and their contacts. An even more important accomplishment during the past year was the compiling and publishing of an appropriate technology bibliography. The publication provided information on material within both the NTIS data base and out and had a worldwide distribution. This publication, as well as the global listing and back issues of AMTID and ACCESS, were provided by LA/DR with the 1979 quarterly reports.

Network agencies, as well as outside appropriate technology organizations, have provided the NTIS collection with useful appropriate technology documents and publications which have been input into the NTIS data base and are now available worldwide. In addition, several valuable English publications have been translated into Spanish so they could be more widely distributed to lesser developed areas needing technical information.

Sincerely,



Terrance L. Lindemann
Foreign Affairs Administrator

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FY 79
ANNUAL REVIEW

THE U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT
LATIN AMERICA & THE CARIBBEAN REGIONAL NETWORK
TECHNICAL INFORMATION FOR DEVELOPMENT
PROJECT NO. 598-0572

MANAGED BY
THE NATIONAL TECHNICAL INFORMATION SERVICE

FOR

THE DIVISION OF EDUCATION & HUMAN RESOURCES
OFFICE OF DEVELOPMENT RESOURCES
BUREAU FOR LATIN AMERICA

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BACKGROUND

The National Technical Information Services and the Agency for International Development have worked closely together since late 1971. It was then that the USAID Office of Science and Technology first funded NTIS activities to broaden developing country access to scientific and technical information. The initial program was small. However, after a few years the USAID International Technical Information Network became operational in Latin America, as NTIS established a good working relationship with a number information centers.

In 1975 the Secretary of State spoke before UNCTAD in Nairobi and stated that the U. S. would take the initiative in transferring technology to developing countries. An affirmation of this policy has been made in subsequent speeches by other U. S. Government officials. AID was one of the major U. S. Government agencies given the responsibility of fulfilling these promises.

In 1976 AID favorably evaluated the network project and recommended a five year extension. AID, in line with the Secretary's speech and with the knowledge that NTIS had extensive experience with information centers in developing countries, decided to expand the scope of the program when it came up for renewal in FY 1977. It felt that NTIS had established the best means available to provide technical information to developing countries.

AID approved a three year Science and Technology Information Transfer Program to broaden the Latin American and Caribbean access to U. S. scientific and technical information. An additional part of the project was to promote the concept of "appropriate technology" resulting from world-wide research and development. This new element reflected the Congress' interest in providing appropriate technology to developing countries at the least possible cost.

Project funding was delayed until late September 1977. Therefore, much of the planned network activity did not in fact begin until FY 1978. During that year, the operating network of Latin American cooperating agencies was augmented and efforts initiated to actively disseminate technology appropriate to developing countries. In addition, a contract was issued to perform case studies of the results of the Project and, in placed on the AID program, a separate Developing Country Staff was established.

The three year USAID program operates under the following general objectives:

- (1) Identify and appoint agents willing and capable of promoting availability of U. S. scientific and technical information, while developing and implementing appropriate marketing strategies and serving as an in-country focal point for U. S. scientific and technical information.
- (2) Sponsor scientific and technical information awareness seminars in project countries.
- (3) Conduct workshops at NTIS for cooperating agency officers to acquaint them with U. S. scientific and technical systems and NTIS operations.
- (4) Provide cooperating agencies with technical advisory services, including user education and marketing support, that will strengthen institutional capabilities.
- (5) Publish and distribute special announcement bulletins, Application of Modern Technology to International Development (AMTID).
- (6) Give priority handling to LDC transactions with NTIS and administer air mail postal subsidy.
- (7) Provide special information materials and equipment compatible with cooperating agency capabilities.
- (8) Develop selected case studies for assessment of program benefits.

Progress with these and other objectives will be fully covered in the body of the report.

INTRODUCTION

Fiscal year 1979 was marked by numerous advances within the USAID International Technical Information Network that the NTIS Developing Country Staff has established with cooperating agencies in Latin American and the Caribbean. The Network is now essentially complete as NTIS has signed agreements with organizations in every major Latin American and Caribbean developing country with an AID Mission, except Guyana. Guyana representatives have been reluctant to sign any sort of official agreement with the U. S. Government but in September, NTIS staff members attended productive meetings with interested Guyana officials at a seminar in Barbados. They may eventually initiate direct relations with NTIS but will presently use the Barbados cooperating agent as their contact.

NTIS held excellent regional meetings with cooperating agencies and others not directly connected with the USAID Network. The first meeting occurred in Panama with representatives from the Latin cooperating agencies. The second occurred in September in Barbados with individuals from affiliates of the Caribbean Development Bank. In addition, a number of employees from the agencies attended the April and September NTIS Information Workshops while several others visited the NTIS office in Washington on the occasion of other business. NTIS staff visited all of the cooperating agencies, except Nicaragua, at least once during the year.

The Developing Country Staff has been particularly pleased with its successful efforts during the year to increase the dissemination of appropriate technology to developing countries under the AID document acquisition subsidy to benefit the urban and rural poor. Prior to the February meeting in Panama, most of the cooperating agents did not have a clear understanding of the AID appropriate technology program, and little use was made of the service. AID and NTIS officials explained the program at the conference and there has been a marked increase in the use of the service since then.

NTIS has also been in contact with a number of other government and private organizations which disseminate appropriate technology documents. With some, including several U. S. Government offices, discussions will have to continue; with others, agreements have been reached to include their documents in the NTIS data base. In addition, NTIS has contracted for the translation into Spanish of many useful publications, from various sources around the world, which include technology appropriate to developing countries. Many of these translations have been finished and have been well received by recipients.

AMTID, which announces most of the available publications that NTIS has using appropriate technologies, has been distributed to an increasingly large number of individuals and organizations. NTIS has prepared and published a bibliography of appropriate

technology publications for developing countries and a listing of many of the world-wide technology organizations and sources. In keeping with the appropriate technology goal, NTIS increased its contact with local appropriate technology organizations such as VITA.

On other matters, NTIS has been involved and attended several UNESCO meetings this year and will manage the fourth UNESCO meeting on the Planning and Implementation of National Information Activities to be held in May 1980 in Washington. Representatives attended UNCSTCD meetings in the U. S. and lectured at a UNESCO regional conference in Mexico City as well as a seminar at Case Western University in Ohio.

Details on these accomplishments and others as well as program information of interest in the past year is discussed in detail in the following pages.

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PART I

NARRATIVE REVIEW

PROJECT NO. 598-0572

LATIN AMERICA & THE CARIBBEAN REGIONAL NETWORK

TECHNICAL INFORMATION FOR DEVELOPMENT

APPROPRIATE TECHNOLOGY

One of the major priorities of the FY 1979 USAID program was to enrich the Appropriate Technology (AT) collection at NTIS by first identifying or locating, then acquiring and finally disseminating technological information appropriate to Latin American developing countries. The specific program goal is "to improve Latin American access to appropriate technology information resulting from worldwide research and development". To enhance the NTIS performance, the Developing Country Office contracted Mr. Paul Bundick, an Appropriate Technology specialist, in August 1978 to work with the staff.

Mr. Bundick laid the groundwork for the program during the next several months. The first major undertaking was a mailing to more than 2,000 domestic and foreign AT groups informing them of the USAID regional network and inviting them to cooperate in the acquisition and dissemination of appropriate technology information.

NTIS had already begun infusing an Appropriate Technology component into the program since the project began, with a certain reluctance on the part of the cooperating agencies to allocate resources to this activity. The main reason was precisely a scarcity of resources, including manpower, to perform the needed outreach to AT intermediary organizations. NTIS tried to alleviate this by establishing a subsidy fund for the acquisition of AT documents to benefit the urban and rural poor. Special program supports were also discussed, such as translations and consultancies. There was a general increase in program cooperation on this point.

The program was fully explained at the Panama Regional Directors Conference. An agreement was reached stating that the cooperating agencies would attempt to identify and establish continuing contact with individuals and institutions working with the rural and urban poor. The agencies will help and encourage them to use appropriate technology information. During the same meeting, the recently available USAID subsidy was summarized and the agencies agreed that it would be of considerable benefit to local groups wanting to acquire needed information.

1. Identification

The NTIS data base includes scientific and technical information which is useful in a wide variety of highly specialized applications. At the same time, it has a number of NTIS publications appropriate for the technologies in developing countries but these documents had not previously been specifically identified as such. A contract was made

with VITA to search the data file and compile a selected bibliography of the NTIS appropriate technology holdings.

As a result of the search, the Developing Country Office published two editions during the year called "Selected Appropriate Technologies for Developing Countries". The first, a pilot project with approximately 100 citations, listed titles considered to be of special relevance to development programs in the LDC's. It was superceded in June 1979 by a much more comprehensive book with a total of 1,500 citations and multiple indices. Most of the listed publications are available from NTIS; those not available were noted and information was given how they might be ordered. (A copy of the latter publication was provided to LA/DR in the third Quarterly Report; Publication Number: PB 294-160).

The first copy was distributed to the cooperating agencies and AID missions while the latter was distributed to over 700 worldwide development organizations, with a particular emphasis on Latin America. It is available free of charge to both AID program countries and groups working in developing countries. A manual search of the NTIS archives was initiated in the last quarter of FY 1979 to locate and evaluate AT information since the number of AT publications available from NTIS is constantly increasing. An updated version of the bibliography will be released in the first quarter of FY 1980.

2. Acquisitions

The project had varied success obtaining AT documents from various sources for input into the NTIS data base. The number of acquired documents increased, particularly during the second half of FY 1979. One hundred and fourteen selected documents were acquired and entered in the second quarter of FY 1979, one hundred eighty-one in the third quarter and one hundred and fifty-two in the fourth for a total of 447 documents. The titles will appear in future AT bibliographies and in AMTID.

Although the acquisition program has been reasonably successful, a number of problems have also occurred ranging from copyright clearance difficulties to NTIS pricing regulations. Some U.S. and overseas agencies are not in agreement with the prices NTIS charges, by failing to realize that the system must pay for itself in order to cover the many extra charges such as small publication runs, life-time storage of the publication, etc. Institutions and individuals within LDC's also are suspicious of the U.S. Government intentions as they now realize that information is valuable and do not want to provide it without receiving what they feel is a fair payment.

These restrictions and concerns will necessarily limit the AT information that NTIS can obtain from the private realm. NTIS, will therefore, have to invest even more effort into acquiring all the Latin American Governmental information sources. When placed into the NTIS system, the information will become available world-wide. NTIS will also work with other world-wide organizations in the public domain.

Although NTIS experienced difficulties obtaining documents from some sources, there are still numerous organizations which can provide information of use to developing countries throughout the world. Mr. Bundick and other members of the NTIS staff have been in constant contact with a number of national and international organizations working with appropriate technology.

Included among them are the World Bank, the Inter-American Foundation, Appropriate Technology International (ATI), National Center for Appropriate Technology, Groupe de Recherches sur les Techniques Rurales (GRET), the American Society of Engineers, Experience Inc., U. S. Department of Agriculture, Council for International Urban Liaison (CIUL), Socially Appropriate Technology Information Systems (SATIS), Delft University of Technology in the Netherlands, National Swedish Board for Technical Development, the Intermediate Technology Publications (ITP) LTD of London, Technische Ontwikkeling Ontwikkeling Landen (TOOL) of the Netherlands and Volunteers in Technical Assistance (VITA). Mr. Bundick also participated in a meeting of the American Association for the Advancement of Science where the NTIS AT program was detailed. Some of the above organizations submitted AT documents after having the AID program explained to them, while negotiations are continuing with others.

The discussions generally centered around the appropriate technology component of NTIS and possible cooperation in the cosignment of AT documents to the NTIS data base. NTIS has ascertained that many of these organizations have published AT documents which would be extremely useful in developing countries. However, these publications are not presently available where they are needed due to the publishers lack of distribution systems in the LDCs. Others have excellent documents which they have not published because the distribution would be low and the cost therefore prohibitive for printing. NTIS is particularly interested in obtaining the above publications because they would be useful for the countries in the AID network. As a point of discussion, the Developing Country Staff mentioned that NTIS is able to publish the documents, even though the distribution may be low, and has the facilities to disseminate them world-wide. In addition NTIS microfiches all the documents in order to make them available for future use, a service not available from most other institutions.

A particularly promising field of cooperation is with the USDA which perform numerous searches for developing countries and is a rich information resource for network participants interested in agriculture. The USDA offers technical information assistance and world-wide searches for AID missions. NTIS has begun entering useful USDA information into the NTIS data base so that it can be used by developing countries.

A significant event during the year was the separate agreement that NTIS made with ITP, the world's most famous AT publishing group. It permits NTIS to disseminate both selected ITP Spanish and French paper copy translations and microfiche copies of all English publications. Thirty-one publications have already been entered into the NTIS bibliographic data base and are available in microfiche; three of these, Lime and Alternative Cemenet, Metodos Simples para Fabricar Velas and Un Manual Sobre Mantenimento de Edificios Tomo I are also available in paper copy.

The Developing Country Staff has also had several meetings with CIUL regarding its well thoughtout plan to acquire and prepare the World Bank collection of AT information for inclusion in the NTIS data base. Delft University will place some of its unpublished reports from both the University and the AT center into the NTIS system.

More than 100 French/English documents from AID's Regional Technical Aids Center (RTAC) series were added to the NTIS collection base early in the year. Negotiations are under way to input 5000 more RTAC documents using outside contractors. Many of the documents were written in the 1950's but are still pertinent to the needs of developing countries.

The USAID program also encourages the cooperating agencies to send local appropriate technology documents to NTIS in order to publish and place them in the data base. (Attachment 4). In general, this part of the program has been less successful, reflecting some local apprehension (as also seen with other less established groups) about "giving away" technology to the U. S. NTIS looks forward to a change in attitude once the agencies realize that NTIS is one of the few if only ways to widely disseminate information to developing countries.

3. Dissemination

The AT dissemination program was fully explained at the Panama conference and the NTIS staff has stressed the program when visiting the cooperating agencies. Mr. Bundick visited a number of Central American Countries to discuss the program and to develop related activities. During one trip he also attended the International Engineers Symposium in El Salvadoc on "Technology Appropriate to Underdeveloped Countries."

The cooperating agencies, as well as other organizations in developing countries working with the poor, often lack funds to pay for technical information. The USAID AT subsidy program is geared toward this audience and the receipt of such publications has benefited other AID projects within developing countries. The cooperating agencies, and the institutions with which they are in contact, markedly increased their requests for appropriate technology information during the past year. The demand rose from 60 documents in the first quarter and 66 in the second to 581 in the third quarter and 451 in the fourth. A more thorough breakdown, including a listing of the recipient countries and AT publications most in demand may be found in Attachment 2.

In October 1979 NTIS will sign an agreement with the Grupo de Tecnologia Aproprada (GTA), from Panama to outreach, train, acquire and disseminate appropriate technology information in Latin America. Sam Bern, the Executive Director of GTA, already has a number of contacts in the area, as he is an experienced appropriate technology specialist familiar with many world-wide appropriate technology organizations. He is also familiar with NTIS, attended the most recent LA Director Conference and will visit Central American agencies in support of AT programming.

The Developing Country Staff made arrangements during the year for the translation of several AT publications into Spanish so they would be of more use when disseminated in Latin America. The Spanish version is also listed in the NTIS data base. Several of the USAID cooperating agencies were involved in this translation effort. NTIS is generally satisfied with the program and will request more translations from the agencies which performed the best job on the first ones. (Attachment 3)

There was a widespread response to the mailing to the 2,000 AT organizations early in the year. Using them, the staff prepared the publication "A Global Listing" of Appropriate Technology Organizations and Sources" in line with the objectives of the International Technical Information Network. It is an impressive though still not comprehensive listing of addresses of worldwide organizations, research institutions and development groups significantly involved in some respect of AT. The publications was distributed at no cost to numerous organizations, including the cooperating agencies. A major objective of the publication was to encourage outreach activities and networking among those groups interested in contacting AT organizations both in their region as well as in other part of the world.

NTIS also proposed that the Peace Corps Directors in Latin American and the Caribbean assign Peace Corps volunteers to NTIS cooperating agencies to facilitate the dissemination of appropriate technology

information. Follow-up contacts were made in several countries, including Barbados in September.

Finally, NTIS participated in the Washington, D. C. April 27-May 1, 1979 Appropriate Community Technology Fair/Conference. The NTIS display contained printed information on NTIS products and services as well as terminal which was used to conduct on lines searches of several different computerized data bases.

During the past year the Developing Country Staff has contacted a large number of international organizations which are actively interested in the distribution of scientific and technical information to developing countries. The NTIS Director, Melvin S. Day, and this office's Administrator, Terrance L. Lindemann, attended several planning sessions for the U. S. Committee meeting of UNESCO/PGI (United Nations Educational Scientific and Cultural Organization/Programme General d'Information).

Mr. Day also headed the U. S. Delegation to the second session of UNISIST II (United Nations World Information System for Science and Technology) during May of this year. The original concept of UNISIST was to bring together a voluntary world-wide cooperative network of scientific and technical information systems--an indirect objective, on a smaller scale, of the USAID network program in Latin America and the Caribbean. Nevertheless, many of the underdeveloped country organizations which represented the Governments, displayed more interest in how the various systems and services of UNISIST can be used to assist them rather than how to interrelate amongst each other.

The U. S. PGI committee officially agreed to host the fourth UNESCO meeting on Planning and Implementation of National Information Activities. UNRSEC and NTIS will jointly organize the seminar in Washington, D. C. in May 1980 with UNESCO paying most of the expenses and NTIS doing the managerial work. The theme will be "the Assessment of Information Needs for Development as a Basis for Information Policy".

Many of the Latin American and the Caribbean USAID Network members will be invited to attend the seminar. Ms. Lida Allen, the Director of AID's Office of Development Information and Utilization, included funds in the AID budget to support the cost of bringing candidates for developing countries in Africa, Asia and the Near East. The arrangements for the payment of the Latin American candidates expenses has not been completed but funding problems are not anticipated. The staff also had separate meetings with A. A. Winters and Victor Montviloff of the Paris UNESCO office and Ms. Judith Werdel of the National Academy of Sciences to review the U. S. obligations in hosting the UNESCO sponsored conference.

An NTIS representative also attend a State Department meeting of the Interagency Working Group of the UNESCO Science Sub-committee. In addition, Mr. Frank Post delivered a paper, "On-line Searching for Developing Countries", at a Mexico City UNESCO regional conference on the Transfer of Technical Information in Latin America.

Among the participants were representatives from INDOTEC (Dominican Republic), INFOTEC/CONACYT (Mexico), COLCIENCIAS (Colombia) and CII (Honduras). He also participated in a NTIS, UNESCO and OAS jointly sponsored seminar on Information Management and Systems at Case Western Reserve University in Ohio.

Mr. Lindemann participated in UNCSTD (United Nations Conference on Science and Technology) preparatory meetings with the U.S. Coordinator, Ambassador Jan Wilkowski. Another staff member met with Hans Glassman of the OECD to discuss how their new guidelines governing transborder data flows would effect LDC's. In addition, a staff member attended a World Bank seminar on its Science and Technology (STPI) Project. The seminar reviewed the criteria, methods, accomplishments and conclusions of a three and a half year project in developing countries which was funded by IDRC of Canada but carried out in its entirety by developing country personnel.

The Staff attended a number of preparatory meetings of the US/Mexico Bi-lateral Commission. The Commission itself, whose purpose is to promote economic and technical cooperation between the U.S. and Mexico, met in June. The Commission is of particular significance to NTIS because the 1976 meeting led directly to the signing of the NTIS cooperative agency agreement with INFOTEC of Mexico.

The staff participated in a number of meetings, including one at the State Department Office of Environmental Services, and provided a number of papers and briefings for Dr. Frank Press' mission to Latin America. The Assistant Secretary of Commerce, Jordan Baruch, will accompany Dr. Press who is the Presidential Science Advisor. One subject of conversation will be the attempt to open a flow of Brazilian government research to the U.S.

Ms. Vietta Dowd attended a meeting at the National Academy of Science of the U.S. National Committee to the International Committees for Building Research, Studies and Documentation. She is a member of the Executive Committee of that organization. She and others from NTIS also attended several meetings of ASIS (American Society for Information Science). Arrangements have been made for a member of the staff to brief a number of foreign Embassy science counselors at an American Association for the Advancement of Science (AAAS) meeting; many attendees are expected to come from developing countries.

Dr. Fetzer, an OAS program specialist, visited NTIS during the past quarter; other visitors have come from the World Bank, the Ministry of Industry in Ecuador and from the cooperating agencies in Ecuador and Venezuela. Eiti Sato from the Instituto de Pesquisas Tecnologicas do Estado de Sao Paulo, the major STI user in Sao Paulo, also visited the office. He agreed to forward selected research reports

to NTIS. Several members of VITA toured the NTIS facilities and had meetings to discuss NTIS/VITA initiatives in less developed countries.

The Staff briefed a number of Foreign Service Commercial Officers from the State Department but relatively few AID overseas officers visited the NTIS facilities during the year. One, David Straley of Costa Rica, did visit and was apparently pleased with the operations. He stated that he now had a greater understanding of the NTIS capabilities to meet AID's information needs in Costa Rica. New efforts are planned to provide briefings to AID personnel.

The Staff also has had a number of meetings with the Denver Research Institute (DRI) to review case study and user education projects and to consider educational and training project activities in FY 1980. A proposal will be forthcoming regarding pilot user education programs in Latin America. In addition, representatives of the firm, Tippetts-Abbott-McCarthy-Stratton (TAMS), met with the NTIS staff concerning the input of a large series of TAMS documents on African Water Resource Utilization. This meeting represented one of the few cases of active cooperation from private businesses. These studies should be of considerable use in Latin America.

CONFERENCES AND TRAINING

The most effective way for NTIS to accomplish AID program objectives in Latin America and the Caribbean is to personally contact individuals from both our cooperating agencies and the interested public. In one or two days of meetings, subjects can be covered that take days, weeks and often months to accomplish by mail, telex, or even telephone with the resultant increase in operational efficiency.

NTIS uses three different approaches to meet cooperating agency personnel, each of which has its own advantage. The first is annual conferences of the regional directors from all the Spanish speaking cooperating agencies (NTIS may institute similar meetings with the English speaking network as it increases in size); the second, semi-annual workshops to train individuals from the cooperating agencies; and the last, direct visits to the countries by staff of this office where meetings can be held not only with the cooperating agencies but also with private individuals (see the next section on the activities of the cooperating agencies for further information on this approach).

The 1979 Regional Director's Conference was held February in Contadora, Panama. CEDECANI, the Network's then newest cooperating agency, hosted the meeting. Representatives from both AID and non-AID countries attended from all over the hemisphere. Other attendees included several from NTIS, one from the USAID Office of Development Resources and another from the U.S. Patent Office.

The principal purpose of the meeting was to review the previous year's activities and plan the following. It included discussions on program development and evaluations. Significant contributions and/or comments were made by most attendees. These general meetings have proven valuable because individuals from each agency are given the opportunity to become better acquainted with others working in the same field of interest.

The agency representatives, as mentioned earlier, left with a better understanding of the network appropriate technology program. In addition, the meetings emphasized the need for the agencies to cooperate more fully with each other so that an overall Latin American information network might develop--a secondary AID program goal which needs continual development. The fact that AID brings the individual groups together under the auspices of NTIS is significant in itself as the officials return to their countries with a better understanding of how to help the poor. (See second quarterly report for further details.)

The Caribbean Development Bank, another new cooperating

participated. It took place in September in Barbados. Attendees from NTIS included Terrance L. Lindemann, Frank Post, and S. Dickson Tenney. More than forty people attended from a number of countries including most of the Leeward and Windward Islands as well as Guyana, Jamaica and Trinidad/Tobago. Invitees included CDB staff from throughout the Caribbean as well as industrial and agricultural extension workers, information disseminators and university chancellors and professors. Representatives from a number of Caribbean technology organizations attended as well as graduates from the semi-annual NTIS workshops.

The CDB has regional offices from the Eastern Caribbean to Belize. It recently received a large AID grant and has used it to establish a Technology Unit (TU) to support technology projects and operations throughout the area. The project's aim is to assist the poor of the area. Furthermore, CDB, with the aid of NTIS products and services, will disseminate appropriate technology information to the Eastern Caribbean lesser developed countries.

CDB, at the same time it introduced its new technology unit, invited NTIS staff members to make a presentation on the NTIS program. The officers described the NTIS operations, discussed transfer of appropriate technology as well as how the developing countries can effectively use it and discussed how NTIS would work with CDB. In addition, the officers established some excellent personnel working relations with various of the attendees during and after the sessions.

A second manner of meeting with the cooperating agencies is through the semi-annual NTIS Information Systems Training and Orientation Workshop. The workshops meet in both Springfield and Washington. Subjects generally covered during the sessions range from operating procedures such as how to order and manage the deposit account to the presentation of NTIS products and a thorough description of marketing and promotion. NTIS bibliographic tools are thoroughly described as are the on-line terminal operations. The use and distribution of appropriate technology are emphasized. The Volunteers in Technical Information (VITA), Smithsonian Science Information Exchange (SSIE), and the Education Resource Information Clearinghouse (ERIC) often make presentations on their organizations. The attendees visit the Library of Congress, Library of Medicine and the National Agricultural Library.

The advantage of these meetings is that they give NTIS the opportunity to provide two weeks of intensive training to officials of the cooperating agencies. Twelve technical information specialists from eleven countries participated in the September workshop, including six from cooperating agencies in the region: Barbados, Colombia, Costa Rica, Ecuador, Honduras and Panama. This was one of NTIS' most successful seminars, a great deal of which can be attributed to the bright and interested attendees who actively participated in the sessions. The Latin American and Caribbean

Asians attendees who came from larger and more experienced organizations. Attachment 5 lists the attendees at both the April and September workshops.

NTIS developed a workbook for use in the workshop. It was first used in the April sessions. Subjects covered within include a listing of the products and services available from NTIS; instructions how to search and process documents into the NTIS bibliographic data files; how to order NTIS products and general information on marketing and promotional activities. The Peru cooperating agency recently completed a Spanish translation of the workbook and it will be printed during the first part of FY 1980 for use as a training tool within the Latin American cooperating agencies.

A series of training videotapes have been written and produced to be used in conjunction with the workbook. They will be finished and distributed during FY 1980. The tapes cover major topics within the field and to conduct overseas training with cooperating agency staff and other national information specialists. Each agency also received "About NTIS", a set of slides and narrative which they may use in presentation to others.

A NTIS representative met with officials of the World Intellectual Property Organization (WIPO) and the U. S. Patent and Trademark Office. They discussed the establishment of training workshops to facilitate use of the U. S. patent files by users in developing countries. A representative from the Patent Office will hold a seminar in Ecuador during the first quarter of FY 1980 to explain the patent office program. If successful, further sessions will be held in Latin America. Discussions were also held on the advisability of the Patent Office providing briefing and training to the workshop attendees; the agencies were asked for their observations on the demand for such training.

The Case Western Reserve University Library School agreed to accept NTIS cooperative agency participants at a week long seminar sponsored by UNESCO and OAS on world-wide sources of technical information. A similar contact was made with the American Society for Information Science. The seminars would be held in June and October and the travel and per diem would be paid from other than project resources.

ACTIVITIES AT THE COOPERATING AGENCIES

The third method NTIS uses to meet individuals from the cooperating agencies and outside is through personal visits to Latin America and the Caribbean. Staff from the Developing Country Staff visited every cooperating agency during 1979 except Nicaragua. These personal contacts provided the staff the opportunity to give personal undivided attention to the problems and needs of each cooperating agency; an indirect indication of the value of these meetings was the marked rise in the use of NTIS services that usually occur shortly after such visits.

The visits customarily are scheduled so that NTIS can make year-end reviews of the local operations and complete agreement renegotiations. In addition, the NTIS personnel visit the local AID staff and, when appropriate, the Peace Corps Directors Office.

A staff member met with representatives of INFOTEC in Mexico City when lecturing at an UNESCO conference. General procedural matters were discussed at that time. In Central America, staff personnel visited both INTECAP and ICAITI in Guatemala to discuss proposed changes in the cooperating agency agreements. An user education seminar (briefings to individuals from the public and private sectors on NTIS products and services) was presented in Honduras to approximately 40 participants. The Banco Central Information Center was also visited to make informal arrangements for it to operate as a quasi-NTIS sub-agent in the chemistry and agricultural sectors.

NTIS was represented at the "International Symposium on Engineering: Technology Appropriate to Underdeveloped Countries" in El Salvador. The staff member there introduced the NTIS program to participants from 35 countries and made valuable contacts with individuals from other organizations, both national and international, working with appropriate technology. In February, meetings were held in Costa Rica with the Instituto Tecnológico de Costa Rica (ITCR), the new cooperating agency, the Consejo Nacional de Ciencia y Tecnología, the previous one, and a number of local AT groups. The transfer of the cooperating agency to ITCR was arranged in a visit to Costa Rica early in 1979. ITCR is a particularly active technology organization, sponsoring among other things a "Semana del Sol" (Sun Week) fair on the campus of the Costa Rican Institute of Technology in Cartago; NTIS supplied exhibit information on the practical application of solar energy. CEDCANI in Panama sponsored the Contadora Director's meeting. Various NTIS staff personnel also met with local Panamanian AT organizations before and after the conference.

The NTIS staff made at least one visit to every South American country in which AID has a mission, except Guyana, in an attempt to strengthen the ties between the local cooperating agencies and the AID network. Paraguay joined the network during the year. NTIS personnel visited Paraguay early in 1979 to identify a local agency for inclusion on the USAID network. An agreement was finalized in the fourth quarter with the Instituto Nacional de Tecnologia y Normalizacion for it to join the Network. A visit was made during the quarter to provide formal training to the staff.

Activity picked up in Bolivia with the appointment of a new head of the Division General de Normas y Tecnologia; NTIS personally visited La Paz several times during the year. The trip in the fourth quarter was made to train the staff and hold user education seminars. The latter was cancelled due to political unrest that occurred during the visit.

A staff member visited Peru to review the appropriate technology program with Novoa Ingenieros Consultores, the local cooperating agency, as well as with local organizations interested in appropriate technology such as ITINTEC and the Banco Industrial de Peru. The latter is working with NOVOA in a rural development project; together they ordered 79 NTIS publications for use in the project. NOVOA also expressed an interest in establishing small AT libraries in rural Peruvian areas and discussed possible sponsorship with the Saudi Arabian al'Diriyah Institute and its contractor, Wakefield Associates. NOVOA recently moved into expanded quarters; NTIS visited those new facilities in the fourth quarter and, at the same time, met with local AT organizations and reviewed the progress of several NTIS funded translations.

NTIS briefly met with a representative of the Columbian cooperating agency on a stop-over en route to Ecuador. Several problems were discussed and solved then. In addition, a COLCIENCIAS official attended an international technology and transfer conference in Mexico City and met there with an NTIS representative; another attended a NTIS workshop. In Quito, NTIS and CENDES, the local Ecuadorian cooperating agency, provided training to the staff of the Documentation Center at the Escuela Politecnica, the recently named NTIS sub-agency. In addition to the Director of CENDES, Dr. Victor Martinez, visited the Washington NTIS office several times during the year to discuss both the NTIS program and the CENDES relations with the AT sub-agent in Quito. He also met with Patent Office members to discuss collaboration in a patent training program.

A successful NTIS user education seminar was held for 135 participants in Santiago, Chile. Other meetings with INTEC/CHILE covered an appropriate technology program and the development of a regional computer network, the latter idea was temporarily

discarded due to high cost of local computer facilities. Melvin S. Day, the NTIS Director, attended a meeting of the Venezuelan Institute for Science for which he is a honorary member. Another staff member visited Venezuela during the fourth quarter to consult with the local cooperating agency.

Brazil graduated from the AID pilot program but BARROSLEARN, the local cooperating agency, continues to participate in the Network on a regional basis. An NTIS representative traveled to Brazil at the request of the Brazilian National Research Council (CNPq) (and with the interest of the U. S. Embassy) to discuss the relationship of the NTIS program with the U. S. Brazil bi-lateral agreement. In a short visit during the fourth quarter, meetings were held with the network agency to review several recurring problems, in part caused by the fact that BARROSLEARN is a commercial operation rather than a government subsidized program. NTIS then met with several new individuals actively involved in the day-to-day operations. In addition, the possibility was discussed of having other Brazilian organizations act as sub-agents.

The greatest changes in FY 1979 in the USAID Network occurred in the Caribbean. Organizations from Jamaica and Barbados joined the Network and negotiations were completed for one in Haiti. Final action in Haiti is expected in early FY 1980.

The Caribbean Development Bank in Barbados joined the network in January 1979. NTIS personnel traveled there in February to provide start-up orientation and to assure a rapid and smooth project initiation. In a July visit, plans were made for a September CDB regional meeting at which time the NTIS program was to be officially introduced to CDB affiliates from throughout the Eastern Caribbean. For further seminar details, see the section on CONFERENCES and TRAINING. The Jamaican Scientific Research Council (SRC) joined the Network during the first quarter of FY 1979 and continues to expand its activities. Several representatives attended the September CDB meeting; in addition, a NTIS representative visited Jamaica in July and participated in four SRC organized user education seminars.

NTIS held interviews with several potential cooperating agencies in Haiti during the spring of this year. After considerable negotiations, an agreement was reached with the Bureau National de Technologie, a Haitian Government office in Port au Prince, for it to become the newest member of the USAID network. The final agreement should be signed in early 1980.

INDOTEC in the Dominican Republic, the oldest cooperating agency in the Caribbean although it only joined in FY 1978, became much more active during FY 1979. NTIS personnel visited the agency during the year to present user education seminars (92 end-user

attended), to discuss the AMTID guest editor program and to determine the feasibility of holding the third annual Regional Directors Conference. Relations with the agency remain excellent although the AID mission has not yet approved appropriate technology programming.

NETWORK AGENCY AGREEMENTS

There were some notable changes in the USAID Network during the past year as institutes from three countries joined the Network. Another has agreed to join and will do so once the paperwork is completed. A new more active agency replaced one that was not specifically interested in working with the poor and, finally several organizations that have the capability and interest in disseminating appropriate technology have entered into various negotiation stages regarding their entry into the system.

The new agencies are the Caribbean Development Bank from Barbados which joined the network in January 1979, the Scientific Research Council from Jamaica which joined in November 1978 and the Instituto Nacional de Tecnologia y Normalizacion from Paraguay which joined in August 1979. An agreement was reached in Haiti with the Bureau National de Tecnologia for it to join the Network but the final papers will not be signed until 1980.

In February 1979 the Instituto Tecnologico de Costa Rica, the former AT sub-agency in Costa Rica, officially replaced the Consejo Nacional de Investigaciones Cientificas y Tecnologicas (CONICIT) as the Costa Rica cooperating agency. The transfer of responsibilities was completed smoothly and the agencies continue to work well with one another. The Instituto Centroamericano de Investigaciones y Tecnologia Industrial (ICAITI) still provides access to STR to users in Guatemala although its overall interest are more regionally oriented towards Central America activities. NTIS reviewed the desirability of ending the official ICAITI status, but decided to work with both ICAITI and the Instituto Tecnico de Capacitacion (INTRCAP), since most local operations are best handled through the latter organization.

Negotiations continue with both the Panama and Mexico cooperating agencies on up-dated agreement. No problem is anticipated despite the lack of any firm agreement. Early this year, AID was ordered to terminate many of its projects in Nicaragua and NTIS had to suspend its relationship until a determination was made whether this program was effected. It was not and the benefits were reestablished. The agreement has since expired by NTIS has allowed it to continue in force without an official renewal pending the stabilization of the political situation. Meeting were held with representatives of the University of Guyana library to determine its interest in becoming the cooperating agency in Guyana there has been increased and new initiatives are expected soon.

Cooperating agreements were either extended or completed with all the other agencies during the year. Included among the countries are Bolivia, Brazil, Chile, Colombia, Ecuador, El Salvadoe, Peru and Venezuela. NTIS has also had conversations with several organizations to determine their interest in acting as sub-agents for the dissemination of appropriate technology information.

through agreements with the existing cooperating agencies. Negotiations were finalized with the Escuela Politecnica in Ecuador and continue with CEMAT in Guatemala, ITINTEC in Peru and several organizations in Brazil. The Grupo Tecnologia Apropiada in Panama entered into direct relations with NTIS and will sign a separate contract for program support in FY 1980.

The Peace Corps, following a suggestion from NTIS, placed several of their volunteers in ITCR in Costa Rica to work on AT development projects. If the pilot project is successful, it could serve as a prototype for future operations in other developing countries.

APPLICATION OF MODERN TECHNOLOGY TO INTERNATIONAL DEVELOPMENT (AMTID)

AMTID announces new technical reports on appropriate technology of particular interest to development countries. It has proven to be NTIS' most effective tool for notifying USAID target audiences about available appropriate technology information which can be used by less developed countries. It has received a number of compliments from organizations interested in providing technology which can be used by the world's poor. NTIS, in an endeavor to further improve the newsletter, contract Mr. Paul Tuebner during the fourth quarter of FY 1979 to work full time on the publication.

The AT material described in AMTID can be ordered directly from NTIS, at no cost to the user if the material is to be used to assist the poor, or from numerous other recognized organizations such as VITA and ATI. AMTID also refers readers to other private sources of materials. The Latin American cooperating agencies have estimated that AMTID generated more than 90 percent of the demand for NTIS' AT materials and that each issue is seen by approximately five individuals.

The AMTID mailing list continues to grow, particularly for the Spanish version. INFOTEC/CONACYT, the Mexico cooperating agency, translates the AMTID into Spanish, preparing final art, printing and distributing it directly to Latin America. Distribution takes place approximately 6-8 weeks after the mailing of the English version. The number of mailed copies in Spanish increased from 6,975 (and 2,500 for handouts) in the beginning of the year to over 12,800 mailed copies at the end of FY 1979. Distribution is as follows:

<u>Country</u>	<u>Distribution</u>
Bolivia	875
Brazil	4
Chile	950
Columbia	800
Costa Rica	500
Dominican Republic	500
Ecuador	1,300
El Salvador	1,000
Guatemala	1,175
Honduras	500
Mexico	2,550
Nicaragua	500
Panama	500
Peru	500
Venezuela	1,000
United States	185
TOTAL	12,839

The English version is printed in Washington. It was mailed to approximately 11,000 individuals and firms during the fourth quarter. A list of all the AMTID's produced during FY - 1979 is included in Attachment 6 together with copies of those issues in English and Spanish not previously submitted to LA/DR/USAID. Two French versions of AMTID were translated and published during FY 1979 and mailed to over 1,800 individuals and organizations in Africa, as well as Haiti in the Western Hemisphere. The first version concentrated on energy and natural resources; the second on water resource development.

NETWORK COMMUNICATIONS

There were seven issues of ACCESS, a bulletin for the U.S. AID technical information network, distributed during FY-1979. They were sent to the USAID cooperating agencies, AID missions and other network participants. The following subjects were featured during the year:

- October 1978--Appropriate Technology
- January 1979-- Introduction to the new NTIS Director, Melvin S. Day
- February 1979-- Interview with Lida Allen, Director of AID DS/DIU
- April 1979-- Ambassador John McDonald's comments on Technical Cooperation among Developing Countries
- May 1979-- Presentation of the Contadora Regional Conference and data base discussions in Peru
- June 1979-- The Appropriate Technology Fair in Washington, D.C.
- July 1979-- Congressman Clarence D. Long's comments on Capital-Saving Technology. Rep. Long is an economist and a leading U.S. advocate of appropriate technology utilization. He is chairman of the House Foreign Operations Sub-committee for Appropriations.

The latter issue is included in Attachment 5 along with the new AMTIDs.

Other NTIS publications printed and distributed to the cooperating agencies included the brochure "Technical Information for Development" which describes the AID Network activities to aid international development, and an updating and translation to Spanish of the manual "How to use the NTIS Order Processing System". The latter was completed after receiving comments, corrections, and suggestions from various NTIS line personnel.

Two documents, "Directory of Federally Supported Information Analysis Centers" and "Information Services on Research in Progress" were sent without charge to the agencies as were monthly copies of the NTIS Best Sellers List. The latter contains 100 report titles every issue.

PROGRAM EVALUATION

In the past year several studies were funded and completed to first survey the needs of the LDC information user community and then evaluate the effectiveness of the USAID program. Work was also done to evaluate the effectiveness of particular NTIS documents distributed to institutions or individuals needing appropriate technology.

The major studies, "Scientific and Technical Information Needs for LDCs" completed by the International Science and Technology Institute, Inc. and "A User Survey of Foreign Clients for U. S. STI in Developing Countries" by King Research, were thoroughly reviewed in the NTIS quarterly reports.

The King study surveyed requirements of the user communities in the developing countries. The researchers ascertained that NTIS products and services were heavily used, that NTIS was the most known and used foreign information source, and that individuals using the publications associate a high level of value with the information obtained. Furthermore, there was a markedly higher level of use of NTIS reports in those countries which had cooperating agencies.

The ISTI study was more general. It was designed to provide network participants with a better understanding of their constituencies as well as a basis for program planning and evaluation. ISTI was generally satisfied with the structure of the ISAID program although it did recommend expansion of the program in order to cover more countries and provide more extensive services to those countries with cooperating agency agreements. The study also emphasized the general world-wide disorder of appropriate technology programs, particularly in developing countries where neither individuals nor firms have a good idea what is needed and are unaware of what other countries and organizations have to offer appropriate to lower levels of sophistication in economic development. In part, the authors attributed the problem to the large number of smaller international and private organizations that have become "experts" in the appropriate technology field.

In addition to the above, the Developing Country Staff began a number of case studies to determine the effectiveness of the NTIS appropriate technology publications. Initially NTIS contacted the cooperating agencies in both Latin America and Asia and requested them to recommend firms and individuals that have used NTIS reports. This procedure was not always successful as the "recommended" organizations were often ones that agencies thought NTIS "would like to meet" rather than ones using appropriate technology information.

NTIS reviewed the program and decided to correlate the publications sent to users in developing countries with the NTIS bibliography of AT publications. The staff now requests personal interviews only with those individuals or organizations in the developing countries which are found to be using appropriate technology information from the NTIS data base. This method of approach was successfully used when a staff member visited several countries during FY 1979.

The NTIS staff member in charge of case studies, Francisco Pardo de Zela, has frequently written several Latin American cooperating agencies to elaborate and up-date the various case studies he had performed in El Salvador, Ecuador and Columbia. The plan to release a "Case Studies Handbook", which narrates the effective use of U. S. technical information by foreign nationals, was delayed due to a revision of the methodology. The manual is expected to be available early in 1980.

The NTIS DEveloping Country Staff also had several meeting with the LAC/DR office of USAID to evaluate the effectiveness of the program. A particularly significant briefing was one given by Messers Day and Lindemann to the Deputy Assistant Administrator for Latin America, Edward Coy, and his staff on the progress of the LAC/DR project.

PROJECT MANAGEMENT

NTIS staff and contact personnel working on the project full or part-time were:

Terrance L. Lindemann - Foreign Affairs Administrator

Frank Post - Foreign Affairs Officer, Latin American and Caribbean

Vietta A. Dowd - Information Systems Specialist

S. Dickson Tenney - Foreign Affairs Analyst, Central America

Paul Tuebner - AMTID Editor

Comer Heine - International Services Specialist

Paul Bundick - Appropriate Technology Specialist

Rita Cunningham - Administrative Assistant

Marioa Janniche - Administrative Assistant

Nancy Dolphin - Secretary

Pauline Gilmer - Customer Inquiry

Mildred Johnson - Order Processing

Messes. Tenney and Tuebner joined NTIS during the fourth quarter of FY 1979 while Mr. Heine transferred from NTIS Springfield late in the same quarter. John Hounsell and Richard Garcia were others who made significant contributions to the project during the year.

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PART II

NETWORK AGENCY REPORTS

PROJECT NO. 598-0572

LATIN AMERICA & THE CARIBBEAN REGIONAL NETWORK

TECHNICAL INFORMATION FOR DEVELOPMENT

COUNTRY REPORTS

The following country reports describe the program activities of twenty South American and Caribbean information agencies who have contributed to Network activities from this region. Several noteworthy developments occurred during the year which effected most of the agencies at one time or another. Included among them were the February Director's Conference in Panama; the April and September Information Systems Workshops, and the sharp increase in demand for appropriate technology publications under the AID subsidized program to benefit disadvantaged groups.

Mexico and Central America

The Mexican Network agency (INFOTEC/CONACYT) is an active, aggressive and innovative information agency and has close ties with NTIS. It translates AMTID into Spanish and distributes it throughout Latin America. It also provided a number of other support activities such as translations and hosted a UNESCO seminar on technical information in Mexico City.

The NTIS and Central American agency relationship continues to expand as the agencies become accustomed to working directly with NTIS rather than indirectly through ICAITI in Guatemala. A new agency joined the Network in Costa Rica and several others changed personnel. All have given a high priority to use of appropriate technology documents and cooperated closely with other local organizations working directly with appropriate technology.

The Caribbean

FY 1979 was a year of great activity in the Caribbean as agencies in Barbados and Jamaica joined the Network; A Haitian agency agreed to join in 1980 and the Dominican Republic agency strengthened its association. An outstanding Caribbean Development Bank seminar was held in Barbados with its Caribbean affiliates. In addition, agencies from both Guyana and Trinidad/Tobago again expressed interest in joining the Network.

South America

A number of changes took place in this region as one new agency and one sub-agency, working with appropriate technology, joined the Network (Paraguay and Ecuador respectively) and another changed directors and became considerably more dynamic (Bolivia).

The demand for NTIS reports by the Andean countries grew or dropped markedly in each country during the year reflecting a continuing recession and reorganization of the units (down in Peru, up in Chile, Columbia and Bolivia). All the agencies continue to express enthusiasm for working with the AID agencies program and several have been extensive users of the AID funded appropriate technology program.

BARBADOS
Network Agency

Caribbean Development Bank (CDB)
Technology Unit
P.O. Box 408
Wilkey, St. Michael
Barbados, W.I.

Deputy Director: Mr. Bernard Gouveia
TU Director: Dr. Jeffrey Dellimore
TU Technicians: Ms. Adelle Blackman; Ms. Ingrid Douglas
USAID Mission Liaison: Mr. Steve Ryner, Capital Development
Officer

BACKGROUND

The UN originally established the CDB, and its branch offices from the Eastern Caribbean to Belize, to grant loans to local industry, attract outside investment and complete feasibility studies of industrial projects. CDB, over the years, evolved into a Caribbean institute with Caribbean employees and funding sources. AID entered into an LA/Regional Employment Investment Promotion project with CDB to support intermediate technology development throughout the Caribbean and to expand its Industrial Information Center in order to supply more technology appropriate for the area.

NTIS had no Network member in the area prior to FY 1979. The signing of the AID/CDB project fit in well with NTIS plans to expand the AID Network into the Eastern Caribbean so negotiations were initiated with CDB.

ACTIVITY

The CDB signed a bilateral agreement and joined the International Technical Information Network in January 1979. Its operations will cover Barbados and many other areas in the Caribbean where CDB has affiliates or local offices including: Antigua, Belize, Dominica, Grenada, Montserrat, St. Kitts-Nevis, St. Lucia, St. Vincent, the British Virgin Islands, Cayman Islands, the Traks and Caicos Islands, the Bahamas and Guyana.

The CDB/USAID relationship is expected to serve as a useful point to distribute appropriate technology throughout the Caribbean. The CDB immediately began preparation to have their employees learn about the NTIS system, sending two, Adelle Blackman and Jerome-Singh, to the April Information Systems Workshop and one, Ingrid Douglas, to the September session.

An NTIS staff member went to Barbados early in the year to provide start-up orientation and help assure a rapid and smooth project initiation. In July, NTIS staff went to make preliminary

arrangements with CDB officials and others for a September regional meetings with CDB subagents from throughout the Caribbean. Meetings were also held with CADEC, a local Catholic AT action group, and with the AID mission staff.

The two day September seminar was attended by over 40 individuals. CDB introduced its new technology unit, which will provide technical assistance to area countries, as well as NTIS staff. The staff led discussions about NTIS operations, its products and services as well as the appropriate technology program.

The meeting was extremely successful and the initial relationship with CDB has proven to be quite smooth. The CDB Technology Unit will be the Network's major contact although it has not completed its personnel recruitment. It has good leadership and appears highly interested in the Information Network. Twenty-one AT publications were sent to it and other local organizations under the AID subsidized program to assist the poor.

BOLIVIA
Network Agency

Direccion General de Normas y Tecnologia (DGNT)
Casilla 4430
La Paz

Director:	Dr. Gregorio Bernal
Chief, AID/NTIS Project:	Ing. Carlos Garvizu
USAID Mission Liaison:	Mr. Howard Handler, Program Director

BACKGROUND

DGNT joined the Network in 1976. It has not been one of the more active institutions in the system but has remained cooperative. The Minister of Planning established SYFNID (Sistema y Fondo Nacional de Informacion para el Desarrollo) in 1977 to work with DGNT on international programs. Its first duties were to inventory existing technical information and train information specialists. It was considered at one time that it might be a rival to DGNT's leadership in STI in Bolivia.

ACTIVITY

There has been a striking change in the level and quality of activity of DGNT since Dr. Bernal was appointed its head during early 1979. The organization has ordered a number of NTIS publications during the time and appears to have developed a number of new contacts within Bolivia, as well as moving to more spacious quarters with a larger staff. DGNT has demonstrated interest in the program and appears to have the required level of competence. The competitiveness between it and SYFNID appears to have subsided and the two are now cooperating on various efforts.

Problems continue to recur due in part to the political/economic situation and in part to internal institutional turmoil. DGNT and SYFNID were to co-sponsor a user education seminar in July to introduce the organization, the local national technical information system and NTIS operations. An NTIS representative went to Bolivia to make the presentation but the seminar had to be cancelled at the last moment due to political disturbances revolving around the Presidential election.

BRAZIL
Network Agency

BARROSLEARN, Producoes Didaticas
Rua 24 de Maio, 62-5 andar
Sao Paulo, Brazil 01041

Technical Information Network Project Officer: Mr. Jose Perez, Jr.
USAID Mission Liaison: Mr. David Campbell

BACKGROUND

During the middle 1970' NTIS contacted several Brazilian federal agencies working with technical information management to determine their interest in entering the Network. Upon receiving declines from all the contacted agencies, NTIS extended the agreement it has had with Barroslearn since 1974. Barroslearn has participated from the beginning in the program without an AID subsidy; the agreement has now been converted to commercial dealer status. It is a well established training and consultancy organization and has markedly increased its sales of NTIS and other technical information products in the past several years.

ACTIVITY

There has been a change in attitude by the Brazilian government and some pressure put on NTIS to sign a Network agency agreement with a governmental rather than a private agency. The pressure appears to have slackened off recently. A staff member visited Brazil at the request of Brazil's National Research Council (CNPq), and with U. S. Embassy interest, to discuss the relationship of the NTIS program to the US-Brazil Bi-lateral Agreement. Arrangements were discussed which would allow CNPq and Brazilian government access to the NTIS data base.

Dr. Jose Vencovsky, one of the founders of CNPq, joined Barroslearn during the year as the head of the firm's information operations. Barroslearn also participated in the CNPq sponsored Second Brazilian Meeting on Information Science.

Adelaide Paes de Barros, an employee of Barroslearn, attended the Panama Director's Conference. A NTIS officer stopped over in Brazil in the fourth quarter to discuss the day-to-day relations between NTIS and Barroslearn as well as to clarify several problems.

Statistics generally confirm that Barroslearn has taken an active and impressive interest in promoting U. S. technical information. For this reason, the account was transferred to the Developing Country Staff from the NTIS's Office of Product Management in order to better integrate the Brazilian activities with the rest of the hemisphere.

Eiti Sato of the Instituto de Pesquisas Tecnologicas do Estado de Sao Paulo, Brazil's leading research organization, agreed to provide NTIS selected technical information.

CHILE
Network Agency

Instituto de Investigaciones Tecnologicas (INTEC?CORFO)
Casilla 667
Avenida Santa Maria 06500
Lo Curro, Santiago

Program Officer: Mr. Guillermo Quiroz
Chief, Technical Information Network Project: Mrs. Margarita Barraza

USAID Mission Liaison: Mr. Ault Nathaniels

BACKGROUND

INTEC became a member of the Network in 1976. It is a dynamic Latin American information center and works closely with the NTIS network. U. S./chile government relations have frequently been buffeted by political differences, but other business relations have expanded. INTEC maintains an active information access and dissemination program which includes promotion of NTIS and other U. S. agencies.

ACTIVITY

A staff member visited INTEC during the year to review the activities of an on-line search center which INTEC has available for the public in downtown Santiago. It provides access to more than 100 computerized data bases via the DISLOG and ORBIT systems. Discussion were held regarding the establishment of a sub-regional computer access program but the cost of connection time is very high, making the proposal unfeasible.

INTEC is severing its official ties with CORFO, its parent organization, and will have to run its activities on a pay-as-you-go basis. It has signed a contract to begin a new AT program in Chile and during the year ordered 38 AT documents from NTIS. It also sponsored an NTIS user education seminar at which a total of 135 persons attended. The staff also did a highly professional job translating into Spanish the "Manual of Methods for Chemical Analysis of Water and Waste". In addition, Guillermo Quiroz attended the Panama Conference and led a working group concerning on-line searching.

COLOMBIA
Network Agency

Fondo Colombiano de Investigaciones Cientificas (COLCIENCIAS)
Transversal 9, No. 133-28
Apartado Aereo 051 580 - 29828
Bogota D.E.

Director: Mr. German Escorcía
Chief, NTIS/AID Project: Mrs. Isabel Forero de Moreno

BACKGROUND

When COLCIENCIAS joined the network in 1974, it had an eminent place among South American scientific institutions. A new political administration took over in 1975 and made an extensive reevaluation of the program; little was accomplished during the long and intensive review leading to a deterioration within the program. The Colombian National Technical Information Network was subsequently revised and COLCIENCIAS again has an active enterprising program.

ACTIVITY

COLCIENCIAS is now located on the outskirts of Bogotá, making physical access relatively difficult. The long range plan is for it to disseminate information through sub-systems which are to be organized sectorally. The organization of these sub-systems is proceeding slowly and access to them is often difficult. COLCIENCIAS shuns regional sub-agencies since they were characteristic of a previous structure which did not work out. This leaves clients in other cities with constrained accessibility to COLCIENCIAS and will take time to rectify.

The NTIS staff had little opportunity to visit Colombia but in a fourth quarter stopover, problems and opportunities were discussed. In addition, Isabel Moreno attended the September Information Systems Workshop and the Panama Conference, where she led the session on program evaluation. Lic. Esther Restrepo of COLCIENCIAS also attended the Mexico City UNESCO Conference on the Transfer of Technology Information in Latin America.

The AID Mission in Colombia, at the request of the Colombian Government, is in the process of closing down and no further interaction will take place between AID/B and COLCIENCIAS. However, COLCIENCIAS continues to demonstrate great interest in expanding its appropriate technology background, ordering forty-six AT documents under the AID subsidized program. In addition, it has been one of the most active providers of AT documents for the NTIS AT data base.

COSTA RICA
Network Agency

Instituto Tecnológico de Costa Rica (ITCR)
Centro de Información Tecnológica
Apartado 159
Cartago

Chief, AID/NTIS Project: Ing. Gerardo Mirabelli
USAID Mission Liaison: Mr. David Straley

BACKGROUND

NTIS has had network agreements in Costa Rica since 1975, first through the sub-regional network established by ICAITI from Guatemala and then through CONICIT (Consejo Nacional de Ciencia y Tecnológica). The latter agency had become the national focal point for most technology transfer programs but it did not perform the development activities itself. It generally had a low involvement in the Network program.

ACTIVITY

An NTIS staff officer visited both CONICIT and ITCR early in FY 1979 to propose that the Network Agency agreement be transferred to ITCR. ITCR would first be an appropriate technology sub-agent to CONICIT and then the sole NTIS representative. CONICIT agreed with the proposal. It recognized that it was not staffed to handle the NTIS program, particularly with regards to transferring appropriate technology. On April 1, 1979 ITCR became the sole agent.

The ITCR effort has been greatly assisted by Peace Corps Volunteers assigned to the agency, one of whom is an AT specialist. The others work in various technical specialties including alternative energy, metallurgical engineering, small scale livestock production, soil science and wood technology. ITCR and the Peace Corps Volunteers, as well as a number of other Costa Rican organizations using appropriate technology, have been heavy users of AT documents, subsidized by the AID program to benefit disadvantaged groups; one hundred and eighty-five were ordered during FY 1979. Many of these were used at the Semana de Sol (Sun week) exhibit which ITCR held on the campus of the Costa Rican Institute of Technology. NTIS supplied information to the exhibition on the practical application of solar energy.

Geraldo Mirabelli from ITCR and Zulma Valenzuela from CONICIT attended the Panama Conference. Meetings were held with them to discuss the Network agency transfer. Mirabelli also led the discussion on cooperation with the Peace Corps. Jesus Torres Redondo attended the April Information Systems Workshop and Mirabelli the September session. David Straley of AID Costa Rica visited the NTIS facilities and left expressing a better understanding how NTIS could assist the AID program in Costa Rica.

ITCR has an established clientele of users, a competent staff and a willingness to work. It has been extremely active since becoming the sole NTIS representative. It has built up an extensive AT library and is active in the research and dissemination of AT information. It is a young organization with great potential.

DOMINICAN REPUBLIC
Network Agency

Instituto Dominicano de Tecnologia
Industrial (INDOTEC)
Ave. Nunez de Caceres
Esquina Jose Amado Soler
Apartado 329-2
Santo Domingo

Chief, AID/NTIS Project: Sr. Enrique Leyba, Sub-Director
Information Officer: Ing. Jeanne Bogaert de Perez

USAID Mission Liaison: Mr. John Clary, Program Officer

BACKGROUND

INDOTEC joined the Network in March 1978. It is an active unit within the Dominican Central Bank, quickly establishing its role by presenting a strong science and technology program with considerable emphasis on appropriate technology. Cooperation between NTIS and INDOTEC has progressed despite the low priority of the local AID office for the Network and appropriate technology.

ACTIVITY

Several staff members visited Santo Domingo during the year, one to perform training for the INDOTEC staff, give user seminars to which 92 end users attended and meet with the local AID and AT organizations; another to brief INDOTEC on AMTID and ACCESS operations and discuss AT questions.

INDOTEC held several meetings with local industries and businesses to explain their services as well as how NTIS information could aid local industry. Mrs. Perez chaired the session on Network Operations and Customer Services at the Panama Conference. In addition, Enrique Leyba attended the Mexico City UNESCO Conference on the Transfer of Technology Information to Latin America.

ECUADOR
Network Agency

Centro de Desarrollo Industrial de Ecuador (CENDES)
Garcia Aviles 217 y 9 de Octubre
Apartado 5833
Guayaquil

Director: Dr. Victor Martinez
AID/NTIS Project Officer: Mr. Jorge Medina

AT-Sub-Agency

Escuela Politecnica Nacional (EP)
Instituto de Investigaciones Tecnologicas
Apartado 2759
Quito

Director: Ing. Jaime Velasquez
Head of EP Document Center: Ing. Elman Lopez

USAID Mission Liaison: Mr. Michael Hirsch
Capital Development Officer

BACKGROUND

CENDES joined the Network in 1973 and Dr. Martinez used the experience gained working with OAS technology transfer programs to help design the USAID project. Due to the nature and sophistication of the CENDES' operations, AID subsidies for air mail are no longer granted. This is in keeping with the principle of "graduating" countries from the subsidies. CENDES remains eligible to receive North American prices as Ecuador has been reinstated as an AID recipient country.

ACTIVITIES

CENDES often deals with organizations and people beyond AID's target audience. For that reason, EP was approached to become a CENDES sub-agent with the principle responsibility of handling AT information and publications with a secondary responsibility of general access to the people in the Sierra. Discussions were initiated in early FY 1979 and in May a general agreement on the operational terms was reached. The final document, a memorandum of understanding, was approved in July and EP will initiate operations in early FY 1980. NTIS representatives had to visit Ecuador at each stop along the way to assure that the negotiations would be successfully concluded.

Dr. Martinez is a well known information manager with a very successful operation and staff knowledgeable of Network operations. He visited Washington several times during the year to discuss training programs for the AT sub-agency.

personnel (personally provided to Lopez in the July visit), production of audiovisual aids for his firm and development of patent training activities in the NTIS program (the Patent Office will present a program in Ecuador in early 1980).

Jorge Medina attended both the Panama Conference, leading the discussion of sub-agency relations, and the April Information Systems Workshop; Angela Suarez from CENDES attended the September sessions. A number of Ecuadorian organizations working with appropriate technology ordered 109 AT documents under the AID subsidized program.

EL SALVADOR
Network Agency

Centro Nacional de Productivad (CENAP)
Servicio de Informacion y Transferencia de Tecnologia
Avenida Espana 732
San Salvador

Director: Ing. Roberto Solorzano
Chief, AID/NTIS Project: Mr. Gustavo Valle
USAID Mission Liaison Mr. Jesse Synder

BACKGROUND

CENAP has been a member of the Network since 1975, first working as a sub-agent through ICAITI in Guatemala and then separately as a member agent in its own right. The program has been interrupted several times, most notably when there was a year lapse in AID funding, but CENAP built up its own internal organization during this period.

ACTIVITY

The beginning of the year was marked by deteriorating program activity with CENAP, attributed to communication and political problems. Other problems were CENAP's misunderstanding of network operations as well as ordering difficulties. NTIS was unclear about reasons for the problems until an officer visited the country. As had happened in the past, many of the problems dissolved once the individuals concerned met privately and the issues were clarified.

The NTIS officer also attended the "International Symposium on Engineering: Technology Appropriate to Underdeveloped Countries", other attendees included scientists and engineers from over 30 countries. He introduced the AID program and made valuable contacts with a number of AT organizations working in Central America.

Ing. Solorzano was appointed in the fourth quarter as the new CENAP director; relations have particularly improved since his appointment. AT organizations, including CENAP, have also actively used the AT subsidy to order technology publications appropriate for disadvantaged groups. Ninety-two publications were mailed during FY 1979.

GUATEMALA
Network Agency

Instituto Tecnico de Capacitacion
(INTECAP)
Apartado Postal 709
Guatemala City

Director: Mr. Mario Leal P.
Chief, AID/NTIS Project: Ing. Gustavo Chang
Documentation Chief: Lic. Francisco Ralon

Instituto Centroamericana de
Investigacion y Tecnologia
Industrial (ICAITI)
Documentacion y Informacion Dept.
Apartado Postal 1552
Guatemala City

Director: Sra. Rocio Marban
USAID Mission Liaison: Mr. Dan Master, Loan Officer
Mr. Tom Stuke, Program Officer

BACKGROUND:

ICAITI originally served as the NTIS regional network agency with sub-agencies in most of the other Central American countries. The relationship proved unsatisfactory and NTIS signed individual agreements with agencies in each of the countries. The Network Agency program responsibility in Guatemala was taken over by INTECAP but relations between the two agencies are very close and ICAITI handles INTECAP's accounting.

ACTIVITY

Several staff members visited Guatemala during the year in an endeavor to re-establish a smooth and functional program. The visits were not entirely successful. ICAITI, for instance, generally does not work directly with the public and, while part of the network, did not devote the time nor allocate the resources to make the USAID project successful.

On the other hand, INTECAP's operational goals are often more compatible with the project objectives. It has extensive contacts with the Guatemalan industry, including the small scale handicraft industry, and works more closely with the public. However, it only recently included provisions for distributing appropriate technology to the poor and the information unit was understaffed. It is expected that these problems will be alleviated shortly as a new administration took charge in August 1979.

The Centro de Estudios Mesoamericano Sobre Tecnologia Apropiada (CEMAT) agreed to have its publication Simposio Internacional Sobre el Terremoto de Guatemala placed into the NTIS data base.

NTIS representatives also met with several other Guatemalan AT organizations. These meetings were in part responsible for the large demand for AT publications under the AID subsidized program to benefit disadvantaged groups. A total of two hundred and four publications were sent during FY 1979.

Francisco Ralon of INTECAP and Ernesto Rossbach of ICAITI both attended the April NTIS Information Services Workshop; Rossbach also attended a seminar on information management and systems at the Case Western Reserve University. Elias Hill, an expert on appropriate technology at ICAITI, attended the Panama conference.

GUYANA

Network Agency Pending: Served by a sub-regional agreement
with Caribbean Development Bank

No AID representative

ACTIVITY

The University of Guyana library tentatively agreed to become the NTIS Network agency in Georgetown early in 1979 but unanticipated problems occurred and arrangements were cancelled. An NTIS representative met with Mrs. Yvonne Stephenson of the Library at a UNESCO seminar in Mexico City. They agreed that it would be best for Guyana to forego signing separate agreement with the NTIS program. It will instead purchase publications through the Caribbean Development Bank in Barbados.

NTIS staff members met with University of Guyana officers, including Mrs. Stephenson and the vice chancellor of the University, at the September Barbados CDB seminar where new interest was expressed in establishing direct ties. In addition, informal meetings were held with the head of a local Guyana AT organization. New initiatives will be pursued with them.

HAITI
Network Agency (Pending)

Bureau National de Technologia (BNT)
Avenue Panamericaine No. 14, Apt. 9 et 10
Petion-Ville, Haiti

Director: Mr. Jacques Lorthé
NTIS Project Director: Mr. René Desrouleaux
USAID Mission Liaison: Mr. Tibor Nagy, Chief Engineer

BACKGROUND

Except for preliminary visits made to Haiti in 1978, NTIS had little prior contact there. This reflected in part the fact that NTIS had not located a suitable Network agency in the country and in part the lack of expendable funds within Haiti.

ACTIVITY

NTIS staff officers went to Haiti twice during FY 1979, the first time to meet with various potential NTIS agents when the program was reviewed and local agency participation considered. The second trip, in the last days of September, was to reach a final agreement with BNT, the new local network agent.

The Haitian government created BNT to fill the information needs of a \$2 million AID project for the research and development of appropriate technologies. It will also act as an information office for the country. BNT fits the needs of NTIS better than other agencies within Haiti and, once it was established, it was only a matter of coming to a full agreement on the terms of the contract. The agreement still has to be officially prepared in the final English and French form but the Developing Country Staff will institute steps so that the agreement can begin immediately.

The staff met with other Haitian AT groups, briefing them on the AID program. Several organizations have begun using the service, ordering nine AT documents under the AID subsidized program to benefit disadvantaged groups.

HONDURAS
Network Agency

Universidad Nacional Autonoma de Honduras
Centro de Informacion Industrial (CII)
Tegucigalpa

Director: Ing. Hernan Arguello
Chief, AID/NTIS Project: Ms. Patricia Duron

USAID Mission Liaison. Mr. JOHN L. Lovass, Program Officer

BACKGROUND

CII has been a member of the Network since 1975 first as part of the ICAITI network run from Guatemala and then, since September 1977, as a network agency on its own. It works principally with the local industrial sector and its primary goal is to strengthen the countries industrial sector by making technical information available. In addition, CII is a regionally known source of appropriate technology.

ACTIVITY

Relations between NTIS and the agency have been very active this year despite the resignation of Tito Hernandez, one of the main information people there. Relations with the AID Mission had suffered from poor communications, but have improved greatly since a visit by an NTIS staff member early in the year. This visit resulted in expanding contacts between CII and several organizations helped by local AID Missions. One problem recognized by all, but not solved, is the abysmal phone service to CII--this difficulty has to be lived with as CII remains the most qualified agency in Honduras.

The program continues to gain momento in Honduras. CII and other local AT organizations have been heavy users of the AT subsidy provided by AID for disadvantages groups, ordering 178 publications during FY 1979. A user seminar was presented by NTIS before approximately 30 participants from the public and private sectors.

Tito Hernandez attended the Panama Conference and provided valuable leadership in the AT discussions. CII also sent Edgar Gorita to the Mexico City UNESCO Conference on the Transfer of Technology Information in Latin America and Patricia Duron to the April and Thomas Olson to the September Information Systems Workshop.

**JAMAICA
Network Agency**

**Scientific Research Council (SRC)
P. O. Box 350
Kingston 6
Jamaica W.I.**

Director:	Dr. Arnold Ventura
Technical Information Officer:	Mrs Ouida Mae Lewis
USAID Mission Liaison	Mr. Jerome Huleman

BACKGROUND

The SRC officially joined the Network in November 1978. However, the organization's personnel were reasonably familiar with NTIS services prior to that time, as SRC had previously ordered a number of NTIS publications

ACTIVITY

The SRC program became increasingly more active during the year as the agency's awareness of the Network's operation grew. Ouida Lewis attended the April workshop, and 87 people attended several user seminars which a NTIS officer presented during the fourth quarter. The officer also met with officials from AID and USICA.

Mrs. Lewis also attended the September Caribbean Development Bank seminar in Barbados and offered some valuable insights into SRC's experience with NTIS and to the general collection and dissemination to technical information.

MEXICO
Network Agency

INFOTEC/CONACYT
Apartado 19-194
Mexico 19, D.F.

Director: Mr. Jose Quevedo P.
Chief Technical Information Network Project: Ing. Jorge Cepeda
AMTID Editor: Ing. Carlos Izaquirre

BACKGROUND

The NTIS Director participated in a 1974 U.S./Mexico bi-lateral commission meeting and, as one of the Commerce Department's contributions to the committee efforts, guaranteed that Mexico orders would only be charged North American prices. Mexico orders were sent to NTIS from a number of different organizations during the next several years. In 1976 a further bi-lateral meeting was held and, in an endeavor to better organize the order system, an agreement was reached for INFOTEC/CONACYT to become an exclusive member of the Network. It has never, however, received AID subsidies.

There has been a large increase in Mexican demand since then, almost entirely attributable to the inclusion of INFOTEC as the national access point. Although originally subsidized by CONACYT, its parent organization, INFOTEC is now self-sustaining and has significant contacts within the Mexican economy.

ACTIVITIES

Jorge Cepeda was one of several INFOTEC/CONACYT officials to visit Washington during the year. He attended the U.S./Mexico bi-lateral commission preparatory meetings. Considerable activity took place during the year within both NTIS and other organizations as preparations were made for the June meeting of the U.S./Mexico Commission in Science and Technology. The Network agency agreement was extended during those meetings.

Paula Rucinski-Cartas and Javier Salas attended the April workshop. Jorge Cepeda attended the Panama Conference and led the discussion on marketing and promotion. He also revealed the results of a recent study of AMTID use in Mexico.

INFOTEC/CONACYT hosted a regional UNESCO Conference on the Transfer of Technology Information in Latin America. A member of the NTIS staff delivered a paper on "On-line Searching for Developing Countries"; Network agencies from Mexico, Dominican Republic, Colombia and Honduras were represented.

INFOTEC translates AMTID into Spanish and distributes it to the Latin American member agencies. In addition it has completed several small translations for NTIS and one large one of the ITP book, The Cement Industry. The latter publication has proven to be of considerable interest to developing countries.

NICARAGUA
Network Agency

Centro Nicaraguense de Informacion Tecnologia (CENIT)
Banco Central de Nicatagua
Apartado 2252, Banco Central
Managua

Director: Mr. Francisco Vega Jackson
Industrial Analyst: Ms. Dora Elena Gonzales

BACKGROUND

CENIT was one of several Central American agencies which had sub-regional arrangements with ICAITI in Guatemala. It officially joined the Network on its own in the first part of 1978 but, due to the strained condition of the U. S./Nicaraguan Government relations, it has been in and out of the program.

ACTIVITY

The difficulties of the previous year continued into FY 1979; AID program benefits were temporarily suspended early in the year. Dora Elena Gonzales was, however, able to attend the Panama conference before this occurred.

Nicaragua was subsequently reinstated into the information network with full benefits. CENIT continued to function until early in the summer when the civil disorders became more serious. It is expected, now that the country has settled down, that the business relations will again improve.

PANAMA
Network Agency

Centro para el Desarrollo de la
Capacidad Nacional en la
Investigacion (CEDECANI)
Estafeta Universitaria
Universidad de Panama
Panama City

Director: Vacant
Chief, AID/NTIS Project: Mrs. Nitzia Barrantes

USAID Mission Liaison: Mr. Don Inos, Education Officer

BACKGROUND

NTIS and CEDECANI entered into the first working agreement in February 1978. However, a final agreement has yet to be signed due to a number of circumstances:

1. The former Director refused to sign without the prior signature of the Minister of Education. For that signature, the agreement had to be translated and then notarized. Three separate Ministers of Education took office before anything substantial could be accomplished.
2. The CEDECANI Director and sub-Director both resigned leaving Mrs. Barrantes without any defined authority and further confirming the already noted lack of leadership.
3. Through these reorganizations CEDECANI was the principal object of several AID initiatives, including developments of some AT prototype projects. NTIS has supported this effort although lacking a signed agreement.

ACTIVITY

CEDECANI was quite active during the year despite the lack of a signed agreement. This activity must be credited entirely to the efforts of Mrs. Barrantes. She managed to run the organization despite the above problems as well as a lack of funding. The latter problem was in part solved because NTIS allowed the deposit account to run a negative balance so that orders might be processed and AMTID distributed.

A considerable amount of appropriate technology information has been ordered from Panama, some from CEDECANI but more from the Grupo de Tecnologia Apropiada (GTA) which is a volunteer organization deeply involved with appropriate technology. A total of 116 AT documents were ordered during FY 1979 under the AID subsidized program to benefit disadvantaged groups.

Mrs. Barrantes and CEDECANI acted as an extremely competent host to the Second Annual Meeting of Regional Director's Conference. NTIS met with a number of local AT organizations before and after the Conference. The most promising meeting was held with Samuel Bern of GTA.

NTIS had seen the need to have people living and traveling in Latin America, acquiring, disseminating and consulting about information on appropriate technologies. Mr. Bern signed an agreement to begin such work during FY 1980. He will also be responsible for showing local organizations how they may obtain appropriate technology information from other worldwide organizations. The contract was made in line with the objectives of the AID project with NTIS.

The CEDECANI Situation deteriorated seriously during the year and NTIS considered transferring the network agency operations to GTA. NTIS made preliminary arrangements by inviting another member of GTA to attend the April Information Systems Workshop; Nitzia Barrantes, who would probably have moved to GTA if it became the new CA, attended the September session.

The NTIS decision to transfer the agency was deferred at the request of one section of the Panama Aid office. The CEDECANI responsibilities have been transferred to a new office at the University called the Division of Research and Post Graduate Studies and a new director has committed himself to making this arrangement work. Although the agency is still within the University, leaving it open to political problems, NTIS will remain with the agency at least until the end of 1979 to see if the leadership improves.

PARAGUAY
Network Agency

Instituto Nacional de Tecnologia y Normalizacion (INTN)
Avenida General Artigas y General Roa
Casilla de Correo 967
Asuncion

Director: Dr. Jose Martino
Chief, NTIS Section: Miss Adelina Schetina

USAID Mission Liaison: vacant

BACKGROUND

There was no network agency in Paraguay prior to 1979 and very few sales to other local institutes.

ACTIVITY

A NTIS staff officer visited Paraguay in January to identify a local network agency. He met with several local organizations, including INTN whose director in 1978 had expressed interest in working with NTIS upon learning that AID had reinstated Paraguay into their program. INTN is considered to be the key Paraguayan technology institute, with experience working with AT programs, and with links with both the OAS projects in Science and Technology and the local AID program.

INTN was invited to join the network and did so in May 1979. A follow-up visit was made in August to provide staff training and an introduction to NTIS operations. There has been little initial business but in late September, Paraguay did order two AT publications through the AID subsidized program to benefit disadvantaged groups.

PERU
Network Agency

Novoa Ingenieros Consultores, S. A. (NIC)
Los Colibries 104
Lima 27

Director: Ing. Alfredo Novoa Pena
Chief, AID/NTIS Project: Mr. Douglas Chiriboga

USAID Mission Liaison: Ing. "Eddie" Alarcon,
Program Officer

BACKGROUND

NIC became an NTIS network agency in 1976 at a particularly awkward period, as U. S./Peruvian Government relations were shaky, and it was difficult for Peruvian individuals or organizations to cooperate with a U. S. Government agency. NTIS approached several government organizations at that time (including the Instituto de Investigacion Tecnologica Industrial y de Normas (ITINTEC) which is a government institute working with AID) to determine whether they would be interested in becoming a member of the Network. All refused because of political reasons.

NIC, a private consulting firm, has grown to be one of the most active and innovative agencies in the Latin American Network. It maintains good relations with the local USAID mission and with a number of Peruvian government agencies. Despite the original mistrust of the U. S. Government intentions, NTIS has since been criticized by government agencies for continuing the agreement with NIC because it is a private, not public, firm. Some officials particularly questioned the advisability of the U. S. attempting to assist the Peruvian people through a private firm; the pressure has lessened in the past year.

ACTIVITY

The generally slow sales in the past year reflect the recession and occasional political unrest that has occurred in the country. There should be an increased use of NTIS services as soon as the economic situation improves. End user seminars given by NTIS have demonstrated that people are interested in U. S. technical information but did not have sufficient available funds. Despite the slowdown, the various local AT organizations remain interested in the AT documents, ordering 143 publications under the AID subsidized program.

NTIS staff members traveled to Peru twice during the fiscal year including once in July 1979. Meetings were held with a number of different agencies including NIC and ITINTEC. The latter agencies formally agreed to work more closely with each other; NIC will supply several NTIS products to ITINTEC and in general make arrangements for a Network agreement between the two.

NTIS also met with local AT organizations. In addition, the officers reviewed the new NIC offices to which it moved in June; they are much more commodious and, because it is on the street level, it provides greater day-to-day access.

NIC continues to work closely with the Industrial Bank of Peru on a rural development project. It will also work with an AID and ITINTEC rural appropriate technology project. NIC actively backed installing the NTIS data base so it could be used by the Peruvian public but the plans to do so have been, at least temporarily, shelved since the existing local telephone network cannot provide quality computer connections.

The then-chief of the NTIS project in Peru, Emiliano Otero, attended the Panama conference where he chaired the session on relations with USAID. Marco Fernandez Baco attended the April NTIS Information Services Workshop. The May issue of ACCESS headlined discussions which Mr. Novoa had with NTIS Director Melvin Day on data base collections.

VENEZUELA
Network Agency

Red de Informacion de Ingenieria, Arquitectura y Afines (REDINARA)
Colegio de Ingenieros de Venezuela
Apartado Postal 2006
Caracas

Director: Dr. Anibal Gomez
Chief, Technical Information Network Project: Econ. Francisco Rizo
New York Office Director: Ing. Jorge Ustariz

BACKGROUND

Venezuela was already an AID graduate country when the USAID technical transfer program began. The NTIS program is generally low-key in Venezuela although NTIS does receive a number of orders from REDINARA.

ACTIVITY

REDINARA recently expressed renewed interest in the NTIS program and even advertized its NTIS relationship in the September issue of the "Colegio de Ingenieros de Venezuela". NTIS has proposed that REDINARA become a foreign commercial dealer because Venezuela no longer needs to receive the developing country benefits as it has reached a significant level of development in many technical areas. This idea was discussed both in a fourth quarter Caracas meeting with the new NTIS Coordinator, Econ Rizo, and with the N.Y. office of CONICIT which has an indirect working relationship with REDINARA in Caracas.

The director of NTIS, Melvin S. Day, also attended a Caracas meeting of the Venezuelan Institute of Science.

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PART III

ATTACHMENTS

**PROJECT NO. 598-0572
LATIN AMERICA & THE CARIBBEAN
REGIONAL NETWORK
TECHNICAL INFORMATION FOR DEVELOPMENT**

ATTACHMENTS

1. Demand for NTIS US Government-Sponsored R & D Information Items from Latin America and the Caribbean
2. Distribution of Appropriate Technology Documents
3. Commissioned Translations
4. Latin American Appropriate Technology Acquisitions
5. Participants at 1979 NTIS Information Systems Workshop
6. AMTID and ACCESS
7. NTIS Field visits to Latin America and the Caribbean in FY 1979

DEMAND FOR NTIS U. S. GOVERNMENT-SPONSORED R & D INFORMATION ITEMS
FROM LATIN AMERICA AND THE CARIBBEAN

Since the project was initiated in FY 1977, total Latin American and Caribbean demand for products and services available from NTIS has increased significantly. The total FY 1976 demand for this region before the inception of the project was \$40,278. In FY 1977 this figure jumped to \$119,129.26 to \$139,464.88 in FY 1978 and to \$163,709.74 in FY 1979. This reflects an overall increase of 306 percent over the three-year scope of the project. Total demand for the region increased by 17 percent from \$139,464.88 in FY 1978 to \$163,709.74 in FY 1979.

The total value of FY 1979 demand from the USAID assisted project countries in Latin America and the Caribbean showed a substantial increase over FY 1978. This 28 percent increase was from \$38,560.59 in FY 1978 to \$49,567.27 in FY 1979. This increase reflects the energy devoted to the project countries and is especially significant when compared with non-assisted countries in the region.

Total demand for non-AID assisted countries (Argentina, Brazil, Chile, Mexico, Uruguay and Venezuela) rose by 13 percent from \$100,904.29 in FY 1978 to \$114,142.47 in FY 1979.

Most project countries are in their formative stages of developing their Information Systems and economics may account for the disparity in demand between USAID assisted and non-assisted countries. Individuals and organizations from twenty-three Latin American and Caribbean countries ordered documents with first time orders coming from Barbados, Guyana and Haiti.

There are network agencies in eighteen of the ordering countries while another, in Haiti, has agreed to join the network in 1980. There are no agencies in two other countries which have AID missions (Guyana and Trinidad/Tobago), but orders can be made through Barbados; two countries, Argentina and Uruguay, are excluded from the Network.

Chile, Columbia, the Dominican Republic and Mexico markedly increased their product demand from the third to the fourth quarter in FY 1979. Demand by other countries dropped noticeably during the quarter reflecting such problems as political instability, internal financial problems and, in some cases, a reduced demand during seasonal vacations. Because of this quarterly rise and fall in demand occurs frequently, the yearly demand figures are more representative of countries need for NTIS products. In general, the final demand increased from almost every country.

Mexico and Brazil remain the largest users of U. S. technical information. The increase in demand by Mexican customers was particularly striking, rising by almost \$9,700. Countries with largest percentage increases in demand including El Salvador (217 percent), Panama (108 percent), Argentina 84 percent), Bolivia (72 percent),

Costa Rica (58 percent, Uruguay (51 percent), Honduras (34 percent), Chile (28 percent), and Columbia (27 percent). The growth in Central American demand reflected the activities of the new Costa Rica network agency and the increasing familiarity for the other Central America agencies with NTIS services.

Demand from several countries dropped during 1979, quite often reflecting local economic and political difficulties: Nicaragua had severe internal political difficulties, Peru has had a long and profound recession, Ecuador had a period of political instability during a Presidential election and the Venezuelan agency experienced changes in management. These conditions are expected to either improve or not be in existence during FY 1980.

The increase demand over the last two years from many of the new agencies which are located in countries at which this project is mainly targeted is of the most long-run significance. This spurt has occurred despite the almost universal problems of inflation and depletion of expendable foreign exchange caused by higher import bills for petroleum. These demand figures would be higher if they included the numerous shipment of appropriate technology reference sent to many of the USAID countries (see Attachment II for a dissemination breakdown).

Central America had some of the larger two years rises, (1977-78--1978-79), including El Savador (667 percent), Panama (307 percent), Costa Rica 217 percent), Honduras (132 percent), and Nicaragua (44 percent--despite the recent political instability). Other USAID countries with large increases in demand were the Dominican Republic (894 percent) and Columbia 11.5 percent).

There was little increase in demand in several countries or, in some cases, an actual reduction. Some of the more mature agencies which are not subsidized by USAID, have show the most sluggish activity, i.e. Venezuela and Brazil. The actual reduction in demand (Venezuels) and very small rise in Brazil skew the actual two year percentage increase in demand because the countries are large consumers of U. S. information products. Taking out these country figures, as well as the 1979 Argentina demand as no figures were available in 1977, the overall demand in two years increased by an impressive 55 percent rather than 37 percent.

Other USAID project countries with a reduced demand were Ecuador, where subsidies are being withdrawn, and where political problems effected not only the country but also the local agency operation as the extremely competent director was forced to leave his position; Peru, which has had a severe recession bordening on bankruptcy for more than two years; Guatemala, where the drop was an aberration which reflects other Central American agencies ordering directly from NTIS rather than through ICAITI in Guatemala; and Bolivia, where demand has increased greatly this past year but has not yet returned to the levels of two years ago when the country was more politically stable.

The first of the attached tables presents the fourth quarter demand in various categories such as paper copy and microfiche sales, and then compares the results of the fourth and third quarters. The second table shows the 1979 demand by quarters and compares the final FY 1979 sales with previous years.

The information market in some countries has reached a level of sophistication where information centers can operate effectively to develop their local markets without subsidized assistance, a major objective of the program. However, the majority of the countries in the region still require support assistance to develop local information markets. In these countries, the data which follows shows that this USAID project has proven to be very effective in helping cooperating agencies to acquire financial support and skills necessary to introduce modern information systems to local conditions.

DEMAND FOR STI AVAILABLE THROUGH NTIS
FROM
LATIN AMERICA & THE CARIBBEAN

4TH QUARTER - FY-79

COUNTRY	4TH QTR (FY-79) Workload Demand (PC & MF)		4TH QTR (FY-79) Standing Orders SUBSCRIP. SRIM		4TH QTR (FY-79) TOTAL \$ DEMAND	3RD QTR (FY-79) TOTAL \$ DEMAND	CHANGE
	Amount	Value	Value	Value			
Argentina	151	\$ 1,625.00	\$ 380.23	32.30	\$ 2,037.83	\$ 2,129.09	\$ (91.26)
Barbados	--	--	122.49	--	122.29	122.42	.07
Bolivia	74	526.60	83.87	--	610.47	564.15	46.32
Brazil	487	9,215.20	2,071.92	2,630.10	13,917.22	13,553.36	363.86
Chile	384	3,998.00	507.06	--	4,613.06	2,819.37	1,793.69
Colombia	302	2,390.60	143.37	--	2,533.97	1,587.01	946.96
Costa Rica	64	533.00	123.06	--	676.06	1,461.81	(785.75)
Dominican Republic	223	1,557.75	218.50	--	1,776.25	940.72	835.53
Ecuador	94	791.50	213.73	--	1,005.23	892.97	112.26
El Salvador	42	528.50	50.18	268.45	847.13	969.44	(122.31)
Guatemala	64	468.50	125.55	--	594.05	1,129.21	(535.16)
Guyana	01	10.50	--	--	10.50	165.00	(154.50)
Haiti	04	71.00	43.97	--	105.97	42.69	63.28
Honduras	38	325.75	61.23	--	386.98	689.23	302.25
Jamaica	--	--	61.23	--	61.23	377.47	(316.24)
Mexico	1,366	10,711.45	900.56	122.10	11,734.11	7,685.18	4,048.93
Nicaragua	--	--	100.41	--	100.41	828.95	(728.54)
Panama	08	63.00	102.24	--	165.24	885.39	(720.15)
Paraguay	08	50.25	--	--	50.25	--	50.25
Peru	66	548.60	498.84	248.40	1,295.84	2,237.02	(941.18)
Trinidad/Tobago	--	--	86.30	--	86.30	104.87	18.59
Uruguay	44	335.50	--	--	335.50	86.59	248.91
Venezuela	35	656.00	1,030.35	404.40	2,090.75	3,097.15	6,006.40
TOTALS	3,454 ^a	\$34,426.90	\$6,925.09	3,705.85	\$45,048.84	\$42,369.09	\$ 2,787.25

NOTE: The above totals do not include the approximately 466 documents shipped between July 1, 1979, and September 30, 1979, under the AID Appropriate Technology Program.

a - Third Quarter workload demand total (PC & MF) was 2,676.

- Indicates participation in LAC/DR project as unsubsidized graduate of subsidized agency.

CUMULATIVE DEMAND FOR NTIS PRODUCTS
FY 1979 AND PREVIOUS FISCAL YEARS

COUNTRY	OCT-DEC 1978	JAN-MARCH 1979	APRIL-JUNE 1979	JULY-SEPT 1979	FY 79 TOTAL DEMAND	FY 78 TOTAL DEMAND	FY 77 TOTAL DEMAND	FY 78 to FY 79 CHANGES
Argentina	936.20	2,042.42	2,129.09	2,037.83	7,145.54	3,879.00	*	3,266.54
Barbados	--	2,432.10	122.42	122.49	2,677.01	--	--	2,677.01
Bolivia	40.82	565.15	564.15	610.47	1,780.59	1,035.50	2,165.50	745.09
Brazil	9,256.37	10,250.97	13,553.36	13,917.22	46,977.92	46,900.01	42,260.82	77.91
Chile	1,926.08	3,418.57	2,819.37	4,613.06	12,777.08	9,959.05	10,493.45	2,818.03
Colombia	1,140.07	1,351.99	1,587.01	2,533.97	6,613.04	5,207.56	3,077.90	1,405.48
Costa Rica	401.81	426.75	1,461.81	676.06	2,966.43	1,871.71	939.06	1,094.72
Dominican Republic	318.07	156.74	940.72	1,776.25	3,191.78	2,904.84	321.23	286.94
Ecuador	565.57	398.67	892.97	1,0005.23	2,862.44	4,089.59	4,636.83	(1,227.15)
El Salvador	728.85	470.71	969.44	847.13	3,016.13	951.75	393.00	2,064.38
Guatemala	430.73	465.81	1,129.21	594.05	2,619.80	2,790.37	3,508.50 a	(170.57)
Guyana	--	481.05	165.00	10.50	656.55	--	--	656.55
Haiti	--	--	42.69	105.97	148.66	--	--	148.66
Honduras	92.57	2,033.34	689.23	386.98	3,202.12	2,382.10	1,381.01	820.02
Jamaica	174.49	5,039.90	377.47	61.23	5,653.09	--	--	5,653.09
Mexico	7,012.90	11,248.11	7,685.18	11,734.11	37,680.30	27,982.99	22,951.26	9,697.31
Nicaragua	345.57	880.37	828.95	100.41	2,155.30	2,467.52	1,498.76	(312.22)
Panama	298.32	2,666.37	885.39	165.24	4,015.32	1,934.03	986.52	2,081.29
Paraguay	37.50	176.75	--	50.25	264.50	--	--	264.50
Peru	587.80	1,141.75	2,237.02	1,295.84	5,262.41	12,925.62	8,797.66	(7,663.21)
Trinidad/Tobago	80.00	--	104.87	86.30	271.17	--	--	271.17
Uruguay	32.00	72.24	86.59	335.50	526.33	349.00	**	177.23
Venezuela	1,408.30	2,439.10	3,097.15	2,090.75	9,035.30	11,834.24	15,717.76	(2,798.94)
West Indies	122.15	313.05	1,190.02	585.71	2,210.93	**	**	**
TOTALS	25,036.17	48,471.91	43,559.11	45,742.55	163,709.74	139,464.88	119,129.26	24,244.86

* - Indicates participation in LAC/DR project as unsubsidized graduate of subsidized agency.

** - Not Available

a. - Includes demand from other Central American countries..

DISTRIBUTION OF APPROPRIATE TECHNOLOGY DOCUMENTS

A principal objective of the Regional Network program is to disseminate appropriate technology information to benefit developing countries. NTIS has taken several steps to advance the program, all of which were covered earlier in this report or in previous quarterly reports. The Developing Country Staff publishes AMTID to introduce appropriate technology publications; in addition this office printed several bibliographies of selected appropriate technology publications.

The AID program subsidizes the distribution of AT documents to the developing Latin American and Caribbean countries. The following charts and lists demonstrate the distribution range of AT documents to the countries within which AID missions are located. The most popular AT publications distributed during FY 1979 are also presented (significantly several were translated into Spanish under the Network Project) and included is a country distribution of the most popular AT documents.

QUARTER

DEMAND IN FY 1979 FOR APPROPRIATE TECHNOLOGY DOCUMENTS

COUNTRY	Oct-Dec. 1978	Jan-March 1979	April-June 1979	July-Sept. 1979	Total
BARBADOS			21		21
CHILE			23	15	38
COLOMBIA			08	51	59
COSTA RICA	17		124	44	185
ECUADOR			96	11	107
EL SALVADOR	12	07	34	39	92
GUATEMALA	04		102	98	204
HAITI	09		05	04	18
HONDURAS	04			174	178
PANAMA	13	36	53	24	126
PARAGUAY				02	02
PERU	01	23	116	03	143
TOTAL	60	66	581	466	1,173

AT Documents Most in Demand by Latin America and the Caribbean

- 1.) PB 263 349 Teaching Manuals: School Gardens and Nutrition.
(Manual Didactico: Huertos, Escolores y Nutricion)
- 2.) PB 271 714 A Complete Disposal-Recycle Scheme for Agricultural Solid Wastes.
- 3.) PB 247 819 Agricultural Machine Development Program.
- 4.) PB 263 840 Improved Practices in Corn Production: A Guide for Peace Corps Volunteers.
- 5.) PB 260 763 An Evaluation of the Use of Agriculture Residues as An Energy Feedstock, Vol. 1
- 5.) PB 276 507 Manual Talla de Madera. (Wood Carving Manual)
- 7.) PB 262 928 Glossary of Environmental Terms: Spanish-English, English-Spanish.
- 7.) PB 175 541 Plant Requirements to Set Up and Operate a Job Machine Shop
- 9.) PB 214 508 Nonpoint Rural Sources of Water Pollution.
- 9.) PB 276 055 Appropriate Technology and Agriculture in the United States.
- 9.) PB 269 049 Contabilidad para la Micro Empresa: Manual de Ensenanza.
Accounting for Small Business: Teaching Manual.
- 9.) PB 283 958
PB 207 441 Manual de Tecnologia Para la Comunidad.
Village Technology Handbook.
- 13.) PB 262 748 Library Research of Japanese Fishery Research Publications.
- 13.) PB 268 987 Freshwater Fisheries: Program Planning.
- 13.) PB 264 900 A Study of Run-off from Small Rural Watersheds in Response to Completed and Proposed Land Use Changes.
- 13.) PB 258 499 Fuels and Energy Production by Bioconversion of Waste Materials -- State of the Art.
- 17.) PB 278 351 Sugar Cane Production Residues: Assessment of Methods for Technology and Economic Conversion to Utilize Energy Forms.

- 17.) PB 175 531 A Small Sawmill Enterprise.
- 17.) PB 238 103 Technology for Conversion of Solar Energy to Fuel Gas.
- 20.) TED 27164 Bio-Conversion of Agricultural Wastes for Pollution Control and Energy Conservation: Final Report.
- 20.) PB 179 327 Handbook for Building Homes of Earth.
- 20.) PB 206 800 Small Scale Power Supplies for Rural Communities in Developing Countries.
- 20.) PB 264 457 Biological Productivity or Renewable Resources Used as Industrial Materials.
- 20.) PB 280 196 The Performance and Economic Feasibility of Solar Grain Drying Systems.
- 23.) COM 73-50645 1 The Technological Basis for Development of Aquaculture to Produce Low-Cost Food Fish.
- 23.) PB 267 970 Appropriate Technology -- A Directory of Activities and Projects.

AT DOCUMENTS MOST IN DEMAND FROM LATIN AMERICA AND THE CARIBBEAN

COUNTRY	PUBLICATIONS																										
	PB 263-349	PB 271-714	PB 247-819	PB 263-840	PB 260-763	PB 276-507	PB 262-928	PB 175-541	PB 214-508	PB 276-055	PB 269-049 PB 207-441 PB 283-958	PB 262-748	PB 268-987	PB 264-900	PB 258-499	PB 278-351	PB 175-531	PB 238-103	TID 27164	PB 179-327	PB 206-800	PB 264-457	PB 280-198	COM-73 50645-11	PB 267-970	TOTAL	
BARBADOS	1																										6
CHILE			1										1														7
COLOMBIA				1							4																16
COSTA RICA		2	1																								22
ECUADOR								1					1														4
EL SALVADOR	6										5																23
GUATEMALA	2	2	1	12								10															55
HAITI					1						1																4
HONDURAS	10	10	10											10													87
PANAMA			2										3														17
PERU		4	3	3							1		3														48
TOTAL	21	19	18	16	14	14	12	12	11	11	11	10	10	10	10	9	9	9	8	8	8	7	7	7	7	7	289

COMMISSIONED TRANSLATIONS

One of the tasks of the PASA Scope of Work Statement was to translate appropriate NTIS documents into Spanish so they would be useful to a wider range of groups and individuals in Latin America. Various USAID Network agencies were commissioned to accomplish the translations.

The following lists the initial eighteen documents which were selected for translation because they included technology information appropriate and in demand for developing countries of Latin America. It also gives the current status of the work.

COMMISSIONED TRANSLATIONS

<u>Title</u>	<u>Translation by:</u>	<u>Status</u>	<u>Document #</u>
A Manual on Building Maintenance: Vol. 1	ICAITI (Guatemala)	Input	PB-296-655
A Manual on Building Maintenance: Vol. 2	" "	Being revised	
Ferrocement: Applications in LDC's	CENIT (Nicaragua)	Not received	
Feasibility Test of an Approach and Prototype for Ultra Low Cost Housing	" "	" "	
Guide for Field Crops in the Tropics and the Subtropics	CENAP (El Salvador)	Not received	
The Cement Industry	INFOTEC (Mexico)	Input	PB-287-064
Manual of Methods for Chemical Analysis of Water and Wastes	INTEC (Chile)	Input	PB-291-858
An Inexpensive Economical Solar Heating System for Homes	NIC (Peru)	Being re-typed	
State of the Art of Delivering Low Cost Health Services in Developing Countries	" "	" "	
Energy for Rural Development.: Renewable Resources and Alternative Technologies for LDCs	DGNT (Bolivia)	Pending needed corrections	
Underexploited Tropical Plants with Promising Economic Value	INDOTEC (Dominican Republic)	Input	PB-298-481
Solar Heating of Buildings and Domestic Hot Water	" "	Input	PB-295-087

<u>Title</u>	<u>Translation by:</u>	<u>Status</u>	<u>Document #</u>
Small Wells Manual	CII (Honduras)	Input	
An Investigation of the Interaction of Rock and Types of Rock Bolts for Selected Loading Conditions	NIC (Peru)	Being re-typed	
Simple Methods of Candle Manufacture	GTA (Panama)	Input	PB-296-654
How to Obtain Infor- mation in Different Fields of S & T: A User's Guide	COLCIENCIAS (Colombia)	Input	PB-298-717
Consultancy for Small Businesses	NIC (Peru)	Being typeset in Peru	
Workbook for NTIS In- formation Systems Work- shop	" "	Being typed	

LATIN AMERICAN APPROPRIATE TECHNOLOGY ACQUISITIONS

A major objective of the AID/NTIS program is to acquire appropriate technology publications resulting from world-wide research. They are printed by NTIS and listed in the NTIS data base. Once published by NTIS, the information, previously only available locally, can be used by concerned individuals or organizations working with the poor in other sectors of the world. The program fulfills a major AID Science and Technology Information Transfer Program task: "to improve Latin America access to appropriate technology information.

NTIS urges the Latin American and Caribbean cooperating agencies and local appropriate technology organizations to forward AT publications to this office. The following is a representative sample of the publications sent by several Latin American countries.

ACQUISITIONS

Accession Number	Country	Title
PB 287 060	Chile	Envases para Alimentos Industrializados Chilenos. Tomo I.
PB 287 061	Chile	Envases para Alimentos Industrializados Chilenos. Tomo II.
PB 287 062	Chile	Envases para Alimentos Industrializados Chilenos. Anexos.
PB 289 986	Panama	Diagnostico para el Desarrollo de Servicios de Informacion Cientifica y Tecnologica en Panama
PB 289 989	Peru	Construyendo con Ladrillo
PB 290 423	El Salvador	Manual de Administracion para la Industria del Vestuario
PB 290 424	Peru	La Investigacion Tecnologica Industrial en la Peru: Analisis y Comentarios
PB 290 425	Colombia	Memoria del Seminario sobre Desarrollo de Tecnologia Industrial
PB 290 426	Colombia	Ciencia, Tecnologia y Desarrollo, Vol. 2 Numero 1: Enero-Marzo, 1978
PB 291 858	Colombia	Manual de Metodos para el Analisis Quimico de Aguas y Desechos
PB 296 721	Honduras	Estudio Tecnico-Economico para la Fabricacion de Cal en Honduras
PB 297 854	Guatemala	Tecnologia Apropiada: Concepto, Aplicacion y Estrategias
PB 297 856	Peru	Quesos Andinos del Peru
PB 297 857	Peru	Quesos para Regiones Tropicales
PB 297 859	Chile	Programa de Tecnologia Rural Intermedia
PB 297 867	Colombia	Elaboracion de la Panela
PB 297 868	Costa Rica	Reforestacion
PB 297 869	Honduras	Tecnologia para Campesinos Hondurenos: Informe de un Seminario
PB 297 870	Chile	Secado Solar de Uvas: Programa de Tecnologia Rural Intermedia

PB 298 058	El Salvador	Evaluacion Pesquera en el Lago de Ilopango y la Laguna de Olomega
PB 298 059	El Salvador	Estudio Limnologico Preliminar de la Laguna de Aramuaca
PB 298 060	El Salvador	Contribucion al Conocimiento Limnologico Comparativo del Lago de Guija en la Epoca Lluviosa de 1973 y la Epoca Seca de 1974 Volumen II, No. 9.
PB 298 061	El Salvador	Estudios Limnologicos Preliminares de la Laguna Verde
PB 298 470	Colombia	Los Suelos: Su Uso y Manejo: Cartilla Divulgativa para el Agricultor Colombiano
PB 298 525	Panama	Tecnologias Apropriadas para el Desarrollo de Panama

PARTICIPANTS AT 1979 NTIS INFORMATION SYSTEMS WORKSHOP

The Developing Country Staff has held a number of semi-annual Information Systems Workshops over the last several years. Attendees come from the entire developing world; some pay their own expenses, while others have their costs subsidized by the AID network and still others receive funds from other international organizations.

This attachment lists the individuals who attended the April and September 1979 sessions; the great majority reside in Latin America and the Caribbean. Some of the individuals have good training in library sciences and speak good English while others have lesser skills. All appear to have benefited from the course. Part of the reason is the exposure gained to individuals from different countries who work in the same field; ideas are exchanged and often taken back to their agency where beneficial developments occur.

1979 WORKSHOP ATTENDEES FROM LATIN AMERICA AND THE CARIBBEAN

APRIL

Adelle Blackman, CDB
Jerome Singh, CDB
Jorge Medina, CENDES
Ernesto Rossback,
Francisco Palon Afre, INTECAP
Particia Elizabeth Duron, CII
Ouida Mae Lewis, SRC
Paula Rucinski-Cartas
INFOTEC/CONACYT
Javier Salas, INFOTEC/CONACYT
Glenda Bern, CEDECANI
Marco Fernandez Baca, NIC

SEPTEMBER

Isabel Forero de Moreno,
COLCIENCIAS
Angela Suarez, CENDES
Gerardo Mirabelli, ITCR
Thomas Olson, CII
Ingrid Douglas, CDB
Nitzia Barrantes, CEDECANI
Antonio Dayrit, TRC

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The Developing Country Staff publishes a newsletter and a bulletin to provide information about what NTIS can furnish the public, as well as operations of the Staff. They are prepared as part of the USAID sponsored International Technical Information Network program.

The newsletter, Application of Modern Technology to International Development (AMTID), announces new appropriate technology reports which are of particular interest to developing countries. It is distributed to a large number (24,000) of concerned individuals and groups throughout the world and has proven to be the project's most effective tool for announcing available appropriate technology material that can be used world-wide to benefit urban and rural poor.

The bulletin, ACCESS, is prepared by the Developing Country Staff and distributed to the Network agencies overseas and Washington AID offices, and to several other interested individuals and groups. It keeps the members of the Network aware of what others are doing in the field of appropriate technology and has provided other individuals, such as Congressman Long, the opportunity to comment upon appropriate technology.

The AMTID editorial policy as well as the list of the FY 1979 AMTID and ACCESS subjects follows. Copies of the AMTID'S and ACCESS' are attached if they have not been supplied in earlier quarterly reports.

AMTID EDITORIAL POLICY

The publication, AMTID (Application of Modern Technology to International Development) is an effective tool in facilitating access to information which meets developmental needs. Publications are announced in AMTID from the NTIS data base, as well as many other sources. They are selected for their relevance and transferability to developing countries. As an information network resource, AMTID provides useful information which can be utilized to promote and expand technical know-how in developing countries throughout the world.

PRIORITIES AND OBJECTIVES

1. AMTID is published to increase the awareness of current and potential users about available, useful technical information.
2. The constituencies, sources, and materials are selected for AMTID on the basis of their relevance to developmental efforts and the ease of transfer of the information cited.
3. AMTID places first priority on "Appropriate Technology" which is defined as small-scale, employment-generating, and energy-conserving technologies relevant to the needs and resources of developing countries. It emphasizes the use of local resources to create employment, to improve production and to increase incomes. Also, the concept implies a humanistic approach to problem solving and considers "soft technologies," such as education, health care delivery, and community development.
4. Exceptions to these criteria will be considered if the target of the information is sufficiently directed toward satisfaction of these countries' basic human needs, in particular food, shelter, and health.
5. Reports and other products of extremely high technical sophistication or specifically oriented towards a domestic U.S. environment will be excluded except under special circumstances.

SOURCES OF INFORMATION

1. AMTID relies primarily on the NTIS data base which is the largest information processing organization in the world. This comprehensive source will provide the bulk of the publications listed in AMTID.
2. Other sources from developed countries and lesser-developed countries will be included for the general information of subscribers, especially those sources which provide information not covered by NTIS.

3. As a matter of policy, AMTID will promote reports prepared by USAID and other developmental agencies from either the United States or abroad.

4. AMTID will give priority promotion to technical information available in French or Spanish, as well as the sources of such information.

CONSTITUENCIES - TARGET GROUPS

1. In order to benefit the poorest section of LDC population's, AMTID will target extension technicians working directly with the poor.

2. To strengthen the national infrastructure supporting the efforts of extension workers and others working to benefit the poor, AMTID will target research and development organizations working in these areas.

3. In keeping with "Appropriate Technology" guidelines mentioned earlier, small agribusiness and industrial enterprise, public and private, will be targeted.

4. AMTID will include information for use by large organizations, public and private, who are involved in social and economic welfare enterprises. AMTID is presently being distributed to NTIS cooperating agencies abroad who are members of the USAID International Technical Information Network. These agencies further disseminate AMTID to local customers within each country.

Through the guidelines stated above, information dissemination to developing countries will be accomplished directly as well as indirectly in helping these nations create their own appropriate technologies to expedite world development.

AMTID

- 78-07 focused on appropriate technology, recapitulating documents from the AID predecessor agency, the International Cooperation Administration;
- 78-08 highlighted current best sellers from the NTIS collection;
- 78-09 dealt with documents relating to various food technologies, including food processing, aquaculture, and protein concentrates;
- 78-10 printed only in French and covered a number of different subjects, highlighting the RTAC series;
- 78-11 dealt with health fields. Topics included books on paramedical programs such as China's Barefoot Doctors Manual and birth control;
- 78-12 highlighted manuals and handbooks in the agriculture, communications, construction, education science and technology fields;
- 79-01 highlighted fertilizers, a theme requested by PASTIC in Pakistan;
- 79-02 a general issue featuring best selling reports;
- 79-03 highlighted computers and informatics;
- 79-04 highlighted urban technology;
- 79-05 focused on the environment/sanitation;
- 79-06 focused on ocean shipping, fisheries and Brazil;
- 79-07 highlighted TECH NOTES and the Government Inventions for Licensing;
- 79-08 featured RTAC Documents; and
- 79-09 highlighted Plant Requirements:

The above AMTIDs, with the exception of issues 79-10, 79-7-79-9, were printed in both English and Spanish and distributed to Latin America. During FY 1979 edition 78-10 was published in French only, while 78-05 on water resources was translated into French. Both were distributed to the French speaking part of developing countries.

ACCESS

October 1978 discussed appropriate technology subsidies and introduced a new NTIS appropriate technology specialist;

January 1979 introduced the new Director of NTIS, Melvin S. Day and announced the Panama Conference;

March 1979 featured an interview with Lida Allen, Director of AID DS/DIU;

April 1979 featured Ambassador John McDonald's comments on Technical Cooperation Among Developing Countries;

May 1979 discussed the Contadora Regional Conference and data base discussions in Peru;

June 1979 introduced the Appropriate Technology Fair in Washington D.C.;

July 1979 presented an interview with Congressman Clarence D. Long of Maryland on capital saving technology and discussed the August UNSCTD Conference.

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NTIS FIELD VISITS TO LATIN AMERICA AND THE CARIBBEAN IN FY 1979

A particularly effective way to conduct network business in Latin America and the Caribbean is through personal visits to the concerned agencies. Field visits are worth all the time and expense invested in them, and they are the only method NTIS staff members have to meet with all the agency employees and to review local operating problems. Suggestions for improvement in the operations can be made with much more expertise following a first-hand review of the local facilities.

It is advisable to visit each agency at least once a year. The visits are coordinated so that year-end reviews can be made of the local operations and agreements extended or renegotiated.

This is particularly true when NTIS is negotiating or signing a new agreement or providing training to local staff on how to operate a technical information facility, i.e. Barbados, Paraguay and the sub-agent in Quito. In some countries visits are made to stimulate lagging operation.

In addition to meeting the agencies, staff officers always brief the local USAID office and attempt to meet other U.S. Government officers, such as the Peace Corp. User seminars (meetings with the public at which NTIS and AID objectives are explained) are held whenever possible and appointments are requested with other user groups, particularly with those working with appropriate technology.

The following lists the countries which the staff visited during FY 1979 and breaks down some of the major efforts in each of the countries.

Of the Total: The Following Was Accomplished

	TOTAL NUMBER OF VISITS	GENERAL VISITS, MEETING LOCAL AUTHORITIES, TRAINING, etc.	AGREEMENT NEGOTIATIONS RENEGOTIATION	USER SEMINAR (NUMBER OF ATTENDEES)
Barbados	3 A	2	2	1 (40)
Bolivia	2	2	1	--
Brazil	2	2	--	--
Chile	1	1	--	1 (135)
Colombia	1	1	--	--
Costa Rica	1	1	1	--
Dominican Republic	2	2		1 (92)
Ecuador	3	3	3	--
El Salvador	1	1	--	--
Guatemala	2	2	--	--
Haiti	2	2	2	--
Honduras	1	1	--	1 (30)
Jamaica	1	1	--	1 (87)
Mexico	1	1	--	--
Nicaragua	--	--	--	--
Panama	1 B	1	--	--
Paraguay	2	2	2	--
Peru	2	2	1	--
Venezuela	1	1	--	--

A. Includes 1 visit of 3 staff members who attended the September CDB seminar;

B. 5 NTIS officers attended the Director's Conference;

ATTACHMENT B

FY 1980

FIRST AND SECOND QUARTER REVIEW

OCTOBER 1979 - MARCH 1980

THE U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT
LATIN AMERICA & THE CARIBBEAN REGIONAL NETWORK
TECHNICAL INFORMATION FOR DEVELOPMENT
PROJECT NO. 598-0572

MANAGED BY

THE NATIONAL TECHNICAL INFORMATION SERVICE

FOR

THE DIVISION OF EDUCATION & HUMAN RESOURCES
OFFICE OF DEVELOPMENT RESOURCES
BUREAU FOR LATIN AMERICA AND THE CARIBBEAN

INTRODUCTION

The staff of NTIS and the Latin American agencies cooperating in the International Technical Information Network entered the 1980 fiscal year with positive and high expectations, based on the great progress noted during the previous year. The Caribbean countries had recently met at a very successful subregional seminar hosted by the Caribbean Development Bank in Barbados. Two new Appropriate Technology reference works were being prepared at NTIS, and training videotapes were reaching the end of production.

Based on this sense of mutual reinforcement between NTIS and the agencies, NTIS began the new year with an ambitious contract with the Grupo de Tecnologia Aprciada, located in Panama, to provide reinforcement of the Appropriate Technology component of the program at several levels: acquisition, field visits, engineering consultancy, and program evaluation and case studies.

To the degree that overall activity is generated or reinforced by NTIS, however, it was dampened after the first month by increasing uncertainty about the availability of funds in the new fiscal year. This was caused by The Congress' failure to pass the Foreign Assistance Act, upon which NTIS depends for support for this project. Accordingly, innovations in programming were suspended, travel cancelled and the overall program activity was reluctantly slowed to "maintenance level."

Anticipating that the funding problems would be resolved by February, all energies were directed to the holding of the third annual Latin American Directors' Conference in the Dominican Republic, held from February 3 through 7. The host was INDOTEC, the local network agency. Field trips were carried out at that time to Guyana, Barbados, Guatemala, Nicaragua, Panama, Costa Rica and Peru.

It was the meeting of directors which provided the most important opportunity to exchange views on the course of this project. This annual meeting has become a focal point of the year's program, as it draws together information specialists and managers of national information systems from throughout the Spanish-speaking segment of the hemisphere to review the progress and problems of the past year and plan for the future. Innovations in operational techniques can be exchanged among the participants, and many suggestions are discussed with NTIS for possible improvements in the agency's coordinating role in the network.

The participants presented their agency's activities over the past year as a point of departure. The group then divided into working groups to focus on specific aspects of international information transfer in general and then specific aspects of the NTIS-managed network. The results of each working group were presented to plenary sessions for the consideration of the entire conference.

Topics of discussion included:

1. International Network Operations - TCDC
2. Appropriate Technology
3. Training and Professional Development
4. Manual and On-line Searching
5. Marketing and Promotion
6. Program Evaluation and Case Studies
7. Relations with U.S. Agencies and International Organizations
8. Affiliate-agency Relationships
9. NTIS and the Opening of the Technological Package.

In addition to the NTIS staff working on the Latin American network and the representatives of the cooperating agencies, attendees included the USAID Director and several other officers assigned to the Dominican Republic, the Commercial Officer from the Embassy in Santo Domingo, the Director of the Peace Corps in Santo Domingo and a staff member, and the project officer from AID/Washington.

The conference provided the opportunity to review the general development of information transfer organization in Latin America, and then to take a closer look at the actual and possible role for NTIS/USAID.

All agencies reported a general increase in their user population and a gradual building of relations of confidence with them individually. NTIS contributions mentioned in this regard were the publications of AMTID (about which several suggestions and commendations were made), site visits for staff training and user education seminars, and the production of audio-visual materials. They reported a need for more local support--political and financial--to strengthen community awareness and to develop the infrastructure to deal with it.

Appropriate technology was once again a principal focus of the meeting's discussions, with more agencies than before including it as a regular aspect of their year's programming. The contract with the Grupo de Tecnologia Apropriada was warmly received as a greatly needed assist in serving the user community with little education and scarce resources. The new edition of the AT Bibliography was also highly praised, and all agencies indicated a desire to participate in the selection and translation of frequently used reports.

Many of the agencies strive to fill the role of a national technical information service for their country, and depending on circumstance, they depend on the NTIS training program for the development of their staff and familiarization with their regular clients. Many of the newer agencies were anxious for a resumption of the Washington seminar, which had been cancelled due to the funding problem. Among other agencies the question was how much orientation for a new director vs. how much training for technicians in different capacities. Each agency reported some instance of "brain-drain" of NTIS-trained staff from their agency to the private sector. In general, the agencies strongly supported on-site training and the refinement and increase of audio-visual techniques, especially for personnel only partially concerned with accessing NTIS or other sources of technical information.

The techniques and problems of searching the NTIS database using the printed indexes as well as the on-line method were discussed in detail. The AT Bibliography and the Published Searches offer convenient short-cuts to some searching problems. The new NTIS title index published on microfiche called KWOC (Key-Word Out of Context) was deemed very convenient since it is in microform, but it was criticized for not using main descriptors in the headings.

Marketing and promotion was a familiar topic by now to most of the participants, and the meeting focused on different techniques and measuring of response. Agencies had varied experience with the two main techniques tested in 1979: user education seminars and announcements in print media had some positive and some unsatisfactory response from clients. The direct mailing of bulletins including AMTID was judged the most cost-effective method of promotion.

Program evaluation and case studies were of great interest, as the agencies are more aware of the contribution which effective evaluation can make to program planning. Nonetheless, as the Case Studies Handbook prepared by NTIS points out, follow-up with clients and the careful and accurate documentation of case studies is often viewed skeptically or hostilely by the client, and must be handled with great care. The investment of time and resources is a further disincentive to pursuing these activities.

Discussion of cooperative relations with U.S. aid agencies and other international organizations quickly focussed on Peace Corps, which was represented by two people at the conference, and in other countries had demonstrated more interest in the technical information services offered by local organizations. In Costa Rica, for example, a close cooperative program had been established in AT pilot projects, including an information application and adaptation aspect. In general, the agencies called for a strengthening of AID support to the project, regretting the uncertainty of the current funding situation, and also called for closer involvement of the local missions in the area of technical information transfer.

An affiliate agency concept had been introduced during 1979 to fill in program gaps and extend geographic range of information service access available to the public in certain countries. No agency pretends to fill all the information needs of the entire country, yet the circumstances of each country and agency are so distinct, that the meeting had some difficulty in arriving at common definitions and operational concepts. The problem is further complicated by the limited availability of resources whereby additional agencies can be equipped to serve their public. The experiences of Ecuador and Panama and Guatemala, where this practice has been tried, will be monitored carefully.

The final topic of the meeting was presented by the Cooperating Agency in Peru, taking a subject of special interest to certain Andean countries examining its relevance to the NTIS-managed network, and through this discussion to raise for general discussion the medium- to long-range purposes and objectives of this project. It was an ambitious undertaking, which was not clearly understood by all participants from the outset. Still, some useful observations were made about the preparation of small-scale consultancy studies, the identification of key variables in them to permit these small packages to be easily "opened up," and the participants did get to raise some of the longer-term issues facing this project.

Thus it was that the meeting served as a year-end evaluation of the project by NTIS and its agencies in a spirit of frank but constructive criticism with congratulations offered where appropriate for jobs well done. The meeting closed with a presentation to Lic. Isabel Forero de Moreno of a certificate naming COLCIENCIAS of Colombia as the most outstanding cooperating agency in the Latin American program in 1979.

After the meeting, some field visits were made as mentioned above. Funding problems went unresolved up through the end of the second quarter, necessitating further reductions in program activity. Nonetheless, the contracts still operative from last year and the new one with Grupo de Tecnologia Apropriada continued to yield benefits to the program, with more than 150 documents added in the field of appropriate technology, a steady increase in the circulation of AMTID, and the signing of an agreement with a new agency in Haiti and a tentative agreement with an agency in Guyana.

The prospects for the second half of the year seem to have improved with some resolution of the funding problem, enabling NTIS to continue with essential services through the end of the current fiscal year (September).

APPROPRIATE TECHNOLOGY

-- To help fulfill the project objectives, NTIS contracted the Grupo de Tecnologia Apropriada (GTA) for it to initiate contacts to acquire and disseminate appropriate technology information in Latin America. GRA has had considerable experience working with appropriate technology groups throughout the area and, was considered uniquely qualified for the job. It is also centrally located thereby providing considerable savings on travel expenses.

Samual Bern, the Executive Director of GTA worked directly with the project and visited Washington in October 1979 to be briefed by NTIS staff and to meet with other organizations, such as VITA, working in the AT field. Requirements were discussed including the need to establish contacts with technical organizations other than NTIS, to monitor AT activities by the NTIS Network members, and to refer the members to additional sources of appropriate technology when NTIS is unable to supply the needed information.

Mr. Bern visited Guatemala to discuss the input into the NTIS data base of numerous Guatemalan Government publications which would be of vast interest to appropriate technology organizations. He made a site visit to the two NTIS representatives in Ecuador, Escuela Polytecnica in Quito and CENDES in Guayaquil, and the Gaviotas project in Colombia, where one of the world's most successful long-term AT projects is taking place. In addition, he attended the Director's meeting in the Dominican Republic. Another GTA representative visited Costa Rica to meet with the local AT organizations.

Although Mr. Bern's and GTA's work has been highly successful and we believe this contract is one of the most innovative within the program, this office had to suspend his contract when the U.S. Congress failed to pass the Foreign Assistance Act. We hope that the contract can be begun again once the budget is approved.

-- Appropriate Technology Information for Developing Countries, an up-dated and more comprehensive bibliography of appropriate technology information, was published during the period (see Attachment C). It is an edited search of appropriate technology publications from the NTIS Data File and lists over 2,000 abstracts about publications which can be used to help improve the quality of life for low income groups.

In addition, the bibliography lists 400 Industry Profiles, a series of 1966 and 1967 professional analyses, completed under USAID auspices and intended to promote the growth of industry in developing countries. It also includes a list of Spanish and French documents which are available from NTIS. One hundred and forty-eight copies of the bibliography were sent during the period to USAID missions throughout the world.

-- The Case Studies Handbook: An Aid to Evaluate the Utilization of Scientific and Technical Information (see attachment D) was written to assist individuals better understand and prepare case studies. The preparer showed how to develop case studies. He described the uses of scientific and technical information in development projects and included sample case studies.

-- An agreement was reached with the AID Office of Development Information for it to input, on a regular basis, selected documents done by and for USAID. The incoming documents will be reviewed by the staff to determine their usefulness and potential demand. If printed, they will be publicized through AMTID. 600 technical reports are to be input at the initial rate of approximately 20 reports per month.

-- F. Post and P. Bundick attended a meeting at VITA to discuss the possibility of contracting VITA to back-stop information requests from Cooperating Agencies. The items of reference were agreed upon and final action was deferred until approval of the FY 1980 budget.

-- F. Post and D. Tenney met with Ing. Ricardo Navarro of the Universidad Jose Simon Canas of San Salvador, El Salvador to establish a source/client relationship involving the input of several documents. This included a report on the February 1979 International Seminar on Appropriate Technology. Ing. Navarro discussed a forthcoming International Seminar on Engineering and his own plans to expand work on appropriate technology in El Salvador.

-- Dr. Jose Rivas of NTIS translated the following Intermediate Technology Publication (ITP) into Spanish:

1. Hand Dug Wells and Their Construction.
2. Small Scale Cement Plants: A Study in Economics.
3. A Manual on the Automatic Hydraulic Ram Pump.
4. Ferrocement Water Tanks and Their Construction.

-- Permission has been received to translate into Spanish two excellent ILO/ITP publications on Accounting and Financial Planning.

-- 21 appropriate technology documents were mailed to disadvantaged groups which requested them under the AID-subsidized program.

-- 155 AT documents were input into the NTIS Bibliographic Data File.

-- 15 documents were mailed to AT source clients in exchange for new acquisitions.

-- 306 publications, comprised of duplicate copies, copyrighted material, and other sources of AT information were sent to cooperating agencies in Africa, Asia and Latin America.

COOPERATIVE ACTIVITIES

- Continued progress was made in preparation for the May 5-9 UNESCO Conference which will be held at the Sheraton International facility in Reston, Virginia. Thirty selected individuals have been invited to attend including several from the Latin American Network.
- T. Lindemann met with A.A. Winters of UNESCO, Paris to discuss plans for the Conference, the fourth in a series on information policy. The US PGI Committee agreed to host the Conference following a commitment by Lida Allen of USAID/DSB/DIU to provide the necessary funding to cover costs related to hosting it. NTIS agreed to manage the conference for PGI which will be the host. Meetings have also been held with Bob Wedgeworth and Vladimir Slamecka to discuss various agenda items for the meeting.
- T. Lindemann presented a progress report for the UNISIST Planning Seminar at an October UNESCO PGI meeting.
- Dr. Albert Small, who works for the Department of Commerce's Assistant Director of Science and Technology, was briefed by T. Lindemann in preparation for the Latin American visit by Dr. Frank Press, the Presidential Science Advisor.
- T. Lindemann spoke on NTIS foreign activities at an American Associate for the Advancement of Science (AAAS) meeting for foreign science counselors.
- T. Lindemann spoke to International Communications Agency (ICA) librarians and information specialists on the foreign programs of NTIS. The videotape on the information systems workshops was shown. The briefing was to assist the audience better utilize NTIS resources while either assigned to Washington or posted abroad.
- V. Dowd presented a paper on NTIS' Training Programs for Lesser Developed Countries at a FID Conference held in Minneapolis. The Education and Training Committee of FID sponsored the seminars.
- T. Lindemann and V. Dowd attended the annual conference of the American Society of Information Science (ASIS) in Minneapolis. T. Lindemann was a panelist in a session on information for development and gave a brief report on NTIS' activities. V. Dowd, as a committee member, attended three ASIS committee meetings and several other technical sessions.

-- Magdi E. Elias, Fernando Rodriguez, and Beryl Ruff from the World Health Organization, Geneva, met with D. Shonyo during a visit to NTIS in Springfield. This group is seeking to establish a distribution system for health-care-delivery information originating in LDC's. Discussions created an interest in using the NTIS/AID AT program as the distribution mechanism.

-- J. Hounsell attended an International Communication and Computerization Policy (ICCP) meeting. ICCP is an inter-agency task force established to draft instructions for the U.S. delegation high level conference on information policy. The conference will be used as the basis for establishing the ICCP work program. Three topics were discussed: (1) effects of computerization on productivity and employment; (2) analysis of information flows and trade barriers; and (3) information resource needs of developing countries.

-- Briefings and meetings on NTIS and Network Activities were given at separate times to:

1. Pushpa Nand Schwartz of the Public Relations and Information Department of the World Bank. Names were provided of other scientific and technical contacts at the Bank.
2. Franklin R. Stewart of AID's Reimbursable Projects Office.
3. Vicky Assevero of the National Telecommunications and Information Administration.
4. Andy Moxam, from the Department of Commerce's Budget Analyst Office.
5. Suzanne Rucker and Robert Flick of the Agriculture Cooperative Development International (ACDI). Mr. Flick was also informed how to contact NTIS agencies in Latin America. The possibility of acquiring ACIDI documentation for inclusion in the NTIS data base was discussed.
6. Charles Sammons of AID/DIU.
7. Mr. Moran, the Special Advisor of External Affairs, Inter-American Institute of Agricultural Sciences.
8. Elizabeth Daniel, Program Officer of the Institute of International Education.

ACTIVITIES OF THE COOPERATING AGENCIES

-- T. Lindemann visited Guyana and Barbados en route to the Annual Regional Director's Conference in the Dominican Republic. The University of Guyana agreed to join the Network pending University approval. The Caribbean Development Bank Technology Unit is consolidating its activities after a year of hectic start-up. Carolyn Crozier has joined the staff as an AT specialist and will edit a monthly bulletin on available information.

-- F. Post visited Panama and Peru after the Conference. He visited CEDECANI, the cooperating agency in Panama to negotiate terms of the long time pending agreement. The AID mission and Grupo de Tecnologia Apropiada, a contractor to NTIS, were also visited. In Peru, Post provided training to new personnel and was given orientation in two new AID-related projects that Novoa Ingenieros, the local cooperating agency, is working with. He also visited the AID Mission and the Economic/Science Office at the Embassy.

-- D. Tenney made site visits to Guatemala and Nicaragua prior to the Dominican Republic Conference. Orientation on the NTIS project was given to new staff members in INTECAP and CENIT, the respective cooperating agencies in Guatemala and Nicaragua. In Guatemala he also visited the AID mission, the Embassy, ICAITI and the Peace Corps, which has an impressive Appropriate Technology program and plans to make more use of NTIS products. A site visit had not been made to CENIT since 1976 because of political instability in the country. The visit to the Embassy in Nicaragua (both to AID and the Commercial Officer) was particularly timely since the officers had experienced a recent demand for technical information and were neither familiar with the NTIS services and products nor with the AT program.

-- P. Tuebner visited Honduras and Costa Rica before the Dominican Republic meeting. In Honduras, he met with the Centro de Informacion Industrial, the local network agency, to brief it on the forthcoming D.R. meeting and to discuss the possible need to open a sub-agency in Honduras. He also met with a possible agent, the Centro de Desarrollo Industrial and with the AID mission, the Ministry of Natural Resources, the Fondo Nacional de Desarrollo Industrial and the Peace Corps. The latter requested more AMTID's as it wanted to distribute them to volunteers working with low-income groups. In Costa Rica, he met with ITCR, the new network agency and CONICIT, the old.

ITCR works closely with the Peace Corps which performs considerable AT work. He visited the AID mission and the main office of the Peace Corps.

-- D. Tenney visited INFOTEC, the NTIS cooperating agency in Mexico, to discuss matters of general interest to the agency including the printing of the Spanish version of AMTID and a one-time printing of AMTID in French. A new agreement was discussed and he received a general briefing on INFOTEC operations.

-- D. Tenney met in Washington with Alfredo Novoa, the Director of the NTIS cooperating agency in Peru. Novoa brought the Spanish translation of the Workbook for Use in the NTIS International Technical Information Network. Discussions were held on several pending concerns including a further translation and work his agency is completing in Peru with the Industrial Bank of Peru.

-- Tenney also met with Mr. Carol Reckford of the Caribbean Development Bank as Mr. Reckford wanted to expand his knowledge of NTIS beyond that gained from the NTIS presentation at the September CDB Seminar.

NETWORK AGENCY AGREEMENTS

-- The University of Guyana Library agreed to join the Network upon approval by the University administration. Once Guyana joins the Network, NTIS will have established agencies in all the Western Hemisphere countries in which USAID is represented. A delay may occur in the final paperwork because the University is short of foreign exchange.

-- The Bureau National de Technologie from Haiti officially joined the Network in January 1980.

-- Negotiations on agreements continue in Mexico and Panama, the former on a revision of the earlier one, the latter on its first one. Business, however, continues without any major difficulties.

-- The agreements were extended with Nicaragua and Guatemala (ICAITI).

CONFERENCES AND TRAINING

-- The principal network conference was held in the Dominican Republic and is described in the Introduction.

-- No Information Systems Workshop was held during the six months and the scheduled April meeting had to be cancelled due to lack of funds. The September workshop will only be held if the Foreign Assistance Act is passed.

-- A series of training videotapes was completed in October and shown at the Dominican Republic Conference. They were received favorably and once funding becomes available again and copies of the tape made, can be printed and used by the agencies directly for in-country training.

-- A revised "How to Use the NTIS Order Processing System" manual was sent to the Network agencies as was an extract of an NTIS summary of customer survey activity. The latter report can be used by the representatives as a future guide for conducting mail surveys in their countries.

-- The Spanish translations of the Workbook for Use in the NTIS International Technical Information Network was completed. It was printed in a limited order and distributed to the agencies in Latin America and to other interested individuals.

**APPLICATION OF MODERN TECHNOLOGY TO INTERNATIONAL DEVELOPMENT
(AMTID)**

AMTID is written, produced and distributed by this office to announce new and interesting reports on technology appropriate to the development of the lesser-developed countries. It continues to be a very effective and reasonably priced means of introducing this information to new areas in Latin America and other parts of the world, areas in which it is often difficult to reach because of the time needed by NTIS or the cooperating agencies to directly contact them.

The publication was highly praised at the Dominican Republic meeting, and in specific meetings NTIS staff members had when visiting the participating countries. Several agencies have stated in the past that over 90 percent of their publication orders were directly related to the AMTID distribution. The publication also refers readers to other public and private sources of AT information.

The circulation continues to increase, rising from 11,000 English copies in October to 13,995 in March and 12,800 in Spanish to 15,985. The Spanish version is translated, printed and distributed by INFOTEC/CONACYT, the Mexico cooperating agency. Distribution takes place 8-12 weeks after the English version.

A complete revision of the AMTID mail list was finished in November and additional changes have been made throughout the year. Robert Gaul from USAID/DSB offered both advice and assistance in standardizing the USAID mail list. Helen Ortiz from USAID/LAC helped work out details for using the USAID pouch to mail AMTID to USAID personnel.

Despite the success, NTIS had to temporarily suspend AMTID because of the budgetary crisis. NTIS continues to prepare it but any further action requiring budgetary payments was halted pending either the approval of the Foreign Assistance Act or the obtaining of other funds.

Five issues were finished and distributed prior to the suspension. They are listed below. Copies are available in Attachment E.

- Issue 79-09, highlighted plant requirements
- Issue 79-10, featured civil engineering
- Issue 79-11, was the first edition with a guest editor from one of the Network agencies -- in this case INFOTEC. (others to come shortly include editors from Thailand and Costa Rica)

Issue 79-12, focused on building construction
Issue 80-01, had its guest editor the Dominican Republic
and featured energy conservation.

Editions 79-07 through 79-11 in Spanish were distributed by
INFOTEC. The Spanish distribution in March was the following:

Bolivia	875
Brazil	400
Chile	950
Colombia	2500
Costa Rica	500
Dominican Republic	600
Ecuador	1300
El Salvador	100
Guatemala	1175
Honduras	500
Mexico	3500
Nicaragua	500
Panama	500
Paraguay	900
Peru	500
United States	185
Venezuela	1000

NETWORK COMMUNICATIONS

-- Only one copy of ACCESS, the bulletin for the USAID technical information network, was distributed in the first six months of FY 1980 because of the freeze on budget. It featured the Second International Technical Information Conference for the Asia/Africa region and introduced the new NTIS consultant on appropriate technology, Samuel Bern. A copy of ACCESS can be found in Attachment D with the AMTIDs.

PROJECT MANAGEMENT

-- The Developing Country Staff assumed responsibility for all NTIS foreign activities in February and was renamed the Office of International Affairs.

-- The Office of International Affairs will be relocated to Room 306 in the Yorktowne Building in Springfield, Virginia at the request of the NTIS Director, Mr. Day. The move should take place during the last six months of FY 1980.

-- Frank Post was given the responsibility to direct USAID/DIU activities in Africa, Asia and the Near East.

-- Francisco Pardo de Zela completed his contract with NTIS.

-- P. Bundick only worked part-time during the period because of budgetary restrictions.

-- NTIS staff and contract personnel working on the project part or full time were:

Terrance L. Lindemann, Foreign Affairs Administrator

Frank Post, Foreign Affairs Officer, Latin America and the Caribbean

S. Dickson Tenney, Foreign Affairs Analyst, Central America

Paul Tuebner, AMFID Editor

Paul Bundick, Appropriate Technology Consultant

Francisco Pardo de Zela, Case Study Specialist

Rita Cunningham, Administrative Assistant

Marion Janniche, Administrative Assistant

Miriam Jackson, Secretary

Regina Stickley, Secretary

-- Also assisting on the project operations were Pauline Gilmer of Customer Inquiry and Mildred Johnson, Order Processing.

DEMAND FOR NTIS U.S. GOVERNMENT - SPONSORED R & D INFORMATION ITEMS FROM
LATIN AMERICA AND THE CARIBBEAN

The total Latin American and Caribbean demand, in the first half of FY 1980, for NTIS products and services increased by 31 percent over the same period in FY 1979. Moreover, this rise was widespread throughout the area and occurred despite the large increase in prices for NTIS products (Note: Factoring out the price increase in January from the second quarter statistics indicates that the demand for NTIS publications is inelastic, at least on the short run, because the demand was about the same as the first quarter.)

Orders came from twenty-four countries in the area. Nineteen of these countries have participating local agencies, one agency in another has tentatively agreed to join (Guyana); two have USAID missions or representatives (Trinidad/Tobago and Surinam); and two have been excluded from the network (Argentina and Uruguay). In addition, one category on the demand form, the West Indies, represents orders from several small countries in the Caribbean.

The largest total increases in demand again came from Brazil (\$14,364.17 or a 54 percent increase) and Mexico (\$4,573.21 or 25 percent). Other countries with noticeable percentage demand increases include Argentina (117 percent), Bolivia (54 percent), Colombia (56 percent), Costa Rica (229 percent), the Dominican Republic (414 percent), Ecuador (31 percent), Peru (137 percent), Uruguay (412 percent) and Venezuela (39 percent).

Some of these marked gains may be only temporary, representing an unexpectedly large product order, but other increases represent a gradually growing use of NTIS products and services. Increases of particular significance came from Peru and Ecuador; in the former, the rise reflecting the improving financial conditions in Peru as orders reached and surpassed levels of several years ago ; in the latter, the rise represents improving political conditions and the growing familiarity of the new management with NTIS. The increased Costa Rican and Dominican Republic demand demonstrate considerable progress in the local agencies. In the former, the new agency is much more active than the previous and in the latter, the rise reflects a growing awareness of NTIS products.

As some of the outstanding demand increases may be only temporary, some of the decreases may be just as temporary. The decreased demand activity in both Barbados and Jamaica (off 80 percent and 91 percent) occurred because the FY 1979 figures were an aberration. They reflected the start up purchases of NTIS subscriptions and publications, such as the back issues of the GRA&I Annual Indexes. Other large decreases reflected political instability (El Salvador), political instability and problems establishing a working agreement (Panama), lack of financial reserves (Nicaragua) and a drop from an unexpectedly large demand in 1979 (Honduras).

DEMAND FOR STI AVAILABLE THROUGH ITIS
FROM
LATIN AMERICA & THE CARIBBEAN
1st Half - FY - 80

COUNTRY	1st QTR (FY-80) Workload Demand (PC & HF) Amount Value		1st QTR (FY-80) Standing Orders SUBSCRIP. SRIM Value Value		2nd QTR (FY-80) Workload Demand (PC & HF) Amount Value		2nd QTR (FY-80) Standing Orders SUBSCRIP. SRIM Value Value		TOTAL 1st and 2nd QTR. FY 1980	TOTAL 1st and 2nd QTR FY 1979	CHANGE FY 1979 to FY 1980
	Argentina	115	2,009.25	\$ 475.66	\$ 112.80	117	\$ 3,424.95	\$ 320.15	\$ 71.40	6,414.21	\$ 2,960.42
Barbados	2	9.00	127.24	--	16	178.75	164.08	--	479.07	2,432.10	(1,953.03)
Bolivia	71	331.50	85.45	--	40	433.00	81.99	--	411.94	606.43	125.51
Brazil	710	11,064.50	2,262.29	4,332.60	571	10,393.50	1,604.85	213.40	11,871.14	19,506.97	14,364.17
Chile	71	2,766.00	528.40	--	150	1,957.50	769.25	--	5,671.15	5,144.57	216.56
Colombia	73	2,241.25	92.68	--	114	1,480.00	73.89	--	3,887.82	2,491.99	1,395.81
Costa Rica	116	871.25	93.01	--	155	1,643.25	115.09	--	2,722.60	828.75	1,893.85
Dominican Republic	189	1,404.75	153.41	--	91	811.00	72.75	--	2,441.91	474.74	1,967.17
Ecuador	49	364.00	225.52	--	38	468.50	201.95	--	1,259.97	964.67	295.30
El Salvador	61	421.50	39.69	29.90	45	361.00	24.24	--	876.73	1,197.77	(321.04)
Guatemala	11	91.50	186.59	--	47	511.75	129.92	--	969.76	896.81	72.95
Guyana	18	194.50	--	--	--	--	--	--	194.50	481.05	(286.55)
Haiti	--	--	44.62	--	2	20.00	61.23	--	125.65	--	125.65
Honduras	32	256.00	61.23	--	186	1,154.00	100.63	--	1,571.86	2,126.34	(554.48)
Jamaica	6	51.50	61.23	--	40	290.75	61.23	--	464.71	5,213.90	(4,749.19)
Mexico	937	8,116.30	936.54	149.10	1,298	12,653.00	844.63	134.75	21,834.32	18,261.11	4,573.21
Nicaragua	8	25.00	61.23	--	19	113.00	61.23	--	260.46	1,226.37	(965.91)
Panama	28	259.75	93.79	--	65	674.50	66.43	--	1,094.67	2,964.37	(1,869.70)
Paraguay	--	--	20.41	--	6	211.00	69.11	--	320.52	214.75	105.77
Peru	62	708.00	474.90	300.00	217	2,053.00	254.79	314.50	4,104.59	1,729.75	2,374.84
Surinam	7	65.50	24.22	--	1	14.50	20.76	--	124.98	22,101	102.98
Trinidad/Tobago	--	--	69.94	--	--	--	41.58	--	111.22	324.00	(212.78)
Uruguay	27	278.75	--	--	23	255.00	--	--	533.75	104.24	429.51
Venezuela	55	1,259.20	1,103.24	729.60	46	680.25	955.45	601.80	5,329.54	3,847.10	1,482.44
West Indies	34	454.00	186.34	--	40	348.00	114.96	--	1,103.30	435.00	668.30
TOTALS	3,084	33,243.00	7,407.63	5,654.00	3,347	40,150.70	6,850.59	5,335.87	92,649.97	74,657.20	22,992.77

NOTE: The above totals do not include the approximately 721 documents shipped between October 1, 1979 and March 31, 1980 under the USAID Appropriate Technology Program.

a) First Half FY 1979 workload demand was 4,353 compared to 6,431 in FY 1980.

b) Indicates participation in LAC/DR Project as unsubsidized graduate or subsidized agency.

BEST AVAILABLE COPY

REGIONAL DIRECTOR'S CONFERENCE

Attached is a complete report on the activities and accomplishments at the third annual Latin American NTIS/AID Director's Conference. It took place in February in the Dominican Republic. The meeting was judged to be highly successful, providing the opportunity for information specialists from throughout Spanish speaking Latin America to both learn from formal sessions and from each other.

BEST AVAILABLE COPY

APPROPRIATE TECHNOLOGY INFORMATION FOR DEVELOPING COUNTRIES

NTIS published an updated version of the bibliography of Appropriate Technology Information for Developing Countries during the first half of FY 1980. It contains more than a thousand appropriate technology citations that have been newly acquired and entered into the NTIS computerized data file.

A total of 2,000 citations of abstracts are listed. Appropriate technology is defined in the publication as information which can be adapted and applied to improve the quality of life of low-income groups. The information is broad in scope because it refers to direct benefits which foster self-reliance.

This edition supercedes Issue Number one (FB 294-i60) called Selected Appropriate Technologies for Developing Countries. That issue was sent to USAID with the FY 1979 Third Quarter Review.

CASE STUDIES HANDBOOK

The attached work, Case Studies Handbook: An Aid to Evaluate the Utilization of Scientific and Technical Information, was prepared as part of the AID sponsored International Technical Information Network. It discusses how to develop case studies, and describes some of the uses of scientific and technical information in development projects. Suggestions are made how to establish techniques for case work, and sample case studies, resulting from interviews in nine participating countries, are attached.

AMTID

The newsletter, Applications of Modern Technology to International Development (AMTID), is normally prepared by the Office of International Affairs on a monthly basis. It announces new appropriate technology reports which are believed to be of interest and use in the Lesser Developed Countries. It is considered by the network agencies to be NTIS' most effective tool for announcing effective appropriate technology material.

Four editions of AMTID in English were distributed during the first half of FY 1980. They (Nos 79-10 through 80-1) are attached. The one copy of ACCESS, which is normally prepared by this office on a quarterly basis, is also attached. The latter is prepared by this office and distributed to overseas Network agencies and USIAD offices overseas and in Washington. Publication of both AMTID and ACCESS was slowed and then halted because of budgetary difficulties.

Four editions of AMTID in English were distributed during the first half of FY 1980. They (Nos. 79-10 through 80-1) are attached as are Editions 79-7 through 79-1 in Spanish.

CASE STUDIES
HANDBOOK

-

AN AID TO EVALUATE
THE UTILIZATION OF
SCIENTIFIC AND TECHNICAL INFORMATION

-

PREPARED FOR USE BY PARTICIPANTS IN
THE USAID - SPONSORED
INTERNATIONAL TECHNICAL INFORMATION NETWORK

MANAGED BY
OFFICE OF THE DIRECTOR
THE NATIONAL TECHNICAL INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE

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Performing Organization Name and Address National Technical Information Service (NTIS) Office of the Director Developing Country Staff 425 13th Street, N.W. Suite 620 Washington, D.C. 20004			8. Performing Organization Rept. No.
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			12. Type of Report & Period Covered
			14.
Supplementary Notes Handbook prepared as part of the AID sponsored International Technical Information Network.			
Abstract (Limit: 200 words) This handbook contains an elaborated discussion on how to develop case studies describing some of the uses of scientific and technical information in development projects. Suggestions are offered to establish techniques adaptable to the needs and specifications of the reader. Sample case studies are provided on the use of information available through the US AID Network. These resulted from interviews with users in nine participating countries. This handbook can also be used as a reference tool to identify interview candidates from among users of appropriate technology information obtained from the NTIS bibliographic data base.			
Document Analysis a. Descriptors			
b. Identifiers/Open-Ended Terms case studies, development information utilization, appropriate technology, development information dissemination, methodology, interview techniques			
c. COSATI Field/Group			
Availability Statement intended for limited distribution		19. Security Class (This Report) unclassified	21. No. of Pages 106
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SECTION 1
INTRODUCTION

INT-000

1.0 INTRODUCTION

This handbook is designed to help those concerned with evaluating the utilization of scientific and technical information. Although the experience of undertaking this task is here related to the International Technical Information Network Project (hereafter referred to as the "Network Project"), the techniques of developing case studies on information utilization are applicable in a variety of contexts - particularly within existing national or regional networks of information distribution as are the various agencies participating in the Network Project.

For the Network Project, the main concern governing the development of these case studies is to help evaluate how information contributes to development, to identify those scientific and technical reports which have proven utility, to gain insight into the nature of technology transfer, to identify alternatives or develop innovations to facilitate technology transfer and to share this information with all concerned.

To achieve these goals, certain criteria were chosen to conform with guidelines established by the U.S. Agency for International Development-US AID and to confine discussions on scientific and technical information utilization within the context of development. Components already established within the Network Project - mainly the promotions of user education seminars and appropriate technology - have been particularly useful in defining these criteria. Complementing the case studies component, user education seminars provide an excellent source for identifying candidates for future case study interviews who will already have had an exposure to the Network Project. The appropriate technology component, which has yielded valuable contributions by selectively searching the bibliographic data file at the National Technical Information Service of the U.S. Department of Commerce for information appropriate to development, and through its effort to acquire appropriate technology information from world-wide sources, has initiated a free dissemination of reports to those intending to adapt information to improve the lot of the disadvantaged. To access reports, requestors are asked to complete a special form to initiate the documentation of how this information is to be utilized; from these completed forms, yet another list emerges from which to identify candidates to be interviewed for case study development.

Other components of the Network Project also contribute to the formulation of user profiles for the identification of case study prospects. The main announcement tool of the Network Project, Applications of Modern Technology to International Development-AMTID, is widely circulated within participating countries; its mailing list contains names and addresses of individuals and organizations who have demonstrated an interest in promoting technological development. Such a list can also help identify candidates.

The Network Project also provides for direct interaction between members of the NTIS Developing Country Staff and members of those organizations responsible for

INT-001

information dissemination located in each participating country. Network Project components such as field visits, the NTIS Information Systems Workshops and Regional Conferences provide opportunities for this direct and personal interaction - not only with NTIS, but also among members of the participating agencies themselves. Occasions such as these can generate fruitful discussions on evaluation methods and lead to a consensus as to what kind of case study is most appropriate. In most instances, people who attend the conferences or the Workshop will be personally involved in the selection of candidates and will also help arrange interviews for case study development.

This handbook will first discuss the development of case studies. Although the example here is the Network Project experience at undertaking this task, the ideas and methods discussed have a wide range of application. The intent here is to offer suggestions on how you may develop your own tools for evaluating information utilization. Section 2, How to Use This Handbook, tells you at a glance where to look in this handbook for ideas on particular aspects of case study development. Next, Section 3, How to Develop a Case Study, discusses how to use this handbook to identify candidates for case study development using various tools currently available through NTIS and possibly other organizations concerned with information transfer.

Section 4, Applications of Scientific and Technical Information in Developing Countries provides examples of case studies which have been developed by the Developing Country Staff resulting from interviews in 9 participating countries with 90 principal contacts from 49 organizations: these studies were developed during 1978 and through September 1979. These studies will demonstrate that adaptations of information can vary from context to context resulting in equally varied interpretations of utilization.

Section 5, Case Studies in Progress, includes case studies which are still in the initial stages of development. The entries in this section, many of which originate with responses to the Appropriate Technology Information Request Forms (see pages DEV-012,013), require further follow-up to see whether intended objectives have been reached. Are any of these information users located in your country? Can they be reached for further case study development? Has the information they received through the Network Project proved useful in developing their stated project goals? If you acquire any further information on these people's activities, please inform us so that we may all share these technological adaptations with your colleagues in the Network.

Section 6, A Referential Listing of NTIS Appropriate Technology Reports by Accession Number. Among the reports listed here are those which have already demonstrated utility or which otherwise have been identified by user/clients as containing helpful information. Such a list can then be used to cross-reference against bibliographies corresponding to the candidates being considered for case study development and so identify the users who are adapting information conducive to appropriate technology development. As your experience in developing case studies accumulates, you will notice that certain items of information will appear more

frequently and show greater applicability than others; a list of such reports should be maintained for reference. This procedure will also help you compare utilizations of similar information sources.

A current listing of agencies participating in the Network Project is found in Section 7. Unless you are already associated with one of these agencies, you may consider contacting them for assistance in developing a case study strategy.

INT-003

SECTION 2

HOW TO USE THIS HANDBOOK

USE-000

A.) To Identify Users

- i.) Refer to Sections 3.2 and 3.3;
- ii.) Review Section 3.2c to identify users in your country;
- iii.) Review "Background" Sections to the Case Studies in Section 4.0;
- iv.) Survey deposit accounts or other records of document distribution; compare documents listed with accession numbers listed in Section 5.0;
- v.) Prepare a list of users from i and iv along with their addresses and bibliographies and any other information you may have.

B.) To Arrange the Interview

- i.) See Section 3.4;
- ii.) Consult "Background" segments to the Case Studies in Section 4.0.

C.) To Prepare the Case Study Report

- i.) See Section 3.5;
- ii.) Review Case Studies in Section 4.0 for ideas on form and content.

D.) To Develop a Follow-Up Strategy

- i.) See Section 3.6;
- ii.) Review Evaluation Formats in Section 3.2a.

SECTION 3

HOW TO DEVELOP A CASE STUDY

DEV-000

3.0 How to Develop a Case Study

The following sub-sections describe various aspects of case study development in a sequential format. These are: how information is used; how users are identified; how users are selected for interviewing; conducting the case study interview; suggestions for designing a working format to develop the case study itself; and, how to develop a follow-up strategy.

3.1 How Information is Used

To illustrate how information leads to the development of case studies, it may be useful to classify technical information into two broad categories:

- 1) applicative -- information which is acquired with an intent to adapt it towards solutions to particular problems, for policy formulation, in developing specifications for a project, for designing new tools, etc.; generally, this kind of utilization is action oriented, impacts upon prevailing technological circumstances, and is used to benefit a particular group. (e.g., "how-to" manuals, industrial plant specifications).
- 2) referential -- information which is acquired for personal evaluation, trend-scanning, state-of-the-art awareness, or for setting up an information bank; information utilized in this manner is not generally project-specific nor conducive to the development of case studies which are more concerned with describing the impact of adaptation; (e.g., glossaries, statistical charts, etc.).

An intangible commodity such as information often defies quantitative analysis. Rarely is a single item of technical information wholly referential or wholly applicative. Information which is utilized for reference in one instance may become applicative in another. Consequently, we must consider that any endeavor dedicated to technological transformation will make use of both varieties of information from diverse sources. As a project unfolds, different kinds of information will be used at different stages.

Generally, the information user will begin with the referential sort of information. Then, as research progresses, more specific "applicative" information is required. "Referential" and "applicative" in this context are defined by how information is utilized and not by how a particular report is designed or designated; utilization of any information in this respect is user-specific.

Therefore, to gain a perspective on how and at what stages scientific and technical information is used, we must go to the user himself to determine which information he considers to have been useful. In the final analysis, it is the user who determines, through creative adaptations, which set of documents contains resourceful information. The user, the individual who has taken in information to adapt to a given situation, is the final arbiter in the identification of useful information. Furthermore, he is in a perfect position to add to the value of the information he utilized by providing an illustration of how information has contributed to his project. The case studies researcher can then use these illustrations to provide better technical assistance when attending to the information needs of other clients with similar projects by describing the benefits which have resulted and perhaps offer some suggestions on how information can be modified for adaptation. The case study researcher can help further by identifying the variables and the constants attendant to the various forms of technology transfer; this can be done with increasing accuracy once more and more case studies can be documented and certain patterns of adaptation emerge.

Case studies which contribute most to understanding technology transfer are best developed by interviewing users who have expressed an applicative rather than referential use of information. This is primarily because the connection between a specific report and a consequent action is easier to distinguish.

For example, consider the following situation: a Spanish-speaking Latin American technical assistant who wants to develop a means of converting waste into energy orders the following bibliography:

PB 262 745	A Glossary of Agricultural Terms: English-Spanish, Spanish-English
TID 27164	Bioconversion of Agricultural Wastes for Pollution Control and Energy Conservation.

We learn later that he has developed an energy-producing operation adapted from specifications contained in the second report but that he needed the glossary to interpret the terminology correctly. The connection between the second report and the users consequent action is clear. The glossary, however, was used here as a reference tool and, although it was very valuable to the user, it can not be said to contain information related to the outcome of the project. The glossary was a tool to understand terminology and not to develop technology; only when combined with the second report does it acquire any value of contribution to the project. This is another reason why the case study researcher should analyze documents collectively and look for an interrelationship among them.

Dev-002

Referential information such as the glossary is surely valuable; however, to develop case studies on how information is adapted to develop technology, it is much more useful to discuss the contributions of more "applicative" information such as contained in TID 27164. The case study researcher should develop a list of such reports (or combinations of reports) to identify other candidates for case study development.

At NTIS, such a list of accession numbers to reports which have demonstrated utility has been compiled to assist in the selection of candidates for case study interviewing, (please refer to Section 6). Perhaps you can develop a similar list for your own reference.

3.2 How Users Are Identified

The case studies researcher should begin his selection of candidates for interview by considering the following items:

3.2a Office Files

Most agencies which disseminate information, or otherwise provide technical assistance, maintain records of where reports are going and, sometimes, even an indication of what is to be done with the information.

Many of the Network Agencies not only maintain such information but have also developed evaluation forms where clients themselves are given an opportunity to discuss how the information they have acquired has benefitted them.

An inspection of one agency's returned evaluation forms showed the following responses:

Q: How was the information contained in these reports helpful to you in developing your work?

A: No. 1

"The information acquired was distributed to personnel throughout the firm to assist them in various different situations; therefore, no concrete answer is available for this question."

No. 2

"The information was acquired for future consultation."

No. 3

"Several tests for evaluating water purification were developed according to specifications contained in the reports."

No. 4

"The documents contained information appropriate to the needs which generated their request."

No. 5

"Some of the documents contained valuable information."

No. 6

"They have served to enlighten and make clearer some of the working concepts I employ frequently in my work."

No. 7

"These documents were selected for our technical personnel and were helpful in the development of the technicians projects."

No. 8

"They were essential for the formulation of our reports--with comparison data, project descriptions."

No. 9

"It expanded the information found in a footnote."

No. 10

"Only through the Question-Answer Service was it possible to obtain this information."

No. 11

"It provided data important to the development of our research."

No. 12

"The information presented was clear, practical, and useful."

No. 13

"As a reference base and as a bibliographic source."

No. 14

A. The methodological contents
B. The fields of information and research covered."

No. 15

"The information contained helped me develop my current research."

No. 16

"They contain up-to-date information, they are obtained quickly and very economically."

No. 17

No response.

No. 18

"The documents contained articles on themes related directly to my work."

On the basis of these responses, we should be able to formulate certain impressions about the users and the likelihood of developing case studies by interviewing the user.

Number 17 is clearly not interested in discussing his utilization; numbers 2, 9, and 13's intentions are referential and bibliographic - too broad to show a connection; numbers 1, and 7 were acquired by information gatherers for distribution; and numbers 10, 14 and 16 do not discuss at all how the information obtained is related to their tasks.

At the other end of the spectrum, number 3 offers the most concrete answer and appears to be the likeliest candidate for further case development with number 8 running a close second. Numbers 4 and 5 acknowledge that the information was "appropriate" and "valuable"; perhaps an interview with them would show how in more definite terms. Numbers 6, 8, 11, 12, 15 and 18 could also be investigated further.

Now we can draw up a list of potential interview candidates. Once these clients can be identified we can consult the disseminating agency's files and personnel for any additional information which relates to these clients' utilizations.

Document evaluation forms are a good source from which to develop a user profile and to identify case study candidates. Many agencies participating in the Network have developed their own forms according to their own information needs. Here are samples of these forms developed by NTIS (English and Spanish) and by the Colombian participating agency, COLCIENCIAS; perhaps they will help you formulate your own format for an evaluation of how information is utilized.

DEV-005

NTIS DOCUMENT EVALUATION FORM

We need your technical assistance. Please take a few minutes to tell NTIS whether this document is useful or not for your particular needs.

NAME _____

ORGANIZATION _____

ADDRESS _____

Title of Document: _____

Author: _____ PB Number _____

Please describe briefly your project for which the document was requested:

Was the document useful? Why or why not? _____

What other documents have you used for this project, with a short description in how useful they were. _____

Additional comments. (How can the NTIS service better meet your information needs?) _____

Please return this sheet to: Paul Bundick NTIS
425 13th Street, N.W. - Suite 620
Washington, D.C. 20004 USA

DEV-006

NTIS - FORMULARIO DE EVALUACION DE DOCUMENTOS

Necesitamos su asistencia técnica. Le rogamos dedicar unos pocos minutos para informar al NTIS si este documento le resulta de utilidad o no para sus necesidades específicas.

NOMBRE _____

ORGANIZATION _____

DIRECCION _____

Título del documento: _____

Autor: _____ Número de PB: _____

Breve descripción del proyecto para el cual se solicitó el documento:

¿Le resultó útil el documento? ¿Por qué o por qué no? _____

Indicar qué otros documentos se utilizaron para este proyecto, con una breve descripción de su utilidad. _____

Comentarios adicionales. (¿De qué manera el NTIS puede proporcionarle un mejor servicio para satisfacer sus necesidades de información?) _____

Le rogamos remitir este formulario a:

Paul Bundick, NTIS
425 13th Street, N.W.
Suite 620
Washington, D.C. 20004
U.S.A.



MINISTERIO DE EDUCACION NACIONAL
FONDO COLOMBIANO DE INVESTIGACIONES CIENTIFICAS
y Proyectos Especiales "Francisco José de Caldas"

NATIONAL TECHNICAL INFORMATION SERVICE NTIS

CUESTIONARIO DE EVALUACION

Lugar y fecha _____

Nombre y dirección del Usuario _____

Profesión _____

Entidad y cargo _____

Documentos pedidos _____ Documentos recibidos _____

Tiempo requerido para su adquisición _____

Area de estos documentos _____

Si la información contenida en los documentos fué útil para el desarrollo de su trabajo, diga por qué? _____

Teniendo en cuenta el contenido de los documentos adquiridos y su posible aplicación, el precio de ellos lo considera adecuado y por qué _____

DEV-008

COLECCIONES

Cuánto tiempo hace que utiliza el Servicio NTIS y cómo lo conoció? _____

Por qué en caso de tener que localizar información técnica, utilizaría nuevamente el Servicio? _____

Qué sugerencias desea usted hacer para que se pueda mejorar el Servicio NTIS ? _____

Considera que el Servicio NTIS se puede calificar como:

Eficiente _____ Bueno _____ Deficiente _____ Malo _____

Si conoce usted algún especialista que pueda estar interesado en este Servicio anote:

Nombre _____ Profesión _____

Entidad _____ Cargo _____

Dirección _____

Firma _____

DEV-009

Establecimiento Público del Sector Educativo

3.2b The Deposit Account

Most organizations in the business of disseminating information maintain current accounts for their regular clients. These account statements normally supply a listing of documents sent to individual clients who are usually identified by a code number assigned by the organization.

The documents which appear on these statements can then be analyzed to see whether they contain information which can be utilized for technological development. One way of doing this is to compare the list of document accession numbers on the statement against a similar list of documents which have shown "applicative" value to other users or which conform to an established set of criteria.

3.2c The Appropriate Technology Document Request Forms

In the case of the Network Project, which is designed to aid each participating country's national development, a reference list of accession numbers has been prepared of those documents which have shown successful applications or which contain information appropriate to development (Please see Section 5). A major source contributing to this expanding list is responses to the Appropriate Technology Document Request Forms.

In January 1979, the Agency for International Development initiated a subsidized dissemination through the Network for individuals and organizations in Latin America and the Caribbean which have expressed a commitment to developing projects designed to improve conditions of disadvantaged groups; a special order request-form was designed wherein the requestor is asked to describe his organization's purpose and provide a brief description of his intended utilization of the requested material. These forms are particularly meaningful since the user himself can indicate what information he considers beneficial.

Furthermore, comparisons can then be made between intended and actual results of utilization and help identify reports which have proven utility. It is important to remember that document groupings by project, as appear in these case studies and request forms, afford a better view of how information is utilized. These groupings can then be retrieved and packaged to provide similar technical assistance to other users with similar projects.

These request forms and evaluation sheets are only preliminary to case study development; to assess the real impact of information adaptation, the user/client should be interviewed.

The subsidy aspect provides an excellent background for identifying candidates for interview who are likely to be more receptive about discussing their utilization. Furthermore, the subject matter, appropriate technology, can have broad applicability in a variety of contexts; consequently, case studies resulting from these adaptations can provide valuable insights for other users with similar purposes, bibliographies and objectives.

Following is a sample of these request forms (English and Spanish). Case studies currently being developed from responses to these questionnaires are included in Section 5, Case Studies in Progress; as more responses are received to this questionnaire, they will be added on to this Section.

Dev-011

NTIS APPROPRIATE TECHNOLOGY DOCUMENT REQUEST FORM

The Agency for International Development has established a fund to purchase NTIS documents for organizations working to assist low-income groups in Latin America through the application of Appropriate Technology. Those wishing to request documents must complete this form and return it to:

Paul Bundick, NTIS
425 13th Street, N.W. - Suite 620
Washington, D.C. 20004

REQUESTING ORGANIZATION

NAME _____

ADDRESS _____

ORGANIZATION'S PURPOSE

(State explicitly how the organization works with low-income groups.)

PLEASE TELL US ABOUT YOUR PROJECT

What will it achieve? _____

Who is performing the technical assistance? _____

Who are the beneficiaries? (End-users and/or groups to be served) _____

DOCUMENTS REQUESTED

ORDER NUMBER	TITLE	QUANTITY*

* If microfiche is requested, please note.
DEV-012

NTIS - FORMULARIO PARA SOLICITAR DOCUMENTOS SOBRE TECNOLOGIAS APROPIADAS

La Agencia para el Desarrollo Internacional ha establecido un fondo destinado a la adquisicion de documentos del NTIS, para organizaciones dedicadas a ayudar a grupos de bajos ingresos en America Latina, mediante la utilizacion de tecnologias apropiadas. Para solicitar dichos documentos debe completarse este formulario y remitirse a:

Paul Bundick, NTIS
425 13th Street, N.W. - Suite 620
Washington, D.C. 20004

ORGANIZACION SOLICITANTE

NOMBRE _____

DIRECCION _____

OBJETIVOS DE LA ORGANIZACION

(Detalle explicitamente la forma en que la organizacion trabaja con los grupos de bajos ingresos.)

INFORMACION SOBRE EL PROYECTO

Cuales son sus objetivos? _____

Quien proporciona la asistencia tecnica? _____

Quienes son los beneficiarios? (Usuarios finales y/o grupos que seran ayudados)

DOCUMENTOS SOLICITADOS

NUMERO DE ORDEN	TITULO	CANTIDAD*

* Indiquese si se solicitan microfichas.

DEV-013

3.3 Problems to Consider When Selecting User/Clients for Interview

Development of case studies can be valuable in evaluating the impact which information has had on national development throughout Network member countries. Not only do case studies respond to the need to develop evaluative techniques necessary to any foreign aid program, but it is the only qualitative description of what transformations have taken place.

However, user/clients may not care to discuss their utilizations or the case studies may not reveal beneficial results. Here are some factors to consider when selecting candidates for interview from among the following categories:

1. Government Organizations

A problem distinct of this category is not obtaining cooperation from a particular user, but rather trying to implement the solution to given problems in a situation where many important needs are vying for national government attention. In many instances, it was observed that there had indeed been an active utilization of NTIS documents to produce a workable feasibility study or action plan to solve national problems, yet these efforts had not yet been adopted. Normally, solutions emerging from such utilizations are subjected to a framework of priorities established by the respective national government. National development objectives can vary from one administration to the next - depending on which policy guidelines prevail.

Utilization of information among this group of users usually develops into feasibility studies, project proposals, or position papers. Ideas for technological development contained in such reports demonstrate an action resulting from information intake. Furthermore, unless the specifics of these reports are considered restricted information by a government (which can be another block against accurate case study development), these ideas may yet yield beneficial results in other applications.

2. Industry

Within this group, there is frequently expressed application of scientific and technical information, particularly in the field of business management; however, there is a general reluctance to discuss usage of information to any great detail since a view is maintained that information which has been evaluated and applied acquires greater value and becomes new original information. In essence, then, information which was once public domain has now become transformed into private property. This tends to limit the possibilities of describing accurately the technological transformations taking place.

3. Universities and Research Centers

Often, interviews were scheduled with people who had ordered documents for others and are not themselves users, or they had received information dealing exclusively with documentation or library science. Also, orders are often placed by these clients in anticipation of need or for research in the university.

4. Consulting Firms

As with universities and research centers, the actual user of the information may not appear on the account statement since the documents may have been ordered for redistribution among staff members of the firm. Special attention should be given to the proper identification of the user in such firms; these users usually obtain the information to support a particular project and are therefore valuable candidates for illustrating how information is adapted to suit particular needs.

5. Trading Firms

Scientific and technical information utilization in this category is mostly referential. The business of trading firms is to identify, evaluate, acquire, and market technological packages. In this sense, technological development has not taken place unless the packaging, acting as a catalyst which may lead to development, is itself considered a technological development. Although it can be argued that it is an action resulting from valid information utilization, it nevertheless does not lend itself to a discussion of technological impact; however, case studies could be initiated by learning who intends to apply this technological package and then further developed through follow-up.

The problems described above are not necessarily contained to the particular category nor are these problems encountered in the development of every case study. By being aware of these problems, you can identify and select candidates for interviewing more accurately. Many of these problems can be avoided by contacting the candidate prior to the interview.

Who, then, are the candidates to interview most likely to help render case study developments? This depends on the kind of information you hope to gather from the interview. Generally, no single group of users interviewed will continuously supply you with case study material.

3.4 Conducting User Interviews

Before the actual interview takes place, the case studies researcher should review all available material pertaining to the user - particularly his corresponding bibliography; this will help to guide and contain the discussion on how particular pieces of information have been utilized. The user can now be contacted to schedule an interview appointment.

The interview itself should allow ample opportunities for all present to contribute to the discussion.

It is essential that the researcher remember that the interview is a favor granted by the user/client; the user/client is under no obligation to anyone to discuss what has been done with the information he has acquired and it may very well be that he has his own intentions for granting the interview. The case studies researcher should be receptive to the user/clients questions and answer them as thoroughly as possible. However, the discussion should focus on the evaluative aspect of the Network rather than the promotional; if it becomes apparent that the user/client requires further promotion, he should be scheduled another visit.

The researcher should preface the discussion with a brief, simple statement of objective. Then, with the prepared bibliography in hand, questions can be raised concerning information utilizations. The questions should be formulated clearly and raised in a tone nearer to curiosity than to aggressive inquisition. The last thing the researcher should do is barrage the user/client with a series of checklist type of "yes-or-no" questions. No two interviews are ever the same - even when identical bibliographies are being discussed. Therefore, questions should be formulated in such a manner as to allow the user/client to describe his experience in his own way.

After the interview, the researcher should develop a follow-up strategy. A one-time interview after the fact is an insufficient approach to case studies. Only after the effects of information transfer are measured against time can a valid evaluation be rendered and more solid conclusions be drawn.

3.5 A Case Study Checklist

After the interview, the case studies researcher is ready to report his findings emerging from the interview. The reporting format should be arranged in such a way as to render all the relevant information as accurately as possible while still flexible enough to accommodate a full picture of the context of transformation.

The following is a checklist which may help you design a format suited to your information needs. As you can see, the components are basic; nevertheless, this checklist can be easily modified to suit the particular case study. Sometimes, not all this information can be obtained at once and a follow-up strategy may have to be developed to complete the case study (see Section 3.6).

- Title; assign a title to your case study which describes the contents (refer to titles of case studies included in this handbook); you may also want to assign a code to your case study such as "MED-008"; i.e., the first three letters of the city or region where the case study was developed (e.g. Medellin) and/or an ordinal number (e.g. 008); this MED-008 would signify that it refers to the eighth case study developed in the city of Medellin, Colombia;
- Name and address of the principal contact interviewed and the date interviewed;
- A description of the user's organization and its purpose and of the project undertaken by the user;
- Specific references to documents used;
- An identification of other contributing factors relevant to project implementation such as financing sources, consultations, technical assistance, etc.;
- An identification of the individuals or groups who stand to benefit from this new technology.

3.6 Follow-Up Strategy

Follow-ups are an integral part of case study development. An interview with a user does not necessarily finalize the development of a case study. Theoretically, a case study describing the effects of information on technological development is an on-going process which can yield insights on various different levels - depending upon how the case study researcher chooses to interpret the information given. For Network evaluation, it seems appropriate to have case studies describe what actions result from an exposure to information contained in NTIS reports. For example, did a feasibility study, a project proposal, a position paper, or otherwise original contributions result from this intake? Is the user's functional role in technological transformation complete? Does he require further technical assistance? Follow-ups are necessary to determine the answers to these important questions.

Evaluation forms are only one way to follow-up a case study. Correspondence, telephone conversations, user education seminars, conferences, site visits, all offer opportunities for follow-up on previous case studies, as well as for initiating new ones.

There comes a point where the case studies researcher must allow the technological transformations being described to unfold over time. The researcher should then concentrate on developing a scheme of periodic follow-ups on a schedule appropriate to the pace of the technological transformations being described.

SECTION 4

APPLICATIONS OF SCIENTIFIC AND TECHNICAL
INFORMATION IN DEVELOPING COUNTRIES

APP-000

USE OF APPROPRIATE TECHNOLOGY HELPS DEVELOPMENT IN THE PHILIPPINES

The feasibility of the "appropriateness" of agricultural mechanization in the Philippines was developed using NTIS documents as resources. The project proposal was based in part on documents made available to the researcher, Dr. Singh, by TRC, a cooperating agency of the USAID International Technical Information Network.

Although many NTIS reports had been used (mostly on a referential basis), Dr. Singh singled out PB 235 408, An Evaluation of Farm Irrigation Practices As a Means to Control the Water Quality of Return Flow, as significantly contributing to the study. This document is available from the U.S. National Technical Information Service for \$5.25.

With funding from the Ford Foundation, this study was undertaken in 1976-77 by Dr. Singh, Chairman of the Division of Agricultural and Food Engineering at the Asian Institute of Technology (AIT) in Bangkok, Thailand. The purpose was to suggest an appropriate system of mechanization for the rice and maize crop based on farm size, cropping intensity, production and net income per unit area. Methods of drawing conclusions and developing economic models from statistical data were adapted from the NTIS documents in providing a convincing argument for the utilization of mechanical equipment to benefit agricultural areas in the Philippines.

For rice farms, it was found that the power tiller users had the highest cropping intensity and highest annual production per hectare resulting in the highest income per hectare. Tiller and tractor farms used more hired labor than animal-powered farms due to the animal-powered farms dependence on the family unit for their work force. In maize farming, the farmers who used four-wheel

tractors in land preparation had higher cropping intensity and higher animal production per hectare compared to animal-powered farms. With the exception of a third crop, which is grown in very few plots, the tractor farms used more hired labor than the animal-powered farms. As with rice farming, the use of family labor, was higher on the animal-powered farms compared to tractor farms.

Based on the study, the researchers concluded that agricultural mechanization in the Philippines is a viable project to increase the productivity of the farming population as well as providing more employment opportunities and economic growth to a developing country.

4.2

APPROPRIATE TECHNOLOGY PROVIDES MEANS FOR LOCAL ENERGY PRODUCTION

The feasibility of using large-scale composting plants to produce methane in Manila is being studied using NTIS publications. The project proposal was based in part on documents made available to the researchers by TRC, a cooperating agency of the USAID International Technical Information Network.

The National Environmental Protection Agency (NEPC) in Manila, in cooperation with TRC, is using NTIS publications to determine alternative and cheaper sources of producing methane. Current research is showing that composting plants are more costly to operate than solid waste plants in energy production, even though income can be earned by composting through the sale of salvaged materials. Information contained in two NTIS reports, The Economic Analysis of Selected Features of Municipal Wastewater Construction Grant Legislation, PB 276 619, and the Analysis of Cost Sharing Programs for Pollution Abatement of Municipal Wastewater, PB 239 420, has enabled the researchers to conclude that composting alone is not a solution. Furthermore, favorable features of existing recycling components such as salvaging activities should be more carefully considered in the management of solid waste recycling. This is due to the income generated by scavengers and brokers who make their living marketing recovered materials.

Among the alternatives suggested by the NEPC through their research, are the use of landfills designed to recover methane gas, and various forms of incineration and biogasification that are capable of generating millions of pesos of revenue as opposed to large quantities of compost which, because of poor market potential, may require continuous subsidy.

A SMALL WELL HELPS AN ECUADORIAN FISH PLANT PROSPER

A tuna-processing plant in Ecuador has solved its need for potable water through specifications received from a U.S. Agency for International Development sponsored publication. The report describes how to construct a small well to deliver 1500 gallons daily at a cost of U.S. \$2000.

The production manager of the plant, Mr. Gonzales-Artigas, needed to find a way of acquiring more water for his plant without taxing the local water supply. He obtained NTIS document PB 190 672, Small Wells Manual, through CENDES, the Network participating agency in Ecuador, and invested U.S. \$2000 to hire an engineer and construct a well for the plant.

The well now produces enough water to satisfy the needs of the processing plant. The water is used as a friction guard, a system where the water acts as a base for saline solution to preserve fish for future processing. This is needed when more fish are caught than can be processed in a given day.

Because of this information, a local business in Ecuador has become less dependant on outside factors in providing more food and water for his area. Mr. Gonzales-Artigas believes the well will become cost-effective in a few months and he does not expect any major maintenance costs. This well also produces enough water for local use at a lower cost because of the greater amount of water available.

The publication provides all the information necessary to construct this type of well which is aimed primarily at people with little technical know-how and limited resources. The manual provides instruction and guidance to people engaged in the construction, operation, and maintenance of small-diameter shallow wells used for individual and small community water supplies.

SEA COWS PROPOSED TO CONTROL WEED GROWTH IN EL SALVADOR

Sea cows (Manatees) are being considered in El Salvador to clear waterways of aquatic weeds that threaten the ecology and the productivity of water related industries. The project proposal was based in part on a document made available to the researcher by CENDES, a cooperating agency of the USAID International Technical Information Network. The publication, An International Centre for Manatee Research, is available from the U.S. National Technical Information Service for U.S. \$4.50 as PB 240 244. This document has provided the necessary information for using these mammals to control aquatic growth which is clogging waterways and causing a 70% reduction in water-generated electrical power. The idea to use sea cows came from a seminar consisting of 46 participants from 23 institutions in developing countries faced with the problem of weed control.

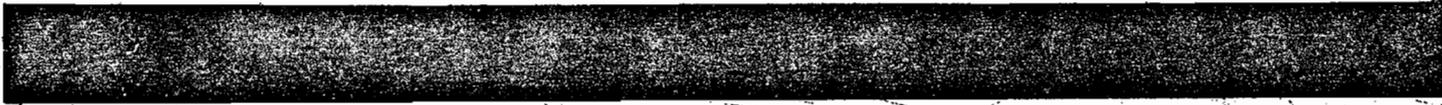
The researcher, Dr. Godines, explored the feasibility of utilizing manatees after studying the NTIS publication prepared for the U.S. Agency for International Development. According to the results of the seminar, manatees offer a significant approach to overcome the problem of aquatic weed control. One such approach cites an example of sea cow use in South America.

In 1952 four manatees were introduced in Guyana to control weeds in a water and sewage works canal. The weeds disappeared in eight weeks due to the sea cow's ability to readily adapt to confinement and being unselective in the food they eat. Over a period of 22 years, the canal was free of weeds until the death of the last mammal in 1972. The weed problem returned and two more sea cows were purchased for U.S. \$100 each. During the 27 years the manatees have been in the canal there has been no weed problem and no maintenance of the manatees.

Manatees are docile, harmless to people, and are adaptable to the water conditions of El Salvador. If they are left undisturbed, they remain passive and immobile when out of water and therefore easy to transport from neighboring Guatemala. Sea cows can also convert aquatic plants into protein suitable for human consumption and they furnish as much meat as a steer.

Dr. Godines has adopted this information in formulating a workable solution to the problems in El Salvador. This illustrates one example of technical cooperation among developing countries made possible by the U.S. Agency for International Development and the Information Transfer Program managed by the National Technical Information Service of the U.S. Department of Commerce.

App-006



INCOME GENERATING MACHINES HELP RURAL AREAS OF THE PHILIPPINES

A small-scale papermaking machine designed from specifications given in an NTIS document is providing rural people in the Philippines with additional income and employment diversification. The publication was originally sponsored by the International Cooperation Administration, the predecessor of the U.S. Agency for International Development. The information on how to build this invention was made available to the country by TRC, a cooperating agency of the USAID International Technical Information Network. Papermaking and Manufacturing of Paper Products as a Small-Scale, Semi-Mechanized, and Cottage Industry, is available from the U.S. National Technical Information Service for \$11.00 as PB 177 916.

This papermaking apparatus has been adapted to local conditions by using material produced in the Philippines and by conforming the specifications to measurements and tools familiar to rural segments of the area. The low cost of \$10 has caused rapid selling of the machine which can be built at home as a more simplified version.

The Design Centre of the Philippines (DCP) has been responsible for the distribution of the document and according to Mrs. Fe Gonzales, the project coordinator, the most significant utilization of any NTIS document has been the adaptation of information contained in PB 177 916. Although Mrs. Gonzales had originally acquired the document for specific papermaking machines, she was pleased to discover that this document also contained very valuable information on all aspects of papermaking at the cottage industry level. There is no doubt among DCP members involved in this promotion that this type of papermaking will make a significant commercial contribution to rural based economies.

INDONESIAN GOVERNMENT USES APPROPRIATE TECHNOLOGY TO INCREASE NATIONAL PRODUCTION

A project to improve the quality of life of 100 million people living in rural Indonesia has been using information supplied by the USAID International Technical Information Network to aid them in their developmental plans. The project proposal was based on the 1978 State Guidelines of the Government of Indonesia which has mandated the use of appropriate technology to combat the problems of food production and economic growth in rural areas. The goal set forth was to increase production in the fields of agriculture, industry, mining, energy and others. Using NTIS publications as resources for their third five-year development plan (Pelita III), the government of Indonesia has assigned a task force to work out details for the projects implementation. The National Institute of Physics (LIPI-LFN) was selected as the executing and coordinating agency and its director Dr. Suwanto Martosudinjo, was assigned as project leader.

The documents used in the project were made available by LIPI-FDIN, a cooperating agency of the USAID International Technical Information Network. This organization is a sister agency to LIPI-LFN and has brought many relevant NTIS reports to the attention of Dr. Suwanto. Of all NTIS materials received by LFN, four were identified by Dr. Suwanto as contributing substantially to the development of the LFN Rural Program of appropriate technology.

The NTIS reports cited pertain mostly to the initial stages of the projects implementation. However, as the project moves forward over the next five years, the engineers interviewed plan to make extensive use of this valuable resource.

BNL-20313 Preliminary Concept Analysis of a Low Cost Non-Metallic Flat Plate

The concept of using non-metallic materials such as masonry, porcelain, or concrete as the thermal conducting media in the manufacture of flat plate solar

energy collectors is examined and found functionally acceptable. The potential for large reduction in the cost of this component is illustrated.

PB-260 606 Energy for Rural Development: Renewable Resources and Alternative Technologies for Developing Countries.

This report provides a summary of the state-of-the-art of alternative technologies frequently suggested as solutions to rural or individual family energy needs. Moreover, it informs both the technologist and the planner where to go for more detailed information and what kinds of research and development are needed before a particular device or process is ready for use.

PB-265 105 Solar Energy Applications in Agriculture: Potential, Research Needs, and Adoption Strategies.

Objectives pursued in this study are: (1) Assessment of present agricultural operations to determine those with potential for use with solar energy; (2) Development of recommendations for strategies to achieve adoption of solar energy to the following aspects of agriculture are examined: grain drying, tobacco curing, peanut drying, broiler housing, swine production, farm housing, greenhouses, and irrigation. Current fuel prices for each of the agricultural regions (determined by crop production) are also reviewed.

ERDA-77 47/2 Solar Program Assessment: Environmental Factors. Solar Agricultural and Industrial Process Heat.

The major environmental issues associated with the further development of solar energy as a source of process heat in the industrial and agricultural sections are presented and prioritized. Agricultural and industrial heating represents the specific application of a variety of federally-funded solar technologies. To provide a background for this environmental analysis, the basic concepts and technologies of solar process heating are reviewed. The potential effects

of these applications of solar energy on the full range of environmental concerns (e.g., air and water quality, biosystems, safety, social/institutional structures) are then discussed in terms of both their relative significance and possible solutions. Although the development of solar energy as a source of process heat will contribute to some environmental problems common to construction projects and energy-producing technologies (e.g., construction noise, thermal discharge to the air and water), only those impacts unique to the solar portion of the technology are discussed in depth. Finally, an environmental work plan is presented, listing research and development proposals and a National Environmental Policy Act (NEPA) document work plan which might help clarify and/or alleviate specific environmental and safety problems.

IMPROVED WATER CONTROL MANAGEMENT IN TAIWAN SOLVES RESERVOIR PROBLEMS

The overall operation and management of an existing reservoir system in Taiwan has been improved through new design specifications obtained through USAID sponsored information. By using NTIS reports, the Asian Institute of Technology is providing optimum water resource utilization to the Tachia River Basin area of Taiwan.

The project proposed was based in part on documents made available to the researchers by TMA, a cooperating agency of the USAID International Technical Information Network. Hydrologic Engineering Methods for Water Resources Development, AD A007 107, and A Stochastic Rainfall Model and Statistical Analysis of Hydrologic Factors, PB 238 948, are available from the U.S. National Technical Information Service.

The Division of Water Resources Engineering of the Asian Institute of Technology in Bangkok, Thailand was contracted by the Taiwan Power Company of the Republic of China to provide an optimum water use examination of the 140 kilometer Tachia River. The principle investigator of this project, Dr. Selvalingam, cited NTIS reports as significantly contributing to the study of individual characteristics of existing and proposed water resources projects on the Tachia River.

The study suggests that a new reservoir be built upstream to reduce the danger of overspill during the rainy season while optimizing the use of regulating ponds.

This example typifies how a USAID sponsored agency in a developing country is providing assistance to other developing countries by supplying them with the information they need to implement their development projects. The outcome of the overall effect of this reservoir on the operation and management of the entire Tachia River water system will not only provide much needed water control but will also allow for more water to be available for irrigation.

CONCRETE CORROSION AVERTED ON CHILEAN HIGHWAYS

Three NTIS reports have helped solve a serious highway construction problem in Northern Chile involving concrete with a high salt content. The sand used in the production of the concrete was found to have a high level of salt which is corrosive and could result in inadequate construction and possible loss of life.

The Instituto de Investigaciones y Ensayos Materiales used these publications as resources in producing a report on the corrosion problem. They were made available to the researcher, Dr. Lamana, by INTEC/CORFO, a cooperating agency of the USAID International Technical Information Network.

Each of the NTIS reports was directly relevant and useful for this study. One report, The Effect of Sodium Chloride on the Corrosion of Concrete Reinforcing Steel and on the ph of Calcium Hydroxide Solution-PB 228 679, demonstrated that a lower ph scale in the concrete was an improvement. This contradicted a previous belief that a higher ph count was desirable. The other reports, Corrosion Testing of Bridge Decks, PB 241 294, and Repair of Hollow or Soft Areas in Bridge Decks by Rebonding With Injected Epoxy Resin of Other Polymers, PB 236 467, both proved to be highly effective in providing information for developmental needs. Because of this type of technical information, this area can now construct sound structures which would otherwise decay quickly and therefore add more cost to a capital scarce developing country in Latin America.

ELECTRONIC ACHIEVEMENTS AID DEVELOPMENT IN KOREA

United States technical information is supporting the development and expansion of business communications in Korea through documents available from the USAID International Technical Information Network, when it was still active in Korea. These 47 publications have saved the researchers, Gold Star Tele-Electronic Co., valuable time and expense in constructing a prototype of an electric private automatic branch exchange (EPAEX) used in improving and expanding the communication system in Eastern Asia. The organization is a large manufacturer of communications and electronic products which has used USAID sponsored information extensively to update their electronic capabilities and become a recognized contender in world trade.

The development and prototype production of this invention marks a major achievement in the industrial development of Korea. In their 1977 Annual Report, Gold Star noted that the development of the EPAEX had confirmed the technological competence of the company and had given the firm's researchers a "faith in their own abilities." Following the Korean policy to modernize industry and to become increasingly competitive in technology-intensive markets, Gold Star has devoted substantial resources to improving its technological competence. In this regard, the company has built an electric switching system research institute and a vocational training center. At this research institute, a modern library houses an impressive selection of scientific literature. It includes a complete set of U.S. patent abstracts, a current subscription to such NTIS products as SRIM, WGA, and GRA&I, and numerous other journals, reports, and documents from the NTIS data base.

From this experience, Gold Star has become an increasingly viable organization in the field of communications. They have been awarded a contract for a

consolidated telecommunications system in the Philippines and are planning many more such ventures in the future.

APP-014

NATIONAL RESEARCH NEEDS MET BY HYDRAULIC RESEARCH CENTER

The development and maintenance of an official information retrieval system in the Philippines has been greatly enhanced through information sponsored by the USAID International Technical Information Network. Under the direction of the National Water Resources Council (NWRC) of the Philippines, the National Hydraulic Research Center acts as a repository and disseminating agency for all available data, information and literature on water resources and related fields. This Information Center Library has been established to serve the various research needs of the different government and private agencies having water related functions. Mrs. Pilar Liongson, the chief librarian, has identified NTIS reports as being particularly useful in improving the facilities available from the Information Center.

The two reports, Design and Operation of an Information Center on Analytical Methodology, PB 204 820, and PB 221 491 of the same title, both have helped this facility in meeting its information needs in creating its own information center which will benefit the country in meeting the information requirement for their developmental projects.

THE AIRCRAFT INDUSTRY IN INDONESIA BECOMES INDEPENDENT OF IMPORTED TECHNOLOGY

An aircraft industry plant composed of 1300 employees in Indonesia is decreasing its dependence on imported technology through NTIS publications. Adaptation of information contained in the engineering handbooks available from NTIS will contribute to the development of this country's first self-sufficient aircraft industry. The Nurtanio Indonesian Aircraft Industry, operating since August 1976, is currently undergoing extensive renovations and will house the latest technology in aircraft plant design.

The publications used in researching these new aircraft designs were made available by PDIN, a cooperating agency of the USAID International Technical Information Network. Eng. Sumarlan, Associate Director of the Testing and Laboratories Department at the plant, was identified by PDIN as a consistent requestor of NTIS reports. The utilization of these reports provides a good example of how information contained in NTIS documents is being adapted to suit national industrial needs and lessen dependence on imported equipment.

The documents listed below were selected from over one hundred Engineering Design Handbooks available from NTIS. These handbooks are highly technical, but provide engineers with a clear presentation of extremely useful information that will form part of an information bank which Mr. Sumarlan is using to design Nurtanio's Indonesian aircraft.

AD A025 665/1SL Engineering Design Handbook: Reliable Military Electronics.

Topics discussed include the following: basic principles; variables and parameter relations; development of intrinsic device theory and related fundamental limitations and their measurements; circuit parameter relations; design of transistor R-C amplifiers; circuit stabilization; transformer-coupled

amplifiers; RF and IF amplifiers; nonlinear theory of oscillators; practical L-C oscillators; R-C oscillators and time-delay oscillators; design of mixers and converters; transistor multivibrators; switching and sampling circuits.

AD/A-002 007/35L Engineering Design Handbook. Helicopter Engineering.

Part One. Preliminary Design.

This handbook discusses the design requirements applicable to army helicopters for all missions under visual flight rule (VFR) operation, day or night.

As such, the scope of this document has been limited to cover the basic aerial vehicles. Design requirements for mission-essential equipment, e.g., weapons, sensors, cargo-handling equipment--are beyond this scope and are not discussed, although the helicopter-integral interface requirements for such equipment are included. The design of power plants, batteries, generators or alternators, and similar components are also beyond the scope of the handbook.

AD-865 109 Engineering Design Handbook: Electrical Wire and Cable.

The objective of the handbook is to provide a practical guide to correct design of equipment to meet the exacting transmission requirements of the many and varied aspects of today's electronic and electrical systems. This handbook contains information on the structure, application, usage, and installation of most of the wires and cables utilized by the army. Also included are a glossary of terms; a listing of equations for quick reference; and an appendix which presents the applicable military specifications, standards, and publications.

AD 783 697/6 Engineering Design Handbook: Military Vehicle Electrical Systems.

The objectives of the handbook are: (1) to collect diverse sources of information unique to combat and tactical vehicles in order to conserve time, materials, and money in the successful design of new equipment; (2) to provide guidance in

capsule form for new personnel, armed forces contractors, or experienced design engineers in other fields who require information about vehicle electrical systems; (3) to supply current fundamental information; and (4) to place the reader in a position to use new information generated subsequent to the publication of this handbook. To meet these objectives, the handbook has been written to provide the necessary background regarding electrical equipment and systems so that more complete information and data available in the references can be used.

AD 785 000/1 Engineering Design Handbook, Helicopter Performance Testing.

As the state of the art advances, the helicopter becomes more complex with accompanying difficulties in the development cycle. Also, the customer organizations become larger, more efficient, demand more reliability and accuracy, and in general, refine their capability in all areas. The manufacturers and government in turn are forced to provide more comprehensive and accurate information about the product, thus requiring an ever increasing flight test effort. This handbook discusses flight testing as it relates to helicopter performance determinations.

AD A026 006/7SL Engineering Design Handbook. Maintainability Engineering Theory and Practice.

The report details maintainability design requirements and develops methodology to be implemented to meet those requirements.

AD A025 665/1SL Engineering Design Handbook: Reliable Military Electronics.

Topics discussed include the following: basic principles; variables and parameter relations; development of intrinsic device theory and related fundamental limitations and their measurements; circuit stabilization; transformer-coupled amplifiers; RF and IF amplifiers; nonlinear theory of

theory of oscillators; practical L-X oscillators; R-C oscillators and time-delay oscillators; design of mixers and converters; transistor multi-vibrators; switching and sampling circuits.

AD 884 151 Engineering Design Handbook: System Analysis and Cost-Effectiveness.

The purpose of this handbook is to provide a text and reference material in system analysis and cost-effectiveness. It is intended for those technical, scientific, management, and administrative personnel who are responsible for preparing information, making decisions or reviewing decisions made by others regarding life-cycle cost, system effectiveness (availability, dependability, capability), or technical feasibility of a system or equipment at any phase in its life cycle. It is immediately useful to personnel who are familiar with a system or equipment under study but are not familiar with the methodology and techniques of system analysis and cost-effectiveness.

AD 763 495 Engineering Design Handbook. Infrared Military Systems. Part One.

The publication is one of a group of handbooks prepared under the auspices of the Engineering Handbook Office, Duke University, as part of the Engineering Design Handbook series. Presented in this handbook are the basic information and fundamental principles essential to the design and development of infrared systems for military application. Most of the material is devoted to the significant technological advances of recent years.

AD A021 390/05E Engineering Design Handbook: Maintenance Engineering Techniques.

The fundamental purpose of this handbook, Maintenance Engineering Techniques, is to provide authoritative information requisite to the planning and implementation of effective maintenance engineering programs. A comprehensive discussion of maintenance engineering functions that must be accomplished in order to insure

cost-effective acquisition, operation, and support of army material is presented. The general method of presentation is to define a function and its importance, and then to provide basic information on when the function should be accomplished and the techniques that should be used. Although written primarily for maintenance engineers, the handbook is structured with a wider audience in mind. The level of detail and manner of presentation make the handbook useful for the orientation and guidance of new personnel, army contractors, and personnel in engineering disciplines such as system design, reliability, maintainability, safety, and human engineering. Additionally, management personnel may improve their understanding of the scope and importance of maintenance engineering by reading the handbook.

AD 754 202 Engineering Design Handbook. Maintainability Guide for Design.

The objective of this handbook, Maintainability Guide for Design, is to influence design so that equipment can be (1) serviced efficiently and effectively if servicing is required, and repaired efficiently and effectively if it should fail, or (2) operable for the period of intended life without failing and without servicing, if possible. The designer who considers the technology of maintainability as one of the prime design considerations can play a vital part in the solution of the maintenance problem, whereas the designer who fails to do this adds to the tensity of the problem. Part one describes the extent of the maintenance problem in terms of the expenditure of money, men, and material. Part two presents maintainability abjectives, principles, and procedures. Part three describes the nature of the maintenance problem in terms of the conditions under which weapon systems must be operated and maintained.

AD 903 789/6SL Engineering Design Handbook. Sabot Technology Engineering.

This handbook presents engineering design procedures for sabots. It takes

into consideration the conflicting criteria associated with maximum performance and maximum reliability. The steps and decisions which must be made in the process of producing an engineering design are summarized.

AD A027 372/2SL Engineering Design Handbook. Development Guide for Reliability. Part Six. Mathematical Appendix and Glossary.

Contents: probability distribution, some cautions and names; binomial distribution; poisson distribution; gaussian (S-Normal) distribution; probability distributions; Weibull distribution; Lognormal distribution; Beta distribution; Gamma distribution; confidence; plotting positions; goodness-of-fit tests; tests for monotonic; bayesian statistics; sampling plans; and miscellaneous design aids.

AD A027 371/1SL Engineering Design Handbook. Development Guide for Reliability. Part Four. Reliability Measurement.

Reliability measurement techniques provide a common discipline that can be used to make system reliability projections throughout the life cycle of a system. The data on component and equipment failures obtained during the reliability measurement program can be used to compute component failure distributions and equipment reliability characteristics. Reliability measurement techniques are used during the research and development phase to measure the reliability of components and equipments and to evaluate the relationships between applied stresses and environments and reliability. Later in a system life cycle, reliability measurement and testing procedures can be used to demonstrate that contractually required reliability levels have been met.

AD A020 020/4SL Engineering Design Handbook: Timing Systems and Components.

This handbook presents both theoretical and practical data pertaining to design methods and procedures for timing systems and devices. The subjects covered

are precision reference timers, electronic timers, mechanical timers, pyrotechnic timers, fluoric timers, and a few others.

AD 884 151/2SL Engineering Design Handbook: System Analysis and Cost-Effectiveness.

The purpose of this handbook is to provide a text and reference material in system analysis and cost-effectiveness. It is intended for those technical, scientific, management, and administrative personnel who are responsible for preparing information, making decisions or reviewing decisions made by others regarding life-cycle cost, system effectiveness (availability, dependability, capability), or technical feasibility of a system or equipment at any phase in its life cycle. The handbook consists of four chapters:

- (1) An introduction to the concept of system analysis and cost-effectiveness;
- (2) A basic framework, or general methodological approach, for conducting and reviewing techniques (linear programming, queueing theory, simulation, etc.) that can be used for performing cost-effectiveness and system analysis studies;
- and (4) a review of the basic mathematical and statistical concepts that underlie the scientific approach in the system analysis/cost-effectiveness process.

ENGINEERING INFORMATION AIDS CONSTRUCTION NEEDS IN DEVELOPING COUNTRIES

From information contained in NTIS reports, new engineering guidelines are being developed to overcome the difficulties of tunneling and excavating through soft clay. This substance is found in many urban areas of developing countries and has added costly problems to the rapid urbanization growth now being experienced in these countries.

The Associate Director of the Asian Information Centre on Geothermal Engineering, Dr. Peter Brenner, is editing a conference report on soft clay engineering using NTIS documents in his research. These documents were obtained from TMA, a cooperating agency of the USAID International Technical Information Network in Thailand. In this manner, U.S. technical information is being used by researchers to adapt foreign technology to local conditions.

The reports used in the research are as follows:

PB 257 210/5 Goldberg-Zoino and Associates, Inc., New Upper Falls, Mass.

Lateral Support Systems and Underpinning. Volume I. Design and Construction.

This volume is a convenient reference on the design and construction of lateral support systems and underpinning which are often required in conjunction with cut-and-cover or soft ground tunneling. The design recommendations and construction methods described herein are a summary of the more detailed information presented in the companion volumes of this study. Included in this volume are discussions of displacements, lateral earth pressure, ground water, passive resistance, stability analysis, bearing capacity, soldier piles, steel sheeting, and diaphragm.

SECTION 5
CASE STUDIES IN PROGRESS

Cas-000

CASE STUDY IN PROGRESS

PLACE:

Women and Development Unit
Extra-Murals Department
Cavehill Campus
University of the West Indies
Barbados

PRINCIPAL CONTACT:

Dr. Glenn W. Patterson, Ph. D.

ORGANIZATION'S PURPOSE:

"In the Caribbean region, it provides direct technical assistance to poorer rural community development projects relating to small food processing and preservation operations."

PROJECT DESCRIPTION

"The MFM (Meals for Millions Foundation, 1800 Olympic Boulevard, P.O.Box 680, Santa Monica, California 90406) is to collaborate with the Women and Development Unit of the Extra-Mural Department of the University of the West Indies to work with poorer communities in food technologies (processing and preservation) to:

- A. Improve the nutritional status;
- B. Increase self-sufficiency;
- C. Improve socio-economic status."

"To achieve these, the following activities will be and are now being carried out. The program is designed to be an on-going project directed toward the Leeward and Windward Islands, Jamaica and Belize. These activities include:

1. Provide direct technical assistance to specific community food technology-related programs and projects;
2. Answer inquiries relating to community food technology;
3. Participate in workshops, seminars, and training sessions designed to exchange or provide information on food technology related to community development;
4. Locate, document, and disseminate those innovative and related technologies now or once used in the Caribbean or other regions;
5. Assist in project design, proposal writing, and locating funds needed by food technology oriented projects; and,

6. Carry out testing and adaptation of appropriate food technologies at the University of the West Indies or within country locations."

Who is performing the technical assistance? Dr. Glenn W. Patterson, Ph.D. with backup from the University of the West Indies Food Technology Department and the Meals For Millions Foundation. Dr. Patterson has been operating in the Caribbean for 24 years in similar community work.

Who are the beneficiaries? "Rural communities, women, children (through nutritional improvement), young people and men presently out of work."

BIBLIOGRAPHY

- | | |
|------------|--|
| PB 174 673 | Small Canning Facilities |
| PB 219 721 | Development of a Simple Storage Unit and Storage Method Applicable for Humid Areas in Developing Countries |
| PB 220 825 | Ferrocement: Applications in Developing Countries |
| PB 248 338 | Proceedings of the Conference and Seminar on Techniques and Methodologies for Stimulating Small-Scale Labor-Intensive Industries in Developing Countries |
| PB 263 350 | Resources for Development Organizations and Publications |
| PB 280 196 | The Performance and Economic Feasibility of Solar Grain Drying Systems |
| PB 282 460 | Rural Potable Water Chlorination |

CASE STUDY IN PROGRESS

PLACE:

Instituto Tecnológico de Costa Rica
Apartado 159
Cartago, Costa Rica

PRINCIPAL CONTACT:

Kent Smith

ORGANIZATION'S PURPOSE

"The Institute, through its Division of Research Development and Technical Extension, is promoting the development and use of the concepts of appropriate technology in Costa Rica. This includes utilization of renewable resources, reclamation of scrap metal, utilization of wood manufacturing wastes, soil testing techniques, improved agricultural techniques and implements for the small-scale farmer."

PROJECT DESCRIPTION

"The project is intended to decrease Costa Rica's dependence upon foreign resources and technologies. It shall benefit small-scale industries using local materials. It shall provide for more productive technologies for the small farmer. It shall benefit the country as a whole by emphasizing less ecologically destructive technologies." Examples of specific projects:

- 1) substantial increase in use of particle board and composite products from wood waste;
- 2) creation of a metallurgy program to aid small industry in quality control;
- 3) teaching of simple soil testing techniques and methods of improving the soil quality;
- 4) utilization of solar energy--the first application to be the heating of a public swimming pool.

BIBLIOGRAPHY

- | | |
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| ADA 026 041 | Method for Estimating Solar Heating and Cooling System Performance |
| ADA 045 184 | Corrosion Control in Civil Works: Cathodic Protection |
| ADA 046 078 | Improved Utilization of Lumber in Glued Laminated Beams |
| ADA 054 601 | Solar Heating of Building and Domestic Hot Water |

AD 210 105	Indigenous Tropical Agriculture in Central America: Land Use, Systems, and Problems
BNL 20313	Preliminary Concept Analysis of a Low-Cost Nonmetallic Flat Plate Solar Energy Collector
COO 4094 1	Photovoltaic Power in Less Developed Countries
COM 73 10527	A Study of the Feasibility of Mechanized Adobe Production
DOE/ET 0036	Guide to Solar Energy Programs
DSE 2322 1	An Economic Analysis of Solar Water and Space Heating
N74 15752	Utilization of Wind Power in Agriculture in the USSR
N76 22671	Design Fabrication, Testing, and Delivery of a Solar Collector
N76 27671	An Inexpensive Economical Solar Heating System for Homes
PB 175 521	Metal Working Industry Training Manual
PB 175 531	A Small Sawmill Enterprise
PB 175 532	Small Brass Foundry
PB 175 500	Wood Wastes
PB 177 930	Plant Requirements for Manufacture of Plywood
PB 178 345 (1 copy)	Effect of Operational Speed on Forces Acting on Wedges
PB 178 347 (1 copy)	The Problems of Basic Parameters of Tillage Tools for Primary Soil Tillage
PB 178 373 (1 copy)	Determination of the Optimum Parameters Rotary Tiller Cultivation Equipment
PB 206 776	Farm Tools and Implements
PB 210 130 (2 copies)	Care and Maintenance of Farm Machinery

CAS-004

CASE STUDY IN PROGRESS

PLACE:

Corporacion de Desarrollo de la
VII ^a Region
CIDERE-MAULE
1 Sur 923, Oficina 202
Casilla 690
Talca, Chile

ORGANIZATION'S PURPOSE:

A private, non-profit organization devoted to promoting all aspects of development in Region VII (comprised of the provinces of Culico, Talca, Maule, and Linares) in Chile. It identifies exploitable natural resources and it organizes rural communities through capacitation, marketing, and technical and commercial assistance. For example, CIDERE-MAULE discovered abundant blackberries; it then found an extramarginal investor on the futures market; capacitated the rural communities for harvesting and preparing the blackberries, and organized a system for gathering, transporting, receiving, and retailing them.

Results of the 1979 season (summer in Chile is January, February, and March).

Amount gathered: 200,00 kilograms

Contributions to the Community: 2,000,000 Chilean pesos
(approx. US \$57,000)

Indirect contributions: 3,000,000 Chilean pesos
(approx. US \$86,000)

PROJECT DESCRIPTION

a) Demonstration and Experimental Apain Center--this center will house 120 different types of beehives where current honey production techniques can be evaluated and new ones developed; it will provide capacitation courses and technical assistance. Honey production will be promoted in the region. Courses will be offered in rural areas to provide poor people with a means of livelihood. Those who graduate from this course will receive financial credit to install the learned technology.

b) Identification of potential resources--the jojoba and blackberry have similar qualities for exploitation.

BIBLIOGRAPHY

PB 275 386

Pollination of Agricultural Crops by Bees

PB 253 126

Products from Jojoba: A Promising New
Crop for Arid Lands

PLACE:

Instituto de Investigaciones Tecnológicas
INTEC
Casilla 667
Santiago, Chile

PRINCIPAL CONTACT:

Mr. Sergio Varas O.

ORGANIZATION'S PURPOSE:

"Transfer of technology to governmental and private clients."
"Since 1977, an Appropriate Technology Program has been developed to improve the living standards and employment levels of low income groups."

PROJECT DESCRIPTION

"Technologies are being adapted and developed for the exploitation of castor oil beans; papain production and the use of windmills for pumping water."

BIBLIOGRAPHY

CONF-770367	Proceedings of a Conference on Solar Energy for Heating Greenhouses and Greenhouse-Residential Combinations
COO 4094 1	Photovoltaic Power in Less Developed Countries
ERDA-tr- 288	Center for the Integral Development of "Las Gaviotas"
PB 174 673	Small Canning Facilities
PB 175 531	A Small Sawmill Enterprise
PB 177 916	Papermaking and Manufacture of Paper Products as a Small-Scale, Semi-Mechanized and Cottage Industry Materials--Processes, Equipment Organization--Economics Marketing
PB 206 800	Small-Scale Power Supplies for Rural Communities in Developing Countries
PB 262 630	Peace Corps Intermediate Technology for 15 Years

	the Agricultural Farming System
PB 267 970	Appropriate Technology: A Directory of Activities and Projects
PB 272 436	Aquaculture in Southeast Asia A Historical Overview
PB 274 193	A Cross-Sectional Epidemiologic Survey of Vinyl Chloride Workers
PB 274 612	Expansion of Water Resources in Arid Regions
PB 280 196	The Performance and Economic Feasibility of Solar Grain Drying Systems
COM-73-50645-11	Marine Fisheries Review
LBL 6182	Feed and Food from Desert Environments
N74-15752	Utilization of Wind Power in Agriculture in the USSR
PB 196 340	The Continued Development and Field Evaluation of the AID Hand-Operated Water Pump
PB 206 776	Farm Tools and Implements
PB 247 819	Agricultural Machinery Development Program
PB 264 459	Extractives as a Renewable Resource for Industrial Materials
PB 264 561	Fibers as a Renewable Resources for Industrial Materials
PB 268 161	IRRI Small Agricultural Machinery Project: US Technology Transfer to Resource--Poor Developing Countries
PB 268 987	Freshwater Fisheries Program Planning

CAS-007

CASE STUDY IN PROGRESS

PLACE:

Instituto de Investigaciones Tecnológicas
INTEC
Casilla 667
Santiago, Chile

PRINCIPAL CONTACT:

Mr. Sergio Varas O.

ORGANIZATION'S PURPOSE:

"Transfer of technology to governmental and private clients."
"Since 1977, an Appropriate Technology Program has been developed to improve the living standards and employment levels of low income groups."

PROJECT DESCRIPTION

"There is a special program in intermediate technology which intends to evaluate the appropriate technologies needed to raise the standard of living of the poor and to generate employment."

BIBLIOGRAPHY

- | | |
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| PB 211 843 | Recommendation for FECOAGROH Grain Storage and Handling Facilities in Honduras |
| PB 211 883 | Observations and Recommendations for Improving Grain Storage and Marketing in Bolivia |
| PB 260 606 | Energy for Rural Development: Renewable Resources and Alternative Technologies for Developing Countries |
| PB 263 849 | Reprint: A Method for the Cultivation of the Mangrove Oysters in Puerto Rico (Metodo para el Cultivo del Ostron de Mangle en Puerto Rico) |
| PB 269 049 | Accounting for the Small Business: Teaching Manual (Contabilidad para la Micro Empresa: Manual de Ensenanza) |

CASE STUDY IN PROGRESS

PLACE:

Novoa Ingenieros Consultores, S.A.
Los Colibries 104
Lima 27, Peru

PRINCIPAL CONTACT:

Alfredo Novoa

ORGANIZATION'S PURPOSE:

"Transfer of technology through information."

PROJECT DESCRIPTION:

"To transfer and adapt technology to needs of rural areas."
Technical assistance will be provided by the consulting firm
of Novoa Ingenieros Consultores, S.A.

BIBLIOGRAPHY

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| AD 751 178 | New Mexico University, Albuquerque-
Seismic Design of Building Structures |
| AD A003 045 | Foreign Technology Div. Wright-
Patterson AFB Ohio-Analysis of Action
During Simultaneous Damages of
Protective R--FTC |
| AD A004 451 | Foreign Technology Div. Wright
Patterson AFB Ohio-Using High-
Temperature Solar Installation to
Study Refractory M--FTC |
| AD A010 801 | Oak Ridge National Lab, Tenn.
Power System Emp Protection |
| AD A012 733 | Urban Innovations Group Los Angeles,
Calif. A Review of Architectural
Methods and Their Effectiveness |
| AD A026 344 | Massachusetts Inst. of Tech.
Cambridge-Computer Programs for
Mathematical Programming Models in
Produc--Etc. |

AD A026 904	Florida University Gainesville- The Layout of Divisible Activities on the Line
AD A040 460	Texas Tech. Univ. Dynamics and Failure Criteria of Structural Connections
AD A041 957	Science Applications, Inc., Berkeley, Calif. Propagation Characteristics of a Periodically Loaded Transmission
BNWL-SA-5595	Quality Control Program for 100% Inspection Using Non-Destructive Measurements
LA 5967	Solar Heating Handbook for Los Alamos
N74 16614	Outer Skin Protection of Colombian Thermal Protection System (TPS) Panels
N75 27567	Space and Energy Conservation Housing Prototype Unit Development
N75 32591	Flat Plate Solar Collector Performance Evaluation with a Solar Simulator as a Basis for Collector Selection and Performance Prediction
PB 202 936	Response and Energy Dissipation of Reinforced Concrete Frames Subjected to Strong Base Motions
PB 206 549	A Manual on Water Desalination. Vol. 1 Technology
PB 214 006	SOM (Space Organization Method)- A Method for Space Allocation
PB 241 110	Power Line Alarm Transmission System
PB 245 318	The Substitute Structure Method for Earthquake Resistant Design of Reinforced Concrete Frames

CAS-010



PB 251 382

Decentralized Tomato Processing:
Plant Design, Costs, and Economic
Feasibility

PB 258 842

The Seismic Behavior of Critical
Regions of Reinforced Concrete
Components as Influenced, etc.

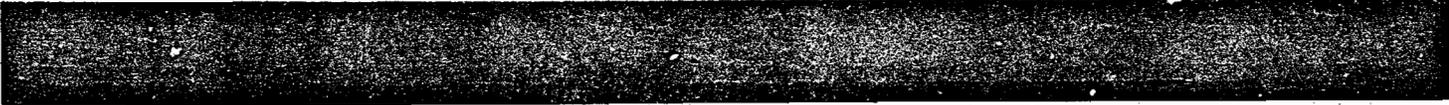
PB 267 947

Review of Literature on Earthquake
Damage to Single Family Masonry
Dwellings

VITRO-MA-9

Architectural/Engineering Standards

CAS-011



CASE STUDY IN PROGRESS

PLACE:

Grupo de Tecnologia Apropriada
Apartado 1421
Panama 9A, Panama

PRINCIPAL CONTACT:

Samuel Bern

ORGANIZATION'S PURPOSE:

To publish periodic reports on appropriate technology; to organize seminars in rural areas on alternative energy resource development and agriculture.

PROJECT DESCRIPTION

"The reports selected will be utilized as a source of reference for programs already under way such as the aquatic weed control at Lake Bayano and the analysis of water quality; they will also serve as valuable reference on contamination problems arising from agroindustrial wastes. Other countries' experiences are very useful for an evaluation of the impact of these projects as well as for eliminating possible negative effects."

BIBLIOGRAPHY

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| AD 715 871 | Weight and Energy Values of Selected Litter-Fall Components from Two Forest Stands in the Canal Zone, Republic of Panama |
| ADA 003 909 | Corrosion of Metals in Tropical Environments: Part 10, Final Report of Sixteen-Year Exposures |
| ADA 036 072 | Proceedings, Research Planning Conference on the Aquatic Plant Control Program, October 22-24, 1975, Charleston, S.C. |
| PB 187 841 | A Study of the Economic Impact of Water Impundment Through Validity Testing of a Comparative-Projection Model |
| PB 196 312 | Relative Toxicities of Selected Chemicals to Several Species of Tropical Fish |

PB 198 125	Water Quality Management Problems in Arid Regions
PB 204 408	Water Quality Standards and International Development
PB 212 265	Fluctuations in Nitrate Concentration Utilized as an Assessment of Agricultural Contamination to an Aquifer of a Semiarid Climatic Region
PB 214 508	Nonpoint Rural Sources of Water Pollution
PB 240 244	An International Centre for Manatee Research
PB 244 557	Guidelines for the Disposal of Small Quantities of Unused Pesticides
PB 247 430	The Environmental Impact of a Large Tropical Reservoir: Guidelines for Policy and Planning, Based Upon a Case Study of Lake Volta, Ghana, in 1973 and 1974
PB 248 630	Environmental Aspects of a Large Tropical Reservoir: A Case Study of Volta Lake, Ghana
PB 248 899	The Biological and Ecological Effects of Oil Pollution in Tropical Waters
PB 263 089	Eutrophication and Fish Toxicity Potentials in a Multiple-Use Sub-tropical Reservoir

CASE STUDY IN PROGRESS

PLACE:

Grupo de Tecnologia Appropriada
Apartado 1421
Panama 5A, Panama

PRINCIPAL CONTACT:

Samuel Bern

ORGANIZATION'S PURPOSE:

To publish periodic reports on appropriate technology; to organize seminars in rural areas on alternative energy resource development and agriculture.

PROJECT DESCRIPTION:

To acquire NTIS reports on various themes for the promotion of appropriate technology in the Panamanian media and subsequent adaptation. Technical assistance will be provided by professional members of the Appropriate Technology Group-GTA (i.e. architects, engineers, administrators, sociologists, etc.)

BIBLIOGRAPHY

ADA 038 234	Software Acquisition Guidebook
PB 195 912	Fishculture Survey Panama
PB 211 762	Corn Fortification
PB 218 129	Latin American Tables of Feed Composition
PB 224 506	Chemical Control of Vampire Bats
PB 251 382	Decentralized Tomato Plant Design
PB 264 015	Application of Sewage Sludge

CASE STUDY IN PROGRESS

PLACE:

25 Avenida Norte #915
San Salvador, El Salvador

PRINCIPAL CONTACT:

Craig B. Warriner

ORGANIZATION'S PURPOSE:

To provide technical assistance to low-income farmers in the form of methane gas and solar research.

PROJECT DESCRIPTION:

"The Project will provide electricity for home and commercial cooking for the cooperative "El Grupo Solidario de Gas Metano Las Chinamas". Technical assistance will be provided by Mr. Craig B. Warriner, Peace Corps Volunteer. Beneficiaries: "Nearly 9 separate families make up the co-op and will participate and benefit from the products of the Methane Project."

Mr. Warriner has already been successful in his experiments to produce methane from coffee pulp and water. "We have been able to extract a beautiful blue flame solely from the fermentation of pulp from coffee and water. Sam Bern, the guy from Panama (Respondant 20), was certain that it would not work with just pulp and water but from some luck it's producing the most beautiful blue (and hot) flame I've ever seen. The coffee people are very excited but somewhat hesitant due to previous failures in Guatemala and El Salvador."

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| PB 187 565 | The Small New Business |
| PB 206 800 | Small-Scale Power Supplies for Rural Communities in Developing Countries |
| PB 206 801 | Generation and Utilization of Power for Rural Communities in Developing Countries |
| PB 217 142
(2 copies) | Engineering Studies of Coffee Mill Wastes in El Salvador |
| PB 231 149 | Proceedings of the Bioconversion Energy Research Conference Held at Massachusetts University, Amherst on June 25-26, 1973 |

CAS-015

PB 238 103	Technology for the Conversion of Solar Energy to Fuel Gas
PB 239 465	An Overview of Alternative Energy Sources for Lesser Developed Countries
PB 240 113	Animal Waste Conversion Systems Based on Thermal Discharge
PB 241 055	Technology for the Conversion of Solar Energy to Fuel Gas (National Center for Energy Management and Power)
PB 255 021 (2 copies)	Kansas Water Resources Research Institute
PB 269 049 (5 copies)	Accounting for the Small Business: Teaching Manual
PB 276 469	Methane Generation from Human, Animal, and Agricultural wastes
PB 278 351	Sugarcane Production Residues Technologic and Economic Assessment of Methods for Conservation to Utilizable Energy Forms
PB 278 998	Economic Considerations for Manpower Revenue Sharing

CASE STUDY IN PROGRESS

PLACE:

Instituto de Technologie et
d'Animation-ITECA
Boite Postal 510
Port-au-Prince, Haiti

PRINCIPAL CONTACT:

Jean-Jacques Honorat

ORGANIZATION'S PURPOSE:

"Research and dissemination of low-cost technologies appropriate to Haitian rural communities."

PROJECT DESCRIPTION:

To evaluate and adapt technologies to develop alternative forms of energy for Haiti. Technical assistance will be provided by "consultants to be selected as needs arise." Beneficiaries are the rural poor.

BIBLIOGRAPHY

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| PB 239 465 | An Overview of Alternative Energy Sources for Lesser Developed Countries (LDC's) |
| PB 260 606 | Energy for Rural Development: Renewable Resources and Alternative Technologies for Developing Countries |
| PB 208 550 | Solar Energy in Developing Countries |
| PB 241 055 | Technology for the Conversion of Solar Energy to Fuel Gas |
| PB 258 499 | Fuel and Energy Production by Bioconversion of Waste Materials State-of-the-Art |
| PB 269 049 | Accounting for the Small Business: Teaching Manual |
| PB 260 763 | An Evaluation of the Use of Agricultural Residues as an Energy Feedstock Vol. I |

BNL 20313

Preliminary Concept Analysis of
a Low Cost Non-Metallic Flat Plate
Solar Energy Collector

NTIS/PS-77/1161

Solar Water Pumps

CAS-018

CASE STUDY IN PROGRESS

PLACE:

Centro de Investigaciones Multi-
disciplinarias en Tecnologia y
Empleo-CIMTE
Division de Ingenieria
Universidad de Valle
Cali, Colombia

PRINCIPAL CONTACT:

Isabel de Dias

ORGANIZATION'S PURPOSE

CIMTE-(Center for Multidisciplinary Investigations on Technology and Employment), associated with the Engineering Division of the Universidad del Valle, is charged with "the creation and application of intermediate technology which is within the economic capacity of the marginalized sectors of the Colombian population, rural and urban, and at the same time: generates employment and promotes greater productivity."

BIBLIOGRAPHY

PB 270 038

The State of the Art of Delivering
Low Cost Health Services in Developing
Countries: A Summary Study of 180
Health Projects

CASE STUDY IN PROGRESS

PLACE:

Instituto de Tierras y Colonizacion
Apartado 5054
San Jose, Costa Rica.

PRINCIPAL CONTACT:

Stefan Platteau

ORGANIZATION'S PURPOSE

To provide technical assistance to small family businesses that are about to fail.

PROJECT DESCRIPTION

"Using the ideas of appropriate technology, we hope to make changes and improvements that insure the survival of the business." Technical assistance will be provided by the Department of Technical Assistance (Departamento de Asistencia Tecnica) and by Mr. John F. De Clue, a Peace Corps volunteer. The project budget is "very small" and funded for 1 year. The beneficiaries are "the end-users of locally manufactured products; the urban and rural poor."

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| FB 175 523 | Plant Requirements to Set Up and Operate Small Bread Bakeries |
| FB 255 649 | Small Business in the Metals Industry: A Background Study |
| FB 257 404 | Front End Recycling
A Study of the Economics of Recycling by Source Separation and Its Application for Fairfield County, Connecticut |

CASE STUDY IN PROGRESS

PLACE:

Centro de Investigaciones Tecnologia
en Metal-Mecanica-DIDET
Instituto Tecnologia de Costa Rica
Apartado 159
Cartago, Costa Rica

PRINCIPAL CONTACT:

Mario Bonilla

ORGANIZATION'S PURPOSE

"FUNDAEC's projects are aimed at bettering the life of the small rural farmer." "The projects are carried out in a participatory manner with the community, the students, and the FUNDAEC staff." Beneficiaries are the students in particular and the small rural farmers in general.

BIBLIOGRAPHY

PB 262 745

Glossary of Agricultural Terms:
English-Spanish, Spanish-English

PB 262 928

Glossary of Environmental Terms:
English-Spanish, Spanish-English

PB 285 983

Standards and Procedures for Design
of Water Supply Systems in Rural Areas
of Nepal and Bhutan

PB 294 160

Selected Appropriate Technologies for
Developing Countries: Abstracts from
the NTIS Data Base.

CASE STUDY IN PROGRESS

PLACE:

ACOPI-Seccional Boyaca
Asociacion de Confeccionistas de
Boyaca-ACUBOY
Edificio Beneficiencia
Oficina 602
Tunja, Boyaca
Colombia

PRINCIPAL CONTACT:

Dr. A.E. Russler

ORGANIZATION'S PURPOSE:

Small-scale industrial development in Boyaca Province in collaboration with SENA (Servicio Nacional de Aprendizaje-National Apprenticeship Service), Corporacion Financiera Popular (People's Financial Cooperation), University Pedagogica y Tecnologica de Colombia, and the Department of Industrial Management. Beneficiaries are the small-scale textile businessmen in Boyaca.

BIBLIOGRAPHY

PB 175 915

Men's Work Shirt's Capital Requirements
Techniques, and Operations

PB 175 539

Plant Requirements for Manufacture of
Cotton Dresses

CAS-022

CASE STUDY IN PROGRESS

PLACE:

Instituto Tecnológica de Costa Rica
ITCR
Apartado 159
Cartago, Costa Rica

PRINCIPAL CONTACT:

Ing. John F. DeClue

PROJECT DESCRIPTION

To adapt and design tools appropriate to conditions in Costa Rica and of benefit to the small-scale farmer. The following document was "of great utility--a valuable source of information due to its simplicity and subject matter."

BIBLIOGRAPHY

TT 69 50019

Agricultural Machines Theory and
Construction Volume I

CASE STUDY IN PROGRESS

PLACE

Instituto de Investigaciones Tecnológicas
INTEC
Casilla 667
Santiago, Chile

PRINCIPAL CONTACT:

Mr. German Johannsen

ORGANIZATION'S PURPOSE:

"Project development, feasibility studies and technological research to be applied in socio-economic and industrial activities."

PROJECT DESCRIPTION

"The project deals with the possibility of using ethanol as fuel, especially in those places without electric energy, making use of unexploited lands and generating a high grade of labor force."

BIBLIOGRAPHY

PB 284 742	Parameters for Legislative Consideration of Bioconversion Technologies
CONS 2693-1	Sources of Alcohol Fuels for Vehicle Fleet Tests
LBL 6881	Process Development Studies on the Bioconversion of Cellulose and Production of Ethanol
HCP/M2098-01	Denaturants for Ethanol/Gasoline Blends
HCP/T3891-1	Preliminary Economic Evaluation of a Process for the Production of Fuel Grade Ethanol by Enzymatic Hydrolysis of an Agricultural Waste
TID 27336	Systems Study of Fuels from Sugarcane, Sweet Sorghum, Sugar Beets, and Corn
TID 27834	Fuels from Sugar Crops
PS-78/0673	Alcohol Fuels
PS-78/0674	Alcohol Fuels

MS-024

BMI-1957 (Vol. 3)

Systems Study of Fuels from Sugarcane,
Sweet Sorghum, and Sugar Beets

BMI-1957A-V 4

Systems Study of Fuels from Sugarcane,
Sweet Sorghum, Sugar Beets, and Corn
(Volume IV. Corn Agriculture)

BMI-1957A-V 5

Systems Study of Fuels from Sugarcane,
Sweet Sorghum, Sugar Beets, and Corn
(Volume V. Comprehensive Evaluation
of Corn)

CASE STUDY IN PROGRESS

PLACE:

Servicio de Informacion y
Transferencia de Tecnologia-SITT
Centro Nacional de Productividad-CEN
Avenida Espana 732
San Salvador, El Salvador

PRINCIPAL CONTACT:

Ing. Gustavo Valle, SITT Manager

ORGANIZATION'S PURPOSE

CENAP-the National Productivity Center-provides the following services:

1. identification of needs
2. analysis of known solutions
3. screening
4. fabrication of prototype
5. testing
6. redesign
7. operational field tests
8. demonstration to low-income groups

In essence, CENAP functions as a transfer agent of previously evaluated appropriate technology to low-income areas.

PROJECT DESCRIPTION

"To increase the number of textile factories and to improve the existing technology." Technical assistance will be provided by Gustavo Valle, chemical engineer and coordinator of the information service of the National Productivity Center, along with technician from other government institutions such as:

CENAP-Center for Training in Farming and Animal Husbandry
ISTA-The Salvadorian Institute of Agrarian Reform; and,
BRFA-Agricultural Development Bank

Beneficiaries are the agricultural societies and small factories in the country.

BIBLIOGRAPHY

PB 175 538

Plant Requirements for Manufacture
of Nylon Hosiery

CAS-026

PB 175 539	Plant Requirements for Manufacture of Cotton Dresses
PB 177 297	Plant Requirements for Manufacture of Worsted Yarns
PB 177 915	Men's Work Shirts: Capital Requirements, Techniques, and Operations
PB 177 924	Plant Requirements for Manufacture of Terry Cloth
PB 177 946	Silk Screen Printing in Textiles

CAS-027

CASE STUDY IN PROGRESS

PLACE:

Servicio de Informacion y Trans-
ferencia de Tecnologia-SITT
Centro Nacional de Productividad-CEN
Avenida Espana 732
San Salvador, El Salvador

PRINCIPAL CONTACT:

Ing. Gustavo Valle, SITT Manager

ORGANIZATION'S PURPOSE

CENAP-the National Productivity Center-provides the following services:

1. identification of needs
2. analysis of known solutions
3. screening
4. fabrication of prototype
5. testing
6. redesign
7. operational field tests
8. demonstration to low-income groups

In essence, CENAP functions as a transfer agent of previously evaluated appropriate technology to low-income areas.

PROJECT DESIGN

Improve systems of traditional methods of marketing fish. Technical assistance will be provided by the Center for Information and Technology Transfer of the National Center for Productivity (Servicio de Informacion y Transferencia Tecnologica-SITT, Centro Nacional de Productividad-CENAP) and a team of technicians from the Banco de Fomento Agropecuario (the Agricultural Development Bank). The budgeting is still being considered. The target beneficiary groups are the fishermen's cooperatives located in the Gulf of Fonseca and the port city of Acajatla.

BIBLIOGRAPHY

PB 263 672

Aquaculture as an Integral Part of
the Agricultural Farming System.
A Case Study in the North-East of
Thailand

NTIS/PS-78/0100

Fisheries Economics: Part 1.
Marketing

NTIS/PS-78/0101

Fisheries Economics: Part 2.
General Economics Studies

NTIS/PS-78-0394

Fisheries Law: Vol. 2 April 1976-
March 1978

COM-73-50645-11

Marine Fisheries Review 35 (11):
1-48, November 1973

CAS-029

CASE STUDY IN PROGRESS

PLACE:

Servicio de Informacion y
Transferencia de Tecnologia-SITT
Centro Nacional de Productividad-CENAP
Avenida Espana 732
San Salvador, El Salvador

PRINCIPAL CONTACT:

Ing Gustavo Valle, Manager of SITT

ORGANIZATION'S PURPOSE

CENAP-the National Productivity Center-provides the following services:

1. identification of needs
2. analysis of known solutions
3. screening
4. fabrication of prototype
5. testing
6. redesign
7. operational field tests
8. demonstration to low-income groups

In essence, CENAP functions as a transfer agent of previously evaluated appropriate technology to low-income areas.

PROJECT DESCRIPTION

To evaluate the various means of aquatic weed control in the lakes, dams and ponds of El Salvador; Ing. Gustavo Valle of CENAP and Dr. Jose Francisco Godines of CENAP (National Center for Capacitation), chemical engineer and biologist respectively, will act as the technicians of this project.

The beneficiaries are:

- "1. The fishermen groups and their families, and;
2. The hydroelectric dams"

The estimated cost of the pilot project of aquatic-weed control being launched at the Olomega Lagoon and at the Cerron Grande Reservoir is 55,000 Salvadorian colones (approximately US \$22,000) to be apportioned over a three year period; funds will be provided by the Government of El Salvador with the Canadian International Development Agency-CIDA contributing financing over manpower costs.

BIBLIOGRAPHY

- N75-22938 Application of Vascular Aquatic Plants for Pollution Removal, Energy and Food Production in a Biological System
- PB 208 527 Control of Aquatic Vegetation in Fresh water
- PB 238 909 Biological Control of Aquatic Vegetation
- PB 244 263 Nutritional Ecology of Nuisance Aquatic Plants
- PB 253 341 Preliminary Control of African Rue With Various Herbicides
- PB 257 724 Apply Pesticides Correctly. A Guide For Private Applicators.
- PB 259 992 Wastewater Treatment by Natural and Artificial Marshes
- PB 261 002 Apply Pesticides Correctly. A Guide for Commercial Applicators. Right-of-Way Pest Control
- AD 726 948 Aquatic Weed Control in Fish Ponds with Chemical Methods
- AD 775 408 Aquatic Plant Control Program-Technical Report 6. Biological Control of Water Hyacinth with Insect Enemies
- ADA 018866 Aquatic Plant Control Program-Technical Report 11. Effects of CO₂ Laser on Water Hyacinth Growth
- ADA 032970 Water Hyacinth Research in Puerto Rico

CASE STUDY IN PROGRESS

PLACE:

Servicio de Informacion y
Transferencia de Tecnologia-SITT
Centro Nacional de Productividad-CENAP
Avenida Espana 732
San Salvador, El Salvador

PRINCIPAL CONTACT:

Ing Gustavo Valle, SITT Manager

ORGANIZATION'S PURPOSE

CENAP-the National Productivity Center-provides the following services:

1. identification of needs
2. analysis of known solutions
3. screening
4. fabrication of prototype
5. testing
6. redesign
7. operational field tests
8. demonstration to low-income groups

In essence, CENAP functions as a transfer agent of previously evaluated appropriate technology to low-income areas.

PROJECT DESCRIPTION

"To reduce the loss of fruits and vegetables in our markets due to management, transportation, package, and storage." Technical assistance will be provided by Ing. Gustavo and other technicians of the corresponding government institutions. Beneficiaries are the small sellers and producers.

BIBLIOGRAPHY

NTIS/PS-78/0482

Food Packaging and Storage.
Volume 2. June 1977-April 1978.
Bibliography with Abstracts.

NTIS/PS-78/0761

Solid Waste Reclamation and Recycling.
Part 1. Packaging and Containers.
Bibliography with Abstracts.

CASE STUDY IN PROGRESS

PLACE:

Center Nacional de Productividad
CENAP
Avenida Espana 732
San Salvador, El Salvador

PRINCIPAL CONTACT:

Pedro E. Garcia, Director

ORGANIZATION'S PURPOSE

"To provide information and technical assistance to those organizations who require continuous contact and updating."

PROJECT DESCRIPTION

"To make maximum advantage of natural resources heretofore neglected. Technical assistance will be provided by CENAP's Department of Technical Assistance and the Technology Transfer and Information Service (SITT)."

BIBLIOGRAPHY

PB 258 499

Fuel and Energy Production by
Bioconversion of Waste Materials
State-of-the-Art

PB 259 990

Report of a Workshop on Aquatic
Weed Management: Some Prospects
for the Sudan and Nile Basin, Held
at Khartoum, Sudan on 24-29
November 1975

N75 22938

Application of Vascular Aquatic
Plants for Pollution Removal,
Energy and Food Production in a
Biological System

N76 10569

Grown Organic Matter as a Fuel Raw
Material Resource

CASE STUDY IN PROGRESS

PLACE:

Grupo de Tecnologia Apropriada
Apartado 1421
Panama 9A, Panama

PRINCIPAL CONTACT:

Samuel Bern

ORGANIZATION'S PURPOSE:

To publish periodic reports on appropriate technology to organize seminars in rural areas on alternative energy resource development and agriculture.

PROJECT DESCRIPTION

"To increase awareness among rural populations of the dangers of pollution occurring in the waste stream of the coffee processing plants and to propose appropriate solutions. Technical assistance is provided by an agronomist specializing in bio-technology. The project has a \$5,000 budget for 6 months duration. The beneficiaries are the residents of the Boquete area who utilize the water from these streams.

BIBLIOGRAPHY

PB 217 142

Engineering Studies of Coffee Mill
Wastes in El Salvador, C.A.

PB 217 790

Treatment of Wastes from Coffee
Processing in Costa Rica

CASE STUDY IN PROGRESS

PLACE:

Grupo de Tecnologia Apropriada
Apartado 1421
Panama 9A, Panama

PRINCIPAL CONTACT:

Samuel Bern

ORGANIZATION'S PURPOSE

To publish periodic reports on appropriate technology; to organize seminars in rural areas on alternative energy resource development and agriculture.

PROJECT DESCRIPTION

"Production of protein foods from slaughter house residues (in small-scale); budgeting is still being determined. Beneficiaries are 2 rural schools in the province of Bocas del Toro.

BIBLIOGRAPHY

PB 216 272

Compilation of Data, Feed
Composition

CASE STUDY IN PROGRESS

PLACE:

Ministerio de Salud Publica
Tegucigalpa, Honduras

ORGANIZATION'S PURPOSE

To train extension personnel to provide basic health services.

PROJECT DESCRIPTION

"To extend these services throughout greater areas. Technical assistance will be provided by AID and the rural population which comprise almost 70% of Honduras' population.

BIBLIOGRAPHY

PB 239 556-T	Barefoot Doctors Manual
PB 262 754	Health Training Resource Material
PB 268 988	Health Advice for the African Family
NTIS/PS 78 0870	Aquatic Weed Control

CAS-036

CASE STUDY IN PROGRESS

PLACE:

Foster Parents Plan International/
Chalatenango
la Calle Poniente #12
Chalatenango, El Salvador

PRINCIPAL CONTACT:

Tim Allen

ORGANIZATION'S PURPOSE

"PLAN, Foster Parents Plan International begins at the grassroots level in that all ideas, organizations, human resources involved in a project come from the beneficiary community itself."

PROJECT DESCRIPTION

To facilitate "the implementation of projects in preventative health, vocational and formal education, community development and small income generating and agricultural projects. PLAN has a team of local project promoters, trained in-house in simple organizing techniques. PLAN will enroll some 3,000 affiliated low-income farming families in the Department of Chalatenango within the next year. The total population benefitting from programs and services is 36,000 people."

BIBLIOGRAPHY

PB 283 958

Manual de Tecnologia para la
Comunidad (Village Technology
Handbook-Spanish version)

CASE STUDY IN PROGRESS

PLACE:

Directora Ejecutiva
Centro de Integracion Familiar
Apartado Postal 186-A
Guatemala, Guatemala

PRINCIPAL CONTACT:

Maria Mercedes de Rossi

ORGANIZATION'S PURPOSE

"We have a Rural Home in Rabinal, Baja Verapaz province which services five villages with equipment to promote health, agriculture and home economics, etc. to low-income groups (average monthly income per family: U.S. \$12); we are particularly aware of the role women play as a key element in promotion and development."

PROJECT DESCRIPTION

Technical assistance will be provided by a team native to the area and composed of a General Supervisor, a doctor, a professor, an agronomist, a nutritionist, etc. The project has an operating budget of U.S. \$110,000 for three years. (The Project is designed to last three years for each group of four or five villages). Funding is provided locally and from European sources.

BIBLIOGRAPHY

PB 263 349

Manual Didactico: Huertos Escolares y Nutricion (Teaching Manual: School Gardens and Nutrition).

"We consider this report as very useful, didactic, and practical. Mostly, it will be utilized to train the women since they are the key to the development of home economics within the context of capacitating the five villages covered by this project."

CASE STUDY IN PROGRESS

PLACE:

CARE, Inc.
Box 773
Port-au-Prince, Haiti

ORGANIZATION'S PURPOSE

"CARE-Haiti currently serves over 170,000 children in its School Feeding Program, plus 55,000 workers and dependants in Food for Work."

PROJECT DESCRIPTION

"Food for Work projects strive to encourage community action in soil conservation, road construction, housing, etc. Technical assistance will be provided by specialists from the Haitian Government Department of Agriculture, Education, Public Health and Public Works, and our own staff of engineers and agronomists. CARE's beneficiaries represent the poorest segment of the Haitian society; Haiti is the poorest country in Latin America."

BIBLIOGRAPHY

PB 253 126

Products from Jojoba: A Promising
New Crop for Arid Lands

PB 282 650

Solar Cookers for Haiti: A
Feasibility Study

HRP 0200501

Guide to the Collection and Use of
Health Expenditures and Utilization
Data for Health Planning Agencies

TID 22781

Fuels from Sugar Crops

SECTION 6

REFERENTIAL LISTING OF NTIS

APPROPRIATE TECHNOLOGY REPORTS

BY ACCESSION NUMBER

REF-000

AD-A002 212
AD-A003 909
AD-A004 254
AD-A008 453
AD-A010 976
AD-A013 482
AD-A015 426
AD-A026 264
AD-A029 823
AD-A029 842
AD-A032 835
AD-A036 072
AD-A038 482
AD-A044 343
AD-A044 765
AD-A044 767
AD-A044 982
AD-A047 981

AD-210 105
AD-417 467
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COM-74-11490	HCP/M3879-1(V.1)	PB-169 744
COM-74-11491		PB-170 306
COM-74-11492	HIT-693(V.2) (App.)	PB-170 327
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COM-75-10263	LA-DC-13156	PB-175 532
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UMD-4908-8

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