

SCIENCE AND TECHNOLOGY INFORMATION
TRANSFER TO AFRICA AND ASIA

ANNUAL REPORT

Fiscal Year 1978

10/78

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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 1978 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 Project, U.S. AID, April 1977.

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

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.

In view of this uncertain funding, the program was operated at a maintenance-level only during fiscal year '77. This means that, in reality, fiscal year '78 was the actual start-up year for the Project.

The specific project components, specified in the fiscal year 77-78 PASA cope of Work are as follows:

1. Select and appoint agents willing and capable of actively promoting acquisition of US STI through NTIS, while developing and implementing appropriate marketing strategies, and serving as depository and distribution center for US STI.
2. Sponsor STI awareness seminars in project countries.
3. Conduct workshops at NTIS for cooperating agency officers to acquaint them with US STI systems and NTIS operations.

4. Provide cooperating agencies with technical advisory services, including user education and marketing support which will strengthen institutional capabilities.
5. Publish and distribute special announcement bulletin, "Application of Modern Technology in Development" (AMTID).
6. Give priority handling to LDC STI requests 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.

This report summarizes progress and activities accomplished in the above and some related areas.

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 to 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 co-operating 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 was reduced. The contents of the new version included a "Customer Memo" of news and announcements, listing of reports most in demand throughout the world, and descriptions of reports of particular interest in LDCs.

Sales attributable to AMTID increased manifold 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 co-operating 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.

PROJECT MANAGEMENT

This Program was initiated as a project of the AID Technical Assistance Bureau's Office of Science and Technology (TA/OST). The Technical Assistance Bureau was subsequently reorganized into the Development Services Bureau (DSB), so the responsible AID operating unit became DS/OST. Then, on March 10, 1978, Program responsibility was shifted to DSB's Office of Development Information and Utilization (DS/DIU) under that unit's Deputy Director, Maury Brown. The DS/DIU Project Manager is Lee White.

Within NTIS, the Program was initially assigned as the responsibility of the Promotion Division, of which Terrence L. Lindemann was chief. A new Developing Countries Staff is in the process of being organized within the Office of the Director, and Program responsibility now resides with this organizational unit. Lindemann will direct the Staff on a full-time basis. Within this Staff, David B. Shonyo will manage the current S&T Information Transfer Project. A full-time Africa specialist will also be assigned to the Project.

Former NTIS Director William T. Knox maintained a close personal interest in AID-supported NTIS programs since the time of the initiation of the predecessor of the current Project in 1971. Following the death of Knox in early

March, 1978, Acting Director Peter F. Urbach continued to give the program full support. As the fiscal year ended, NTIS awaited the appointment of a new Director.

NTIS personnel assigned to the Project on a full-time basis during the fiscal year were: David B. Shonyo, Foreign Programs Liaison Officer and Manager of the current Project; M. Adele Hilton, Program Specialist and Assistant to Shonyo. Assigned on a part-time basis were Terrence L. Lindemann, Chief of the NTIS Promotion Division, International Programs Manager, and now Chief of the Developing Countries Staff; Vietta Dowd, Technical Information Specialist and Special Assistant to Lindemann; Kathleen McCarthy, Secretary; Nancy Dolphin, Secretary (replacing McCarthy); Marion Janake, Administrative Assistant; John Hounstell, Writer-Editor, Africa Specialist (under contract, but being converted to a full-time employee); Richard Garcia, Appropriate Technology Consultant; Paul Bundick, Appropriate Technology Consultant (replacing Garcia); Francisco Pardo de Zela, Case Studies Contractor.

A Project Evaluation was held at DS/OST in February. The Evaluation Summary Report is available under a memo of transmittal from W. D. Roseborough, DS/ST to Distribution, dated 19 April 1978.

IN-COUNTRY SEMINARS

The first in a new series of user-education seminars was held during the fiscal year. The seminars are organized by our cooperating agencies with Project support (the cooperating agencies are expected to pay part of the cost). The purpose of the seminars is to provide S&T information end users with (1) an introduction to the STI resources available to them through the cooperating agency in their country, and (2) an in-depth familiarization with NTIS STI products and services available through the cooperating agency. Emphasis is placed on creating a general awareness of the value of STI in various endeavors.

The first series of seminars took place in the Philippines, Thailand, and Sri Lanka. Vietta Dowd coordinated the series and represented NTIS at each of the seminar series.

In Manila, Philippines, the seminars were organized by the Technology Resources Center (TRC). A total of four sessions were held during the period 6-7 June, with 30 to 35 persons attending each session. TRC had just achieved a capability of searching the NTIS computerized data base on-line from Manila, and this capability was

demonstrated during each of the sessions. Attendent publicity reached Philippine President Marcos, who requested, and received, a personal demonstration. He was sufficiently impressed to order an on-line terminal installed in the Presidential Offices.

The next seminar in the series was held in Colombo, Sri Lanka, on 16 June. It was hosted by the Sri Lanka Scientific and Technical Information Centre (SLSTIC) in conjunction with that organization's joining the Program. About thirty-five head librarians from various Sri Lankan S&T institutes attended. Other sessions are tentatively scheduled for the Spring of 1979 which will be aimed at end users.

Approximately 150 business executives, government officials, and academics attended a session held on 22 June in Bangkok, Thailand. This activity was our first cooperative with our new cooperating agency in Thailand, the Thai Management Association. Representatives of the Asian Institute of Technology joined in giving presentations at this session.

In all, this first series of in-country seminars revealed an unexpectedly great eagerness on the part of

audiences to learn of the information resources available to them. This would, in fact, seem to be a fruitful area for program expansion -- both in terms of the numbers and kinds of people reached and in terms of the information resources covered.

REGIONAL DIRECTORS CONFERENCE

The first in a proposed annual series of conferences, involving the directors of Project cooperating agencies, was held 29-31 May in Seoul, Korea. The NTIS representative in Korea, the Korea Scientific and Technological Information Center (KORSTIC), co-hosted the conference.

Korea was chosen as the site of the Conference in order to conform to the general AID policy of continuing to cooperate with graduate countries wherever possible. This site also had an advantage in that the directors of our cooperating agencies would be able to examine closely the operations of KORSTIC, which was the most successful cooperating agency that the program has had.

Conference arrangements were coordinated during a visit to Seoul during February, 1978, by Vietta Dowd. Invitations were sent to Directors of the six Asian cooperating agencies; all but one (the Director of PASTIC) accepted.

An agenda of discussion items was prepared which focused primarily on the new elements of the NTIS/AID DS/DIU/DSB Program. These included case studies ,

submittal of quarterly agent reports, acquisitions of appropriate technology materials, among others. Each attendee was sent an advance copy of the agency. Experience from the Latin America conference held in April in Salinas, Ecuador, shaped much of the final planning which included task assignments to the conferees.

Participating in the Conference were:

Dr. Ajva Taulananda
TMA (Thailand)

Doo-hong Kim
KORSTIC (Korea)

Neboysa Brashich
AID/Seoul

Terrance Lindemann
NTIS

Vietta Dowd
NTIS

Luwarsih Pringgoadisurjo
PDIN (Indonesia)

Richard Garcia
NTIS

Lee White
AID/DS/DIU

N.U. Yapa
SL/STIC (Sri Lanka)

(Dr. Alfred Tong, TRC (Philippines) was forced to cancel at the last moment for reasons of the Philippines Government).

All participants agreed that the Conference was a worthwhile exercise and that it should be made an annual event. The next Conference has tentatively been scheduled for March 1 through 3 in Bangkok.

WORKSHOP/TRAINING PROGRAM

An Information Systems Workshop/Training Program is provided twice a year for selected staff members of our cooperating agencies. Members of other LDC organizations are also allowed to attend, providing they pay their own way. The principal objectives of the program are:

1. To provide an in-depth familiarization with the workings of NTIS and its products and services.
2. To introduce modern information handling and dissemination techniques which may be useful to the cooperating agencies. (Particular attention is given to methods of promoting the use of S&T information.)
3. To acquaint cooperating agency staffs with other U.S. S&T information resources through site visits and guest lecturers.
4. To provide a forum through which cooperating agency staffs can exchange experiences in the operation of S&T information dissemination services in developing countries.

During the current fiscal year, sessions were held 14 through 31 March and 18 through 29 September. The March session attracted ten participants; the September session had a total of twelve attendees. Those from Asia-Africa are listed below; the remainder came from the Latin America Region.

(The asterisk * denotes cooperating agency staff members.)

March Workshop

*Hernandono
Pusat Dokumentasi Ilmiah
Nasional
Jakarta, Indonesia

Andrini Martono
Institute of Power Energy
Jakarta, Indonesia

*Ratchanee Kanchonmai
Thai National Documentation
Centre
Bangkok, Thailand

*Ma. Milagros Velez
Technical Resources Center
Makati, Rizal, Philippines

September Workshop

Nawal Beyali
National Information and
Documentation Center
Cairo, Egypt

*N. U. Yapa
Sri Lanka Scientific and
Technical Information
Center
Colombo, Sri Lanka

V. Balaraman
Higginsbothams, Ltd.
Madras, India

*Suthrap Visavakul
Thai Management Association
Bangkok, Thailand

Prithvi Haldea
Constellate Consultants, Ltd.
New Delhi, India

Shu-hung Yu
Joint Technical Assistance
Committee
Taipei, Taiwan

Since the initiation of the Workshop/Training Program series

in 1974, efforts have been constantly made to improve the Program structure and course content. One way that this has been done is by asking participants to evaluate the Program. These evaluations are carefully considered in planning subsequent sessions. During the September session, a professional training consultant monitored most of the proceedings. Many of the suggestions made by the consultant will be incorporated into future sessions.

Some of the presentations given at the Workshop sessions are being developed into video scripts. These will be transferred into training films (in 8 mm film, 16 mm film, and videotape formats) for distribution to the cooperating agencies.

PROMOTIONAL SUPPORT

The entire Project is founded on the proposition that S&T information can be a positive force in the economic development process. Providing easy access to information resources addresses only part of the problem of transferring this information. A much more difficult task is that of creating an awareness of the value of available S&T information on the part of potential users. For this reason, a good deal of emphasis in this Project is placed on promoting the value and use of S&T information.

Most promotional efforts are undertaken by the cooperating agencies, rather than directly by NTIS. However, NTIS does provide the cooperating agencies with the following kinds of promotional support:

1. Intensive training is given in promotional and marketing techniques at NTIS Workshop/ Training Program sessions.
2. The cooperating agencies are provided with copies of the monthly announcement bulletin AMTID (q.v.) for distribution within their own countries.

3. One copy of each promotional piece prepared by NTIS for its own use is provided the cooperating agencies. They may then choose those pieces which are suitable for their own use, and request a supply from NTIS. The cooperating agencies are also encouraged to produce their own promotional materials.
4. A video tape recording (VTR), describing NTIS in the context of this Project, has been prepared. The VTR is being made available to cooperating agencies for their promotional use. The recording will be converted into 8 mm and/or 16 mm film formats if sufficient demand is evinced. Also, a set of 35 mm slides with accompanying script is in the process of preparation. The slides confer much of the same material as the VTR, and will be made available to the cooperating agencies who prefer this format.
5. An effort is being mounted to make the availability of NTIS products and services widely known in the Project countries through an advertizing campaign in technical and trade

journals and in newspapers reaching relevant specialized audiences. Each cooperating agency has been furnished with the artwork and text of a series of NTIS ads, which has run in Scientific American, which they may adapt or use as models for ads suitable to local conditions. A maximum of \$1,000 is being provided as a subsidy to each agency for running the campaign.

PUBLICATIONS

Application of Modern Technology to International Development (AMTID). This publication was the basis of the original AID-NTIS PASA. It was then, and still remains the basic tool by which contact with STI users in developing countries is initiated and maintained.

AMTID was initially a quarterly publication, comprised of summaries of NTIS reports thought to be of particular interest in developing countries. Most recipients were public sector organizations with which AID had some sort of working relationship. A field and mail (questionnaire) usage study of AMTID, undertaken several years into the program, led to a change in format and distribution patterns. An effort was made to reach actual STI end users, more frequently, and with a briefer and less formidable format.

Thus, during late 1974 and early 1975, the number of copies distributed of each issue was increased from approximately 300 to approximately 3000. This was done by offering AMTID to subscribers of various English-language technical journals. Beginning in 1975, the number of pages in each issue was reduced from about 130 to 8-12, and frequency of issue was increased to monthly. The content became primarily listings of documents which had the greatest demand worldwide, but also included some descriptions of reports of particular

subject areas. Issue 78-4, for example, dealt with small-scale manufacturing operations, while 78-5 dealt with water supplies.

AMTID is shipped in bulk to NTIS cooperating agencies who, in turn, redistribute copies to appropriate recipients in their own countries. In countries where there is no cooperating agency, copies are mailed directly to individual recipients.

During the fiscal year, a campaign was mounted to increase AMTID distribution in African and Asian countries which do not have cooperating agencies. Sample copies were sent to addresses obtained from various scientific and technical journals. Recipients were invited to return a coupon in order to receive AMTID regularly. Several thousand responses were obtained.

Currently, approximately 20,000 copies of AMTID are distributed each month. In addition, a Spanish-language version is produced under LAC Bureau sponsorship for distribution in Latin America (copies of this are also distributed in the Philippines). A French-language version

will be distributed starting in FY'79. The first issue was in preparation as the current fiscal year drew to an end.

Cooperating Agencies Newsletters. A newsletter intended for the staffs of project cooperating agencies has been produced for several years. Beginning with CY'78, issuance was regularized to a quarterly basis. It is expected that issue frequency will be increased to by-monthly starting in CY'79.

The newsletter has been known as INTINET--an acronym for International Technical Information Network. With the October 1978 issue, this will be changed to Access to Information for International Development.

The principal purposes of the newsletter are to keep cooperating agency staff members informed on project activities, new NTIS products and services, and activities of various LDC Project participants. An article on "Appropriate Technology" is a regular feature.

An International Technical Information Network. This is a one-time, 12 page brochure describing the combined DSB plus LAC program. It is intended primarily for the information of prospective cooperating agencies, AID Missions, and inter-

ested AID/W staff. It is also provided on request of others with a professional interest in the program, but not to individual customers. An up-dated edition is in preparation.

How to Use NTIS Order Processing System. This 26 page manual provides the cooperating agencies with step-by-step instructions on how to make effective use of NTIS. The information covered includes a description of the NTIS order processing system, how to order, dealing with order fulfillment problems, cancelling orders, using a deposit account, and other similar topics. Copies have been provided to all cooperating agency staff members who deal with NTIS. Revisions will be issued as requested.

Workbook for Workshop/Training Program. The September 1978 Workshop/Training Program was evaluated by a consulting firm, as was reported on page 20. At the same, material was gathered for a workshop which is currently in preparation by the same firm. It is intended to be used by workshop participants and to be taken by them back to their jobs for use as a reference manual. The workbook will be completed in time for the Spring 1979 Workshop/Training Program session.

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 technician 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. Some of the cooperating agencies are well on the way to meeting these objectives.

The steps in the 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. Cooperating agencies currently in this status are: PDIN in Indonesia, PASTIC in Pakistan, TRC in the Philippines, SLSTIC in Sri Lanka, and TMA in Thailand.

(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. There were no DSB Project cooperating agencies in this status during the current fiscal year although there were several in the LAC Project.

(3) Non-subsidized, Non-AID program: (also called a "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. KORSTIC in Korea and FIIR in Nigeria are currently in this status.

(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. In LDC's within the geographical area covered by this Project, NTIS has dealers only in India. These are: Allied Publishers in Bombay, Constellate Consultants in Delhi, and Higginbothams, Ltd. in Madras. These organizations were never Project cooperating agencies, but their establishment as dealers was a result of attempts to find cooperating agencies in India during the period that country still received AID assistance. They will not be considered further in this report.

During the fiscal year, four new cooperating agencies were added to the program. These are: Pusat Documentasi Ilmiah Nasional (PDIN) in Indonesia, the Technology Resources Center (TRC) in the Philippines, the Sri Lanka Scientific and Technical Information Center (SLSTIC), and the Thailand Management Association (TMA). The Development Academy of the Philippines and the Thai National Documentation Center were replaced by TRC and TMA, respectively. As the fiscal year came to a close, negotiations were in progress with the following organizations: the Bangladesh Scientific Documentation Centre (BANSDOC), the Council for Scientific and Industrial Research (CSIR) in Ghana,

the Kenya Technical Teachers College, and the Research Centre for Applied Science and Technology (RECAST) in Nepal.

The following synopsisizes the background and status of each cooperating agency:

INDONESIA

Pusat Dokumentasi Ilmiah Nasional (PDIN)
 Jl. Jenderal Gatot Subroto
 P.O. Box 3065/Jkt
 Jakarta

Principal NTIS contact: Mrs. Luwarsih Pringgoadisurjo, Director; Hernandono, Deputy Director for Library Services; Zultanawar, Deputy Director for Development.

Cooperating Agency since: November 1977

Total Sales: November 77-September 78: \$5,687

Comments: NTIS Director, William Knox had visited PDIN in 1974, but no agreement was forthcoming at that time. Then, in September 1977, Dean Smith (NTIS Assistant Director for Market Development) stopped in Jamaica to reassess the situation. He reported that PDIN had undergone a reorganization and change of top management, and that it was now interested in joining the Project.

An agreement was signed with PDIN on November 10, 1977, during a visit by Lindemann. The signing ceremony received television coverage. During the year, Hernandono attended the March 1978 Workshop/Training Program, and Mrs. Luwarsih was a participant in the Seoul Directors Conference. Lee White of AID DS/DIU visited with PDIN in May to confer on program activities. In September, Patricia Absher of NTIS was here to work out some operational problems with PDIN and, also, to participate with PDIN in a seminar for potential users of NTIS products. In general, PDIN has been very promotion conscious; this is reflected in their sales figures, which exceeds the first-year sales of any previously established cooperating agency.

KOREA

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

Principal NTIS contact: Doo-Hong Kim, Director General;
Koo Ho Yoon, Director, Dept. of
Information Resources

Cooperating agency since: January 1974

Total Sales: Fiscal year '77: \$16,278
Fiscal year '78: \$17,904

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. 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.

The Project Regional Director's Conference was hosted by KORSTIC (see page 16). Following the conference Richard Garcia of NTIS, in cooperation with KORSTIC, performed a series of case studies of Korean users of NTIS materials. Earlier in the year, KORSTIC arranged a series of lecture/demonstrations in Seoul, Pusan, and Masan which were conducted by Vietta Dowd. The series was aimed with acquainting potential users with NTIS products and services. KORSTIC has decided to lease the computerized NTIS data file; it will be used at least initially, to perform current awareness searches for Korean users.

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, Principal Research
Officer

Cooperating Agency since: March 1974

<u>Total Sales:</u>	Fiscal year 1977	\$ 549
	Fiscal year 1978	\$3463

Comments: FIIR is currently the only cooperating agency in Africa. It was converted to semi-commercial status in August 1977. This organization was quite successful as a cooperating agency during the period that it was partially subsidized by the AID/NTIS Project. However, Nigerian Government fiscal restrictions caused sales to plummet to almost nothing during mid-1977 to mid-1978. This problem now seems to have been resolved as far as FIIR is concerned, and sales have begun climbing toward their former levels.

Vietta Dowd visited with FIIR staff in December to discuss various operational problems. She was in Lagos as part of an International Communications Agency project.

PAKISTAN

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

PASTIC Sub-Centre
142-C/II, P.E.C.H.S.
Karachi-29

Principal NTIS Contact: In Islamabad--Dr. A.R. Mohajir,
Director; in Karachi --S. Zafarul Hasan, Officer In-Charge;
Shamin Farrukh, Translations Officer.

Cooperating Agency since: May 1975

<u>Total Sales:</u>	Fiscal year 1977	\$5,657
	Fiscal year 1978	\$1,620

Comments: PASTIC is a unit of the Pakistan Science Foundation. It became a cooperating agency soon after it was reorganized from an organization called PANSDOC.

Sales generated by PASTIC dropped dramatically during the 1977 political disturbances. Throughout this period it became virtually impossible to communicate with PASTIC headquarters. In May 1978, we were informed that responsibility for the Project had been shifted from Islamabad to the Karachi Sub-Centre. Miss Farrukh, who worked with the Project in Islamabad, was transferred to Karachi and is now the working contact there. A visit will be made to the Karachi Sub-Centre early in FY'79 in order to revitalize the Project in Pakistan.

PHILIPPINES

Technology Resources Center (TRC)
TRC Building
Buendia Avenue Ext.
Makati, Metro Manila

Principal NTIS contacts: Dr. Alfredo E. Tong, Officer-In-Charge;
Jesus B. Fragante, NTIS Project Manager.

Cooperating Agency Since: March 1978

<u>Total Sales:</u>	March-September 78	\$ 989
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Comments: Until early 1978, the cooperating agency was the Development Academy of the Philippines (DAP). At that time DAP became involved in serious political difficulties, and chose to divest itself of the NTIS Project (among other things). The DAP management suggested that the Project be assumed by the recently formed Technology Resources Center (TRC). Fortuitously, Ms. Dowd was in the Philippines when this was happening and was able to effect a smooth transition of the Project to TRC.

Mr. Milagros Velez of TRC attended the September Workshop/ Training Program sessions. In June, TRC cooperated with NTIS in a user education seminar (see page 13). A series of case studies are planned here for October.

SRI LANKA

Sri Lanka Scientific and Technical
Information Centre (SLSTIC)
47/5 Maitland Place
Colombo 7

Principal NTIS contact: N.U. Yapa, Head Librarian

Cooperating Agency since: July 1978

Total Sales: July-September '78 \$ 247

Comments: SLSTIC is a unit of the National Science Council of Sri Lanka. It became a cooperating agency as a result of a visit here by Mr. Lindemann in February 1977. Prior to the time SLSTIC joined the program there had been virtually no sales registered from Sri Lanka.

N.U. Yapa attended the Regional Director's Conference in Seoul, and presented a paper there regarding the use of U.S. STI in Sri Lanka. He also participated in the September Workshop/Training Program sessions. Ms. Dowd visited Colombo to participate in a SLSTIC/NTIS users seminar and, also, to provide orientation to the SLSTIC staff.

THAILAND

Thai National Documentation Center
196 Phahonyothin Road, Bangkok
Bangkok

Principal NTIS contact: Mrs. Chalermvarn Choosup, Director,
Mrs. Ratchanee Kanchanomai, Chief Responsive Services Div.

Cooperating agency since: May 1974

<u>Total Sales:</u>	FY'77	\$2,459
	FY'78	\$4,154

Thailand Management Association
308 Silom Road
Bangkok

Principal NTIS contact: Suthep Visavakul, NTIS Project
Manager

Cooperating agency since: August 31, 1978

Total Sales: September 1978 \$ 74

Comments: The sales figures of TNDC have been fairly impressive. However, almost all NTIS materials requested by TNDC have gone to units of their own parent organization, the Applied Research Corporation of Thailand. Several potential users in Thailand have complained about TNDC's lack of interest in handling their needs. A visit by Lindemann in March 1977 confirmed the unwillingness of TNDC to engage in the active outreach effort that the Program requires. A decision was therefore made to seek a new, more active cooperating agency in Thailand. TMA was selected for this role. The agreement with TNDC will not be renewed when it expires in October '78, but TNDC will continue to cooperate with TMA on an informal basis. Ms. Dowd met with both organizations to arrange a transfer or responsibilities.

Mrs. Ratchanee of TNDC attended the March sessions of the Workshop/Training Program, and Mr. Suthep attended the September sessions.

Dr. Ajva Taulananda, Executive Director of TMA, participated in the Seoul Director's Conference. He also visited NTIS in Springfield and Washington. TMA cooperated with NTIS in a user education program to help launch the program. Finally, Ms. Absher attended an AID-sponsored information users workshop held in September at TNDC. During that time, she also assisted TMA with some of its Project start-up problems and interviewed several Thai users of NTIS information products.

PROJECT COUNTRIES WITHOUT
COOPERATING AGENCIES

Staff visits were made to a number of countries which have no cooperating agencies. Activities in these countries are summarized below.

BANGLADESH

Principal contact: Arnold Radi, Agricultural Advisor,
USAID/Dacca

ACTIVITIES:

T. Lindemann visited Dacca in March to access the country's ability to utilize STI and to identify potential cooperating agencies. One candidate of interest is the Bangladesh Small and Cottage Industries Corporation (BSCIC). Technonet, the Ford Foundation, and Stanford Research have worked with BSCIC. It has contact with 15,000 people throughout Bangladesh and is a very active and effective organization.

A second candidate is the Bangladesh National Scientific & Technological Documentation Centre (BANSDOC). This organization is currently underfunded and understaffed, but there are indications that this will change for the better. Lindemann's visit, the Director of Planning of BANSDOC's parent organization, the Bangladesh Council for Scientific and Industrial Research, wrote expressing an interest in pursuing an agreement. A follow-up visit by Dave Shonyo is scheduled for October.

EGYPT

Principal contact: James Riley, Urban Industrial Development Officer, AID/Cairo

BACKGROUND:

A cooperating agency agreement between NTIS and the Al Ahram Organization was under discussion at the time AID converted Egypt to security support status. Since AID/DSB could no longer partially subsidize the program, Al Ahram lost interest.

AID has initiated a large S&T assistance program in Egypt utilizing funds available through the Special Foreign Currencies Program. This program is administered by NAS and NSF. One of the responsibilities of the latter organization is to bolster

the National Information and Documentation Centre (NIDOC).

ACTIVITIES:

At the request of the Mission and NSF, D. Shonyo performed a field visit at NIDOC. He aided the staff in selecting NTIS materials of use in Egypt and to the sub-project research efforts. Mrs. Nawal Beyali, sub-head of NIDOC attended the NTIS Information System Workshop in September.

While in Cairo, Shonyo visited the Al Ahram Organization in an effort to rekindle interest in an agency relationship. He also visited the Egyptian Society for the dissemination of Universal Culture and Knowledge (ESDUCK) to discuss a possible agency agreement (this organization does translations under an NTIS administered component of the Special Foreign Currency Program).

GHANA

Principal contact: John Cooper, Chief Office of Science and Technology

ACTIVITY:

Shonyo visited here in December, 1977 in an effort to identify potential cooperative agencies. The three most promising candidates were the Council for Scientific and Industrial Research (CSIR), the Ghana Managers Association, and the National Investment Bank. A follow-up visit was made by Shonyo in May. At that time all three candidates declined for various reasons, to join the Project. CSIR's Board of Directors recommended that the University of Ghana Bookshop be made the national cooperating agency. However, it was not possible to visit that organization because of campus unrest. John Hounsell will make a final effort here during a November trip to West Africa.

JORDAN

Principal contact: Ed Harrell, Deputy Director, USAID/Amman

BACKGROUND:

The Jordanian Royal Scientific Society (RSS) had asked the Mission for technical assistance in establishing a technical information center. The Mission has been reluctant to support any RSS project because it feels that RSS does not have adequate "outreach" (in the AID sense). Harrell had heard of NTIS and its work in LDC's and requested that the next time that an NTIS staffer was travelling in the area that he stop by for consultation with RSS.

ACTIVITY:

D. Shonyo met with RSS and AID/Amman staff for two days in May. An evaluation was made of RSS's objectives and needs with regard to a technical information function. It was recommended that a private consultant be employed to help draw up the basic RSS information center plan. NTIS offered to send a staff member to work with RSS once a basic organizational plan had been established. The Mission has not followed up on either the recommendation or the offer. RSS wants to cooperate with NTIS once the information center becomes functional. They have tried, unsuccessfully, to get mission funds to send a staff member to the Workshop/Training Program.

KENYA

Principal contact: Frank Adams, Commercial Officer,
U.S. Embassy Nairobi

BACKGROUND:

First contact with a potential cooperating agency here occurred in March 1977 during a visit by F. Post and D. Shonyo under USIA (now ICA) sponsorship. That organization was the Industrial Survey and Promotion Centre (ISPC). The Mission Program Officer was also briefed on the Project at that time.

An effort was made by Shonyo to follow up this visit in December 1977. However, AID/Nairobi would not concur with the visit. The reason given was that the Project was not compatible with AID objectives. In view of the large degree of interest evinced during the March 1977 visit in obtaining U.S. S&T information in Kenya, it was decided to travel to Kenya under Department of Commerce auspices in an effort to identify potential NTIS representatives. A trip was made for this purpose by Shonyo in May 1978. In view of the fact that there is not now an organization performing a general S&T information dissemination function in Kenya, it was necessary to interview a rather large number of candidates. As of the end of the fiscal year, the best prospect seems to be the Kenya Technical Teachers College. A formal agreement is currently under review by the governing board of the College. ISPC is also under consideration as a potential representative.

LIBERIA

Principal contact: Fred C. Hagel, Officer of Institutional
Development, AID/Monrovia

BACKGROUND:

Liberia was one of the countries designated in the Project paper as a site of a cooperating agency. At that time there had been virtually no demand for NTIS materials from this country.

ACTIVITY:

A visit to Liberia by Shonyo was undertaken in December 1977. Neither the AID Mission, U.S. Economic/Commerical Attache, nor the Dean of the Department of Science and Technology at the University of Liberia could suggest any potential cooperating agencies. One candidate, the Liberian Research Association, was approached but the director has not responded to follow-up correspondence. The Mission has advised that since the government of Liberia obviously does not attach a high priority to S&T information transfer, it would be easy not to pursue the matter here further.

NEPAL

Principal contact: David Tiedt, Project Development Officer,
AID/Kathmandu

BACKGROUND:

NTIS had not been active in Nepal until the U.S. position paper presented at the Colombo Plan Conference by Frank Kinnell aroused great interest in Nepal about the project.

ACTIVITY:

T. Lindemann visited Nepal in March 1978 to investigate possible candidates to be a cooperating agency. Among those organizations visited, the most promising candidate was the Research Centre for Applied Science and Technology (RECAST). A definite interest in joining the Project has been expressed by RECAST. A formal agreement has been furnished that organization, and it is currently under review. Shonyo will follow-up with a visit here in October.

CASE STUDIES

The PASA for the current Project calls for the development of selected case studies. The intent here is to document in some detail successful applications of S&T information obtained through the Project. The purposes of this activity are: (1) to aid in assessing Project benefits; (2) to develop a deeper understanding of the technology transfer mechanisms involved, which may aid in the effective development of future projects; and (3) to create a file of "success stories" which can be used to encourage potential STI users to take advantage of available information resources.

During the fiscal year, a case studies methodology was developed in conjunction with the LAC Bureau Project. The methodology has been tested in several Latin American countries and in Korea. Although some informal user interviews have taken place in Thailand, the main series of case studies are scheduled for fiscal year 1979. The first of these will take place in the Philippines and Thailand. A publication documenting and analyzing all case studies made through calendar year 1978, in both the DSB and LAC Projects, will be issued in early 1979.

Although it does not really meet the requirements of the case studies project element, some of the findings of work done in Korea can be summarized as follows:

Korean Atomic Energy Research Institute (KAERI), receives automatic distribution (in microfiche) of all NTIS reports in ten different subject areas. Also, many paper copy reports are ordered on an ad hoc basis. The KAERI library contains many hundred NTIS reports, mostly in areas related to energy and environmental impacts. Because of KAERI security restrictions no special instance of successful information transfer can be publicized. However, because NTIS materials are heavily utilized many Korean developments in nuclear energy utilization, nuclear safety, cancer research, pollution control, and other fields are and will be attributable to information transferred through NTIS.

Korea Institute of Energy Conservation (KIEC) has only recently been established to provide assistance to Korean industry in the application of energy saving technologies. Although it has not yet begun specific problem solving work, it is already using NTIS-supplied materials to assist in background studies, to assist in staff training, and to identify potentially useful applications.

Gold State Tele-Electric Co., LTD. recently developed an original design 100 PBX system. This is the first such device to be developed and produced in Korea. Documents obtained from NTIS provided the major source of information used in the development of the PBX. NTIS materials continue

to be used by Gold Star in other developmental work.

Korea Institute of Science & Technology (KIST) is currently using information obtained from NTIS in the following projects: design of a grain elevator, grain dryer, grain silo complex; design of a fiber plant; integrated circuits for use in digital watches and calculators; a process to produce copper-clad steel cable; a synthetic, single cell protein; a silkworm food substitute; and processes to prepare and package various ginseng products.

APPROPRIATE TECHNOLOGY

There is no specific appropriate technology component designated for the current Project. The LAC Bureau Project, however, does have a strong emphasis on appropriate technology information acquisition and dissemination. One component of this effort involves seeking out appropriate technology documentation, from wherever it may exist, throughout the world. This impacts strongly on the DSB Project because this documentation, once it is obtained, is also made available to users in areas served by the Project. In addition, NTIS is gaining a considerable expertise in identifying, acquiring, and effectively disseminating appropriate technology. This expertise may be of considerable value in future developments of the present Project.

DEMAND FOR NTIS PRODUCTS AND SERVICES

The tables on the following pages summarize sales transactions in the project countries. It is interesting, and encouraging, that prior to the initiation of the AID/NTIS Project there were no sales at all in any of these countries (with the exception of India).

One of the tables covers sales activity in countries with NTIS representatives of one kind or another. A comparison of the sales of each country with that of the corresponding representatives (pages 31-36) will give an idea of the proportion of sales attributable to each representative. The second table provides demand data for AID-assisted countries in the Project regions for which some sales activity were recorded during the fiscal year. One each table, the products included under the heading "Subscriptions & Standing Orders" include periodicals, series publications issued irregularly, and items such as the selected dissemination service SRIM. Data are not available on the individual numbers of items distributed in these ways. Figures are provided on the number of items sold on an ad hoc basis.

It is an open question as to whether data for India should be included here. Its' status with respect to AID assistance

in and out and (perhaps) in again. It is served by three commercial dealers who are not involved in the current Project. In any case, the larger volume of sales activity in India tends to overwhelm the data for the other countries. By subtracting out the Indian contribution, the following comparative figures are obtained for countries with representation:

	<u>FY77</u>	<u>FY78</u>	<u>% Change</u>
Number of <u>ad hoc</u> items sold	3,412	5,336	56%
Value of <u>ad hoc</u> documents sold	35,316	48,007	36%
Value of subscrip- tions & standing orders	20,004	16,694	-17%
Total Value	55,323	64,701	17%

Coincidentally, the above figures demonstrate that the increase in value of sales is not due strictly to inflation. There is an interesting trend behind the fact that the number of ad hoc document sales increased at a greater rate than their value. That is, a larger proportion of documents sold are in relatively low-cost microfiche format, rather than in paper copy. In FY77 the ratio (microfiche)/(paper copy) = .55; in FY78 (microfiche)/(paper copy) = 1.21.

Finally, it should be pointed out that the figures in the accompanying tables tend to err on the low side. For various reasons, from 5% to 7% of project sales are normally not

"captured" by the data base used to create the tables. A more serious discrepancy occurs, particularly in countries without representatives, where organizations use agencies outside their own countries to obtain materials from NTIS. For example, it was recently found that an organization in Morocco is ordering large amounts of NTIS materials from a documentation service of the European Space Agency in Italy. These sales would be credited to Italy, not Morocco.

DEMAND FOR NTIS PRODUCTS & SERVICES
FISCAL YEAR 1978

COUNTRIES WITH NTIS REPRESENTATIVES

COUNTRY	STATUS OF REP. *	AD HOC DOCS.		SUBSCRIPTIONS & STANDING ORDERS	FY78 TOTAL VALUE	FY77 TOTAL VALUE	INCREASE OR (DECREASE) FY77-FY78
		NUMBER	VALUE				
INDIA	3	4496	\$68127	\$11650	\$ 79770	\$ 80536	\$ (759)
INDONESIA	1	553	\$ 5367	\$ 2302	\$ 7669	\$ 4957	\$ 2712
KOREA	2	3620	\$29076	\$ 9761	\$ 38837	\$ 25347	\$ 13490
NIGERIA	2	319	\$ 3463	\$ 0	\$ 3463	\$ 402	\$ 3061
PAKISTAN	1	69	\$ 533	\$ 1227	\$ 1760	\$ 8266	\$ (6506)
PHILIPPINES	1	262	\$ 2925	\$ 709	\$ 3634	\$ 4846	\$ (1212)
SRI LANKA	1	24	\$ 247	0	\$ 247	6	\$ 241
THAILAND	1	489	\$ 6296	\$ 2695	\$ 8991	7253	\$ 1738
SUBTOTALS		9832	\$116134	\$28344	\$144478	\$131640	\$ 12838

*STATUS OF REPRESENTATION: 1= COOPERATING AGENCY, 2= SEMICOMMERICAL, 3= COMMERICAL
(SEE PAGES 28-30 FOR DEFINITIONS)

DEMAND FOR NEWS PRODUCTS & SERVICES
FISCAL YEAR 1978 (cont.)

COUNTRIES WITHOUT NTIS REPRESENTATIVES

COUNTRY	AD HOC DOCUMENTS Number	Value	SUBSCRIPTIONS & STANDING ORDERS	FY 78 TOTAL VALUE	FY77 TOTAL VALUE	INCREASE OR DECREASE FY77-FY78
AFGHANISTAN	1	\$ 13	\$ 0	\$ 13	\$ 10	\$ 3
EGYPT	3	\$ 34	\$ 0	\$ 34	\$ 425	\$ (391)
GHANA	6	\$ 51	\$ 154	\$ 205	\$ 93	\$ 112
JORDAN	31	\$ 312	\$ 0	\$ 312	\$ 29	\$ 283
KENYA	13	\$ 115	\$ 95	\$ 210	\$ 124	\$ 86
MALI	10	\$ 121	\$ 0	\$ 121	0	\$ 121
MOROCCO	1	\$ 5	\$ 0	\$ 5	\$ 288	\$ (283)
NIGER	1	\$ 6	\$ 278	\$ 284	\$ 388	\$ (104)
SYRIA	43	\$ 685	\$ 16	\$ 701	\$1047	\$ (346)
TANZANIA	5	\$ 39	\$ 0	\$ 39	\$ 29	\$ 10
TUNISIA	1	\$ 27	\$ 0	\$ 27	\$ 27	\$ 0
SUBTOTALS	115	\$1408	\$ 543	\$1951	\$2460	\$ (509)
GRAND TOTAL	9947	\$117542	\$28887	\$146429	\$134100	\$12329

PROJECTED FY'79 ACTIVITIES

Cooperating Agencies. At least six new cooperating agencies will be established. Negotiations are already underway with organizations in Bangladesh, Ghana, Kenya, and Nepal. In October and November an effort will be made to sign organizations in Morocco and Tunisia. At approximately this same time a survey will be made of potential cooperating agencies in the AID-assisted countries of West Africa.

User Education Seminars. Seminars will be conducted, jointly with our cooperating agencies, in a minimum of four countries. In either March or May, a series of seminars will be held in Pakistan (Islamabad, Karachi, Lahore, and possibly one or two other places) and Sri Lanka. Seminars will also be held during the same period in Bangladesh and/or Nepal, depending whether or not cooperating agencies have been approved in those countries. Later in the year seminars may be held in any of the African countries in which cooperating agencies develop.

Workshop/Training Program. Two programs of two or three users each, are being scheduled. The first will be held in April, the second in September. Up to seven attendees from the regions covered by this project will be admitted to each program.

Publications. Twelve issues of AMTID will be produced. Nine of these will each be devoted to particular topics in the appropriate technology area. The other issues will cover a broad range of documents which are most in demand throughout the world. French-language versions of four selected issues will be produced. In addition, eight issues of the newsletter for cooperating agencies, Access to Information for International Development, will be produced.

Case Studies. The current schedule calls for five case studies of information transfer to be undertaken. Arrangements have been made for studies in the Philippines and Thailand, which will be undertaken in October. An additional series in Indonesia, Pakistan, and Sri Lanka will be accomplished in April.

French Language Materials. It is obvious that NTIS will have to provide a certain amount of French-language material if the project expects to make any impact on Francophone Africa. The production of a French-language AMTID has been mentioned above. Although no provision was made in the Project Paper for translations, the modest sum of \$2,000 has been set aside for this purpose in the FY'79 budget plan. It is expected that more 'mileage' can be gotten from this amount by asking some of the cooperating agencies to do the translations and then credit the cost to their deposit accounts. Cooperating agencies (once established) and AID Missions in Francophone

countries will be asked to nominate documents for translation into French.

Travel. The site visits planned for project staff are listed below. Some of the trips will be combined with stops for non-project official business, which are not listed here. The purposes of the visit are keyed as follows: training and consultation (1); seeking cooperating agencies and/or negotiating agreements (2); user education seminars (3); case studies; (4).

October

Bangladesh (2), Nepal (2), Pakistan (2)
Shonyo

Philippines (4), Thailand (4)
Pardo De Zela

November

Morocco (2), Tunisia (2), Kenya (2)
Lindemann

Morocco (2), Senegal (2), Ghana (2), Gabon (2),
Cameroon (2)
Hounsell

February

Pakistan (3), Sri Lanka (3), Bangladesh (3) and/or Nepal (3)
Dowd

Kenya (2), Sudan (2), Thailand (1)
Lindemann

April

Indonesia (4), Sri Lanka (4), Pakistan (4)
Pardo De Zela

Tunisia (3), Morocco (2 and/or 3), countries in West
Africa to be determined (2 and/or 1)
Hounsell

May

Phillippines (1), Nepal (1), possibly other countries
as needed (1 or 2)