

SCIENCE AND TECHNOLOGY INFORMATION
TRANSFER TO ASIA, AFRICA, AND THE NEAR EAST

ANNUAL REPORT

Fiscal Year 1977

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TABLE OF CONTENTS

<u>Chapter</u>	<u>Page</u>
I. INTRODUCTION	1
II. BACKGROUND	3
III. DOCUMENT SALES	8
A. Table 1: Ad Hoc Document Sales in African, Asian, and Near Eastern Project Countries	i
B. Table 2: Best Sellers in LDCs	iii
IV. COOPERATING AGENCIES	10
A. Annotated Listing of African, Asian, and Near Eastern cooperating agencies	
i. Korea (KORSTIC)	12
ii. Nigeria (FIIR)	13
iii. Pakistan (PASTIC)	13
iv. Philippines (DAP)	14
v. Thailand (TNDC)	14
V. WORKSHOP/TRAINING PROGRAM	16
VI. APPLICATION OF MODERN TECHNOLOGY TO INTERNATIONAL DEVELOPMENT (AMTID)	18
VII. COUNTRY BY COUNTRY	20
i. Afghanistan	20
ii. Bangladesh	20
iii. Egypt	20
iv. Ethiopia	21
v. Ghana	21
vi. India	21
vii. Indonesia	22
viii. Jordan	22
ix. Kenya	23
x. Korea	23
xi. Liberia	23
xii. Nigeria	23
xiii. Pakistan	24
xiv. Philippines	24

TABLE OF CONTENTS

<u>Chapter</u>	<u>Page</u>
xv. Portugal	24
xvi. Sri Lanka	24
xvii. Syria	24
xviii. Thailand	24
xvix. Tunisia	25
xix. Zaire	25
xxxi. Zambia	25
VIII. RELATED PROGRAMS	26
A. COSTED Seminar	26
B. Project INFO/SPEED	26
C. USIA Exhibits Program	28

INTRODUCTION

U.S. AID Project No. 931-1114, "Science and Technology Information Transfer" has the overall objective of improving access to certain kinds of scientific and technical information (STI) by the lesser-developed countries (LDCs) of Africa, Asia, and the Near East.* The principal source of the information of concern is that resulting from research and development studies done by and for the U.S. Government, although information from other selected sources is also involved. A major component of the program is the creation of an operating network of trained and effective local cooperating agencies to assist in the transfer of relevant STI.

This three-year Project is being implemented by the National Technical Information Service (NTIS), a self-supporting unit of the U.S. Department of Commerce. The fiscal year 1977 portion of the program was conducted under the provisions of AID PASA No. CZ/TAB-1114-2-77. For a detailed background, the reader is referred to Project Paper, Science and Technology Information Transfer, Technical Assistance Bureau Pro-

* A parallel program for the Caribbean and Latin America, Project No. 598-0572, is being funded by AID's Latin American Bureau (LA/BU).

ject, U.S. AID, April 1977.

The current Project is actually a more highly developed version of a program initiated in late 1971 by NTIS under a PASA with AID's Office of Science and Technology (TA/OST). The current Project was intended to be continuous with the previous program. However, for a variety of reasons, the fiscal year '77 portion of the program did not receive final approval until September 22, 1977, eight days before the end of the fiscal year.

Throughout this period of uncertain funding, NTIS felt that it was essential to maintain intact the technical information network of Latin America, established under the previous TA/OST-supported program. NTIS also felt it unwise to initiate any new program components until funding became secure.

This report, then, summarizes the "maintenance-level" program conducted by NTIS during fiscal year 1977. It will be shown that the program did not languish during this period. Indeed, the flow of U.S. S&T information to LDCs was significantly increased.

BACKGROUND

October 1971: Original NTIS/AID (TA/OST) PASA initiated.

This was a two-year experimental project to "determine the interest in developing countries in staying abreast of technological advancements in the U.S. in selected fields, and to assess the value to developing countries of selected types of U.S. technical reports."

January 1972: First issue of Application of Modern Technology to International Development (AMTID). Each quarterly issue of this publication contained summaries of about 200 technical reports on subjects of potential interest in LDCs. It was distributed to about 500 public sector organizations in 40 LDCs. Recipients were given the opportunity to purchase reports of interest to them.

March 1973: Questionnaire Evaluation of Project. About 30% of AMTID recipients responded. Among findings: 98% felt that AMTID contained material of interest to them; 51% indicated that it was difficult to get foreign exchange to purchase reports; 80% stated that English-language was no barrier to the use of AMTID or U.S. technical reports.

March 1973: First Field Visit. NTIS Director William T. Knox evaluated program in Ecuador, Peru, and Korea. This pointed great interest in U.S. technical reports and difficulties in

getting reports to the people who can make the best use of them.

October 1973: NTIS-AID (TA/OST) Project expanded and extended. The three-year extension had these objectives:

- 1) Facilitating the transfer of relevant U.S. S&T information to LDCs for utilization in development;
- 2) Establishing linkages between NTIS and LDC scientific and technical information services; and
- 3) Strengthening these LDC services.

Major program components included: continued publication of AMTID, linkages with cooperating agencies in LDCs, training programs and workshops for cooperating agency staffs, increased field visits by NTIS staff.

January 1974: First formal agreement with a cooperating agency. The cooperating agencies were to promote and market U.S. technical information in their countries. Arrangements were made to allow local information users to pay in their national currency. NTIS provided agencies with promotional and market assistance, staff training, reference materials, a discount and postage subsidy on S&T information materials, priority processing of requests for NTIS products and services. The first cooperating agency was the Korea Scientific & Technological Information Center (KORSTIC).

October 1974: Workshop/Training Program series initiated.

The principal objectives, directed at staff members of cooperating agencies, were: (1) Familiarization with NTIS and its operating procedures; (2) Introduction to proven information processing and marketing techniques which may be applied by the cooperating agencies; (3) Survey of U.S. sources of technical information; exchange of ideas and experiences between cooperating agency staffs of different countries. The programs were held in the Washington D.C., area; "Hands-on" training and site-visits were emphasized. The first graduate was Mrs. Beola Ariyo of the Federal Institute for Industrial Research (F.I.I.R.) in Nigeria.

August 1975: AMTID changed in format distribution pattern.

In an effort to place AMTID in the hands of its ultimate end-users, the AMTID mailing list was expanded to include approximately 4,000 scientists, engineers, consultants, managers, small- and medium-scale entrepreneurs, and other professional and technical workers. All new recipients had seen AMTID, and expressed a definite interest in receiving it regularly. Frequency of issue was changed from quarterly to monthly, and the number of pages in each issue were reduced. The contents of the new version included a "Customer Memo" of news and announcements, listings of reports most in demand throughout the

world, and descriptions of reports of particular interest in LDCs. Sales attributable to AMTID increased many-fold as a result of these changes.

October 1975: AID field evaluation of program. The first AID on-site evaluation of the project was undertaken by a three-man team, selected by AID in Brazil, Colombia, and Ecuador. Many of the findings and recommendations of this team have been incorporated into the current project, and have had a bearing on AID's overall technical information policy.

May 1976: First joint exhibit with a cooperating agency. NTIS and KORSTIC mounted a joint exhibit at a worldwide seminar on information services for LDCs, sponsored by the International Federation of Library Associations, and held in Seoul, Korea.

June 1976: Kissinger statement to OAS General Assembly. Secretary-of-State Henry A. Kissinger informed the 6th Regular Assembly of the Organization of the American States, meeting in Santiago de Chile that the "U.S. will...expand and strengthen Latin America's access to the National Technical Information Service...". In conjunction with this declaration, AID (LA/DR) asked NTIS to submit a proposal for an expanded program..

September 1976: Five year project ends. A network of cooperating agencies in seventeen countries is operational. Sales of technical reports in the project countries have increased from virtually none in 1971 to an average of well over 1500 items per month during 1976.

October 1976: AID (TA/OST) asks for new proposal. This is to be a regional Africa/Asia project to run more-or-less parallel to the LA/DR project.

October 1976: NTIS runs program at maintenance level. Program funding from both TA/OST and LA/DR encountered numerous delays. NTIS felt that it was essential to maintain program continuity; therefore, the network and body of users previously developed was kept together, on speculation that funding would be approved eventually.

September 1977: Parallel AID programs approved by LA/DR and TA/OST. Both programs cover FY 1977 (retroactively) through FY 1979.

DOCUMENT SALES

During the first five years of the AID-NTIS program, success was measured largely quantitatively; that is, by changes in the number of documents sold in LDCs and/or their value.* The current program does have a qualitative evaluation component but, for reasons given in the Introduction, this will not begin until FY '78.

Table 1 shows the number of documents sold on an Ad Hoc basis during FY '77 in each of the project and project-graduate countries. It also compares the value of sales made during FY '77 with those of FY '76, and then ranks the countries according to value of sales and the percent change in value over (or under) the FY '76 figure.

The overall 46% increase in value demonstrates the kind of momentum the program has generated. This increase in sales value came in the face of a cutback in program effort. Furthermore, it can safely be said that almost all of the over

* In what follows, a distinction is made between total sales and Ad Hoc document sales. The latter phrase refers to items sold on an individual basis. Total sales includes Ad Hoc document sales plus subscription and standing order sales. The NTIS order accounting system cannot at present provide total sales figures by country. But, the total sales of individual cooperating agencies can be determined. In this report, therefore, the figures given for countries are Ad Hoc document sales and those given for cooperating agencies are total sales.

eleven thousand documents that went to the project countries sold as a result of this AID-funded effort.

A listing of titles which have sold the best in the LDCs is given in Table 2. A mix of intermediate and high-technology subject matter is apparent. The topic most in demand is obviously energy, particularly solar energy utilization. By far, the single title most in demand was An Inexpensive, Economical Solar Heating System for Homes; this has also been the best-selling NTIS report in the U.S.

TABLE 1.

AD HOC DOCUMENT SALES IN
AFRICAN, ASIAN, AND NEAR EASTERN PROJECT COUNTRIES

Country	No. Sold FY 77	Value of Sales		% Change in Value	Value	Rank %Chan
		FY 76	FY 77			
Afghanistan	1	\$0	\$.10	100%	22	1 (tie)
Egypt ^{oo}	16	+	425	+	11	+
Ghana	33	73	93	22%	16	7
Guinea ^{oo}		+	12	+	21	+
India	6,486	30,133	70,446	57%	1	6
Indonesia	239	1,356	3,228	58%	7	5
Jordan	29	0	132	100%	14	1 (tie)
Kenya	15	255	124	-51%	15	10
Korea ^{o*}	1,536	4,015	16,336	75%	2	4
Liberia	0	70	0	-100%	23	15
Morocco	19	28	288	90%	13	2
Nigeria ^{o*}	41	8,368	782	-91%	9	13
Niger ^{oo}	35	+	388	+	12	+
Pakistan*	360	2,501	6,503	62%	4	3
Philippines*	708	3,874	3,808	-2%	6	9
Portugal ^{oo}	992	+	13,397		3	9
Senegal ^{oo}	6	+	49	+	18	+
Syria ^{oo}	78	+	1,047	+	8	+
Tanzania	3	333	29	-91%	19	4
Thailand*	528	6,020	6,080	1%	5	8
Tunisia	3	60	27	-55%	20	11

Turkey°	55	1,767	772	-56%	10	12
Zambia°°	10	+	82	+	17	+

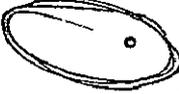
23 Countries \$11,193 58,853 124,058 53%

(Minus those countries

marked °°)-----108,658 46%

+ Data not available.

* Countries with NTIS cooperating agencies.

7.  ° Countries graduated or eliminated from program during FY '77.

What happens now? °° Countries added to program during FY '77.

TABLE 2.

FLAT PLATE SOLAR COLLECTOR HANDBOOK--A SURVEY OF PRINCIPLES,
TECHNICAL DATA AND EVALUATION RESULTS.
(UCID 17086)

GRAS (GENERALLY RECOGNIZED AS SAFE) FOOD INGREDIENTS: ALGINATES
(PB 221 266)

GUIDE FOR FIELD CROPS IN THE TROPICS AND SUB-TROPICS.
(PB 262 488)

HANDBOOK ON AEROSOLS.
(TID 26608)

HOW TO OBTAIN INFORMATION IN DIFFERENT FIELDS OF SCIENCE AND
TECHNOLOGY: A USER'S GUIDE.
(ADA 026 041)

IRRIGATION PRINCIPLES AND PRACTICES. . . .
(PB 262 747)

METHOD FOR ESTIMATING SOLAR HEATING AND COOLING SYSTEM PERFORMANCE.
(ADA 026 041)

MINICOMPUTERS: A REVIEW OF CURRENT TECHNOLOGY, SYSTEMS, AND
APPLICATIONS.
(AD 783 316)

PERFORMANCE OF RESIDENTIAL SOLAR HEATING AND COOLING SYSTEM.
(PB 244 644)

PINE WOOD APPLICATIONS.
(NTIS/PS/760/924)

PLYWOOD RESEARCH AND APPLICATIONS.
(NTIS/PS/770/252)

RESIDENTIAL HOT WATER SOLAR ENERGY STORAGE SUBSYSTEMS.
(PB 252 685)

SOLAR ENERGY.
(AD 778 846)

SOLAR HEATING AND COOLING IN BUILDINGS: METHODS OF ECONOMIC
EVALUATION.
(COM 75 11070)

SOLAR HEATING OF BUILDINGS AND DOMESTIC HOT WATER.
(ADA 021 862)

TABLE 2.

BEST SELLERS IN LDCS

FY 77

ANALYSIS OF LARGE SCALE NON-COAL UNDERGROUND MINING METHODS.
(PB 234 555)

AN INEXPENSIVE ECONOMICAL SOLAR HEATING SYSTEM FOR HOMES.
(N76 27671)

A PROGRAM OF RESEARCH, DEVELOPMENT AND DEMONSTRATION FOR EN-
HANCING COAL UTILIZATION TO MEET NATIONAL ENERGY NEEDS.
(PB 226 631)

DECENTRALIZED TOMATO PROCESSING: PLANT DESIGN, COSTS, AND
ECONOMIC FEASIBILITY.
(PB 251 382)

DESIGN AND CONSTRUCTION OF A RESIDENTIAL SOLAR HEATING AND
COOLING SYSTEM.
(PB 237 042)

DESIGN, FABRICATION, TESTING AND DELIVERY OF A SOLAR COLLEC-
TOR.
(N76 226 71)

DEVELOPMENT OF FOREST INDUSTRIES.
(NTIS/PS/760/959)

ENERGY FACT BOOK: 1977
(ADA 038 802)

ENERGY FOR RURAL DEVELOPMENT: RENEWABLE RESOURCES AND ALTER-
NATIVE TECHNOLOGIES FOR DEVELOPING COUNTRIES.
(PB 260 606)

ENERGY OF WIND ENERGY SYSTEMS.
(SAND 750 530)

EVALUATION OF HOME SOLAR HEATING SYSTEM.
(UCRL 51 711)

FEASIBILITY TEST OF AN APPROACH AND PROTOTYPE FOR ULTRA LOW-
COST HOUSING.
(PB 251 471)

FERROCEMENT, A VERSATILE CONSTRUCTION MATERIAL: ITS INCREASING
USE IN ASIA.
(PB 261 818)

TABLE 2.

SMALL WELLS GUIDE.
(PB 190 672)

SYSTEMS ANALYSIS AND OPERATIONS RESEARCH: A TOOL FOR POLICY
AND PROGRAM PLANNING FOR DEVELOPING COUNTRIES.
(PB 251 639)

COOPERATING AGENCIES

The cooperating agencies program was initiated in fiscal year 1974 primarily to accomplish these objectives:

- (1) Provide an active mechanism by which potential technical information users could be identified, made aware of the information resources available to them, and then assisted in obtaining relevant information;
- (2) Overcome foreign exchange problems and other difficulties and inconveniences facing the individual attempting to purchase information products and services originating outside his own country;
- (3) Within the constraints of the project, increase the overall effectiveness of local technical information dissemination organizations.

The program is set up so that it will eventually become self-supporting. This depends on each cooperating agency developing a sufficiently large customer base; one that is well enough aware of the value of technical information to pay a fair price for it, so that income from sales will balance or exceed expenditures. It is expected that most cooperating agencies will achieve this status by the end of the program. Some are well on the way to that goal.

The steps in progress of a cooperating agency from a subsidized status to a fully self-supporting one are as follows:

1) Partially-subsidized: AID fully subsidizes airmail postage of technical information products ordered through NTIS. A 25% discount off the normal domestic price is allowed by NTIS. A \$1,000 credit is also sometimes given by NTIS to help cover agency promotional expenses. Many other benefits are provided through the Project.

2) Non-subsidized, AID program: No subsidies, discounts or credits are given. Cooperating agency buys from NTIS at domestic prices and adds a handling charge to its clients to cover expenses. Client also pays airmail charges, if that form of shipment is desired. However, other Project benefits are still given.

3) Non-subsidized, Non-AID program: (also called "semi-commercial"). Same as the above, but no Project benefits are given. However, cooperating agency may still interact with Project in certain ways (e.g., acting as host for regional meetings). This is the first step for a cooperating agency which has graduated from the Project.

4) NTIS Dealer (or "full commercial"): The dealer buys from NTIS at the foreign price (usually twice the domestic price) minus a discount which is scaled according

to dealers sales volume. The dealer may set his own selling price in order to recover a profit and pay shipping charges. There is usually no interaction with the AID program.

- No new cooperating agencies were added during this fiscal year. The status of some existing agencies has, however, changed. Here is an annotated listing of cooperating agencies in the project countries:

KOREA

Korea Scientific & Technical Information
Center (KORSTIC)
C.P.O. Box 1229
Seoul
Tel. 96-6501-6

Principal NTIS contacts: Doo-Hong Kim, Director General;
Chul SaKong, Director, Dept. of Information Resources

Cooperating Agency since: January 1974

Total Sales: October 75-September 76: 3,063
Fiscal year 1977: 16,278
% Change 81%

Comments: KORSTIC was the first organization to become an NTIS cooperating agency. Korea is now an AID graduate country, so KORSTIC has been shifted to semi-commercial status. A new agreement was negotiated by KORSTIC Director General Doo-Hong Kim and NTIS Director William T. Knox in the latter's office in July. KORSTIC represents a major success story. Until the time that KORSTIC became a cooperating agency (and for quite some time afterward) NTIS had not made a single sale in Korea. Almost all non-military technical information imported into Korea came from Japan, and that was usually second-hand information. KORSTIC has now developed a market for U.S. technical information in Korea that is greater than that in many industrialized countries.

NIGERIA

Federal Institute for Industrial
Research (FIIR), Oshodi
Private Mail Bag 1023
Murtala Muhammed Airport, Ikeja
Lagos State
Tel. 32161-4

Principal NTIS contact: Mrs. Beola Ariyo, Office of the
Director of Research

Cooperating Agency since: March 1974

<u>Total Sales:</u>	October 75-September 76:	4,361
	Fiscal year 1977:	549
	% Change	-87%

Comments: Nigeria attained AID graduate status during this fiscal year, so FIIR became a semi-commercial cooperating agency. Due to tightened currency export restrictions, FIIR has not been able to replenish its NTIS deposit account during 1977. This explains the sharp decline in sales for what had previously been an increasingly successful operation. FIIR was visited in February by David B. Shonyo, NTIS Foreign Programs Liaison Officer, while traveling under the auspices of the U.S. Information Agency. This resulted in FIIR signing a semi-commercial agreement with NTIS, and in FIIR funding the attendance of a senior staff member at the May session of the NTIS Workshop/Training Program.

PAKISTAN

Pakistan Scientific and Technological
Information Center (PASTIC)
No. 6, Street 22, Sector F-7/2
P.O. Box No. 1217
Islamabad

Principal NTIS Contact: Dr. A.R. Mohajir, Director.

Cooperating Agency since: May 1975.

<u>Total Sales:</u>	October 75-September 76:	420
	Fiscal Year 77:	5,657
	% Change	93%

Comments: An improved marketing strategy, implemented by PASTIC midway through the fiscal year dramatically increased sales. PASTIC appears ready to be moved to a non-subsidized status. Terrance L. Lindemann, NTIS Promotion Division Chief, visited PASTIC while traveling in Asia under another program. A follow-up visit is scheduled for early 1978.

PHILIPPINES:

Center for Development Information
Development Academy of the Philippines
Parklane Bldg., 3rd Floor
Gamboa Street, Legaspi Village
Makati, Rizal

Principal NTIS Contact: Ma. Aurora S. Lopez, Chief NTIS liaison officer.

Cooperating Agency since: May 1974.

<u>Total Sales:</u>	October 75-September 76:	2,870
	Fiscal Year 1977:	3,814
	% Change	25%

Comments: CDI/DAP showed dramatic sales increases early in the program. The moderation in growth is due largely to the difficulties this organization has experienced in getting funds out of the country to replenish its NTIS deposit account. Also, the Chief of CDI, a vigorous supporter of the Project, left for another assignment. When last heard from, he was in the process of setting up outlets for NTIS materials throughout the Philippines; the fate of this effort is not presently known. A visit will be made to CDI/DAP in November 1977, and a non-subsidized AID agreement will be offered at that time.

THAILAND

Thai National Documentation Center
196 Phahonyothin Road, Bangkok
Bangkok
Tel. 791121-30

Principal NTIS Contact: Mrs. Chalermvarn Choosup, Director.

Cooperating Agency since: May 1974.

<u>Total Sales:</u>	October 75-September 76:	715
	Fiscal year 1977:	2,459
	% Change	71%

Comments: TNDC has shown an impressive jump in value of sales. However, most of the materials purchased are going to other units within its own apparent organization, the Applied Scientific Research Corporation. TNDC apparently is not much interested in a broader base marketing program. The present subsidized agreement has been extended through FY '78. However, a more suitable cooperating agency for Thailand will be sought if TNDC does not begin to assume a more active information transfer role. Mr. Lindemann visited TNDC in February for discussions with its Director. The Denver Research Institute has agreed to sponsor Mrs. Choosup's participation in the March 1978 NTIS Workshop/Training Program.

WORKSHOP/TRAINING PROGRAM

One NTIS Workshop/Training Program session was conducted during this fiscal year. It was attended by five persons, one of whom is a representative of the TA/OST program cooperating agency system. None of the expenses of these individuals was paid for from Project funds, although a portion of NTIS's expenses were eventually charged to the AID program. Attendees were:

Razaq Oye Sodipe,
Documentation Officer
Federal Institute of Industrial Research
FIIR (Oshodi)
Murtala Muhammed Airport, Ikeja
Lagos State,
Nigeria
(FIIR is a recent graduate from the cooperating agencies, and now acts as NTIS representative in Nigeria on a semi-commercial basis).

Akhnoukh L. Fanous,
Library Director,
American Center
Cairo,
Egypt
(Expenses and tuition paid by USIA)

German Escordia S.,
Coordinador, Sistema Nacional de
Informacion (SNI)
COLCIENCIAS
Bogota,
Colombia

Jorge Cepeda,
Coordinador Informacion Tecnologica
INFOTEC/CONACYT
Mexico, 19, D.F.
Mexico

Carlos Izaguirre,
Manager, Internal Information Service
INFOTEC/CONACYT
Mexico, 19, D.F.,
Mexico

A two-week session was held 26 April through 13 May in the Washington D.C. area. A third week was given in Georgia by Georgia Tech's Industrial Development Division. This segment, given for the first time, was intended to provide training in technical information field agent work. It was only moderately successful and probably will not be repeated.

APPLICATION OF MODERN TECHNOLOGY TO
INTERNATIONAL DEVELOPMENT (AMTID)

AMTID began, in 1972, as a quarterly abstract bulletin of approximately 125 pages. In this format, it was mailed to about 500 public sector organizations in 40 countries.

It is now an eight page monthly bulletin distributed to about 7,000 information users in LDCs. Most recipients are individuals working in the private sector. AMTID is distributed by the cooperating agencies in countries where these are operational; in the other LDCs, copies are sent by direct mail to individual recipients.

The content of AMTID, in its FY 77 format, usually comprised:

- (1) A selection of titles, in all subject categories, which were most in demand throughout the world (it has been found that the same titles also have a high demand in the LDCs);
- (2) Descriptions of documents written for or about LDCs;
- (3) A Customer Memo containing such items as news relating to the project, advice on how to get the most out of NTIS, and how to get optimum service, non-NTIS sources of relevant information, etc.;
- (4) Descriptions of new NTIS products and services;
- (5) Descriptions of individual cooperating agencies, and their services.

Beginning in calendar year 1978, several changes will be made in content. Each quarter, what is essentially an expanded version of the current format will be issued. In the intervening months, each issue will be devoted to one or a few particular Appropriate Technology subjects. An effort will be initiated in early 1978 to greatly increase the number of copies of AMTID distributed, particularly in those countries with no cooperating agency.

COUNTRY-BY-COUNTRY

A large number of new target countries were added during the fiscal year '77. However, many of these were subsequently designated as security support assistance countries. The latter are not eligible for participation in the cooperating agency program. It is not clear, at this writing, whether or not it is permissible to reach technical information users in these countries through AMTID.

Countries in which no significant activity took place during the fiscal year are not included in the listing.

AFGHANISTAN

One of the first countries to be included in the program, but there has been almost no response whatever from here. However, an Afghan engaged in setting up his country's first STI center recently visited NTIS and expressed an interest in becoming a cooperating agency. NTIS will probably return the visit in early 1978.

BANGLADESH

Scheduled to become part of the cooperating agency program. Lindemann will visit in November to attempt to identify candidates.

EGYPT

Now a security support assisted country. NTIS had been on

the verge of establishing a cooperating agency here when the change in assistance status was learned of. Shonyo visited Egypt in February and representatives from the proposed cooperating agency visited NTIS in June. Egypt appears to have a growing need for NTIS materials, so NTIS may establish a commercial dealer here.

ETHIOPIA

Designed in the Project Paper as the site of a cooperating agency. This objective probably will be pursued only if and when the political situation there become more favorable. Sales to Ethiopia have dropped to zero since the Revolution.

GHANA

Targeted for establishment of a cooperating agency in the near future. Shonyo will visit to investigate candidates in December. Ghana probably has fairly good sales potential.

INDIA

No longer receives AID assistance. India is by far the largest LDC market for NTIS materials. It was one of the three LDCs in which NTIS sales were being made prior to the original TA/OST-NTIS PASA (the other two countries being Brazil and Mexico). Early in the program, NTIS attempted

to arrange a cooperating agency agreement with the Indian Scientific Documentation Centre (INSDOC), but by early 1977 the action was still bogged down in the GOI bureaucracy. Both NTIS Director Knox and Lindemann visited India in February on non-Project business. At that time, they interviewed a number of private-sector enterprises interested in representing NTIS in India. Three of these have been chosen as candidates for the NTIS commercial dealer program. Lindemann will return to India in November 1977 to negotiate agreements.

INDONESIA

Will become part of the cooperating agency program. Director Knox visited here in 1974, but no agreement could be reached. At that time, it was determined that the only potential market lay within Government agencies. However, sales growth has been impressive. Dean Smith, NTIS Assistant Director for Marketing, visited here in September 1977 and set the stage for a cooperating agency agreement with a unit of the Indonesian Institute of Sciences. Lindemann will visit here in November to complete the agreement.

JORDAN

Now a security supporting assistance country.

KENYA

Targeted as a cooperating agency country. Shonyo and Frank Post, NTIS International Programs Consultant, visited Kenya in March 1977 under USIA auspices. Preliminary contact was made with a potential cooperating agency, the Industrial Survey and Promotion Centre of the Ministry of Commerce and Industries. Shonyo will attempt to secure a formal agreement during a visit during December 1977.

KOREA

Now an AID graduate country. The cooperating agency, KORSTIC, has been moved to a non-subsidized semi-commercial status. A regional meeting of Asian cooperating agency Directors is contemplated for Korea.

LIBERIA

An attempt will be made to establish a cooperating agency here. Shonyo will seek candidate organizations during a visit in December.

NIGERIA

Now an AID graduate country. The cooperating agency, FIIR, has been shifted to a non-subsidized semi-commercial status. Dowd will be in Nigeria during November and December 1977 under USIA auspices.

PAKISTAN

PASTIC is the cooperating agency here. Lindemann visited PASTIC in March 1977. Dowd will travel here in February 1978 and will include PASTIC's various branch offices on her itinerary.

PHILIPPINES

The cooperating agency here, DAP, will go to a non-subsidized AID status. Lindemann will visit in November 1977.

PORTUGAL

Now a security support assistance country.

SRI LANKA

An effort will be made to establish a cooperating agency. Lindemann traveled here in February 1977 to visit the AID Mission and prospective cooperating agencies. The Mission was attempting to initiate a technical information program which may dovetail with the current program.

SYRIA

Now a security support assisted country.

THAILAND

The cooperating agency, TNDC, will continue for the present in subsidized status. Lindemann was here in February 1977 for talks with TNDC and with other possible cooperating agency

candidates. A follow-up visit is scheduled for November 1977. Thailand appears to be a large potential market for STI materials; what is needed is someone to actively pursue this market.

TUNISIA

A cooperating agency will be sought here. Post will visit in May or June 1978 to seek candidate agencies.

ZAIRE

Now a security support assistance country.

ZAMBIA

Now a security support assistance country.

RELATED PROGRAMS

COSTED Seminar

Funds granted by TA/OST and administered by NTIS were used to co-sponsor a seminar on "Technical Information Services for Developing Countries." The seminar, held in Madras, India during March 1977, was organized by the Committee on Science and Technology in Developing Countries (COSTED) of the International Council of Scientific Unions. Participants included the top information scientists from South Asia.

NTIS was represented at the seminar by Knox and Lindemann. Knox delivered a very well received paper describing the TA/OST-NTIS Project.* One of the highlights of the seminar was the four Project INFO/SPEED (q.v., below) demonstrations/lectures by Post.

Project INFO/SPEED

The U.S. Information Agency contracted with NTIS to perform a series of demonstrations in selected Third-World countries of remote on-line computer information retrieval. Essentially, this involves sitting down at a keyboard in a Third-World

W * Published as: Knox, W.T., D.B. Shonyo, and T.L. Lindemann, 1977. "The Role of the U.S. (NTIS) in Providing Information for Developing Countries"; in Technical Information Services for Developing Countries. Bangalore, Indian Institute of Sciences.

country, asking questions of computers located in the U.S., and receiving almost instantaneous replies. The demonstration series was called Project INFO/SPEED.

During this fiscal year, INFO/SPEED demonstrations took place at Jeddah, Saudi Arabia; Madras, India; Cairo, Egypt; Lagos, Nigeria; Nairobi, Kenya; Panama City, Panama; Lima, Peru; Buenos Aires, Argentina; and Brasilia, Campinas, and Sao Paulo, Brazil. Audiences have included at least one President of a country (Panama), and numerous cabinet-level officials. The Project has conclusively demonstrated, for the first time, that on-line information retrieval from remote areas is immediately practical via telex hookups; and is technically feasible (the main limitation being cost) via telephone communication systems.

Frank Post, International Programs Consultant to NTIS, has primary responsibility for the Project. He has been assisted in the field by Don Black of Systems Development Corporation. Dave Shonyo also provided assistance at three sites.

INFO/SPEED has some rather interesting implications for the current STI Transfer Project. The original proposal had envisaged a series of regional on-line information

retrieval systems. This would have involved placing the NTIS computerized Data Base in a computer located in one country of a region, and allowing it to be searched from terminals located in other countries of the region. Apparent problems in securing adequate regional lines of communication caused this component to be eliminated from the Project. It has now been shown that terminals located in target countries can be connected directly to a computer located in the U.S. This would give users in LDCs direct access to the NTIS Data Base plus approximately 60 to 100 other data bases.

USIA Exhibits Program

NTIS is cooperating with USIA in representing the U.S. at a series of international trade fairs in Africa. This activity serves to introduce Africans to U.S. technical information resources (including NTIS) and information handling/processing techniques. On-line searching of the NTIS Data Base via Telex is featured.

Ted Ryerson of NTIS spent three weeks with this program in Kinshasa, Zaire in July 1977. Vie Dowd will handle the activities in Lagos, Nigeria during November-December 1977. The next activity in this program is scheduled for Abidjan, Ivory Coast during May-June 1978.