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INTERNATIONAL DEVELOPMENT COOPERATION AGENCY

AGENCY FOR INTERNATIONAL DEVELOPMENT

WASHINGTON, D.C. 20523

PROJECT PAPER

REGIONAL

Project No. 298-0049

REGIONAL SCIENCE AND TECHNOLOGY INFORMATION TRANSFER

Phase II

1984

UNCLASSIFIED

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT DATA SHEET		1. TRANSACTION CODE <input type="checkbox"/> A = Add <input type="checkbox"/> C = Change <input type="checkbox"/> D = Delete	Amendment Number _____	DOCUMENT CODE 3
2. COUNTRY/ENTITY Regional		3. PROJECT NUMBER 298-0049		
4. BUREAU/OFFICE Bureau for Near East		5. PROJECT TITLE (maximum 40 characters) Regional S&T Information Transfer		
6. PROJECT ASSISTANCE COMPLETION DATE (PACD) MM DD YY 05 01 87		7. ESTIMATED DATE OF OBLIGATION (Under 'B:' below, enter 1, 2, 3, or 4) A. Initial FY 83 B. Quarter 4 C. Final FY 86		

8. COSTS (\$000 OR EQUIVALENT \$1 =)						
A. FUNDING SOURCE	FIRST FY 83			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total						
(Grant)	()	(153)	(153)	()	(1,300)	(1,300)
(Loan)	()	()	()	()	()	()
Other U.S.	1.					
	2.					
Host Country						
Other Donor(s)						
TOTALS						

9. SCHEDULE OF AID FUNDING (\$000)									
A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) SD	750	874		153		1,147		1,300	
(2)	760	872							
(3)		873							
(4)									
TOTALS									

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each) 700 874	11. SECONDARY PURPOSE CODE 610
12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)	
A. Code	TECH
B. Amount	1,300

13. PROJECT PURPOSE (maximum 480 characters)

1. To increase the flow of access to, and use of scientific and technological information appropriate to the development of the Near East.
2. To create a self-sufficient mechanism which, without outside help, plans, directs, and manages the flow of, access to, and use of scientific and technological information appropriate to the development of the Near East.

14. SCHEDULED EVALUATIONS	15. SOURCE/ORIGIN OF GOODS AND SERVICES
Interim MM YY MM YY Final MM YY 0 1 8 5 0 5 8 7	<input checked="" type="checkbox"/> 000 <input type="checkbox"/> 941 <input type="checkbox"/> Local <input type="checkbox"/> Other (Specify) _____

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment)

17. APPROVED BY	Signature <i>Kenneth H. Sherper</i>	Date Signed MM DD YY 07 11 84	18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION MM DD YY
	Title Director, NE/TECH		

INSTRUCTIONS

The approved Project Data Sheet summarizes basic data on the project and **must provide reliable data** for entry into the Country Program Data Bank (CPDB). As a general rule blocks 1 thru 16 are to be completed by the originating office or bureau. It is the responsibility of the reviewing bureau to assume that whenever the original Project Data Sheet is revised, the Project Data Sheet conforms to the revision.

Block 1 - Enter the appropriate letter code in the box, if a change, indicate the Amendment Number.

Block 2 - Enter the name of the Country, Regional or other Entity.

Block 3 - Enter the Project Number assigned by the field mission or an AID/W bureau.

Block 4 - Enter the sponsoring Bureau/Office Symbol and Code. *(See Handbook 3, Appendix 5A, Table 1, Page 1 for guidance.)*

Block 5 - Enter the Project Title *(stay within brackets; limit to 40 characters).*

Block 6 - Enter the Estimated Project Assistance Completion Date. *(See AIDTO Circular A-24 dated 1/26/78, paragraph C, Page 2.)*

Block 7A. - Enter the FY for the first obligation of AID funds for the project.

Block 7B. - Enter the quarter of FY for the first AID funds obligation.

Block 7C. - Enter the FY for the last AID funds obligations.

Block 8 - Enter the amounts from the 'Summary Cost Estimates' and 'Financial Table' of the Project Data Sheet.

NOTE: The L.C column must show the estimated U.S. dollars to be used for the financing of local costs by AID on the lines corresponding to AID.

Block 9 - Enter the amounts and details from the Project Data Sheet section reflecting the estimated rate of use of AID funds.

Block 9A. - Use the Alpha Code. *(See Handbook 3, Appendix 5A, Table 2, Page 2 for guidance.)*

Blocks 9B., C1. & C2. - See Handbook 3, Appendix 5B for guidance. The total of columns 1 and 2 of F must equal the AID appropriated funds total of 8G.

Blocks 10 and 11 - See Handbook 3, Appendix 5B for guidance.

Block 12 - Enter the codes and amounts attributable to each concern for Life of Project. *(See Handbook 3, Appendix 5B, Attachment C for coding.)*

Block 13 - Enter the Project Purpose as it appears in the approved PID Facesheet, or as modified during the project development and reflected in the Project Data Sheet.

Block 14 - Enter the evaluation(s) scheduled in this section.

Block 15 - Enter the information related to the procurement taken from the appropriate section of the Project Data Sheet.

Block 16 - This block is to be used with requests for the amendment of a project.

Block 17 - This block is to be signed and dated by the Authorizing Official of the originating office. The Project Data Sheet will not be reviewed if this Data Sheet is not signed and dated. **Do not initial.**

Block 18 - This date is to be provided by the office or bureau responsible for the processing of the document covered by this Data Sheet.

AID/W Phase I
Project Review Committee *

1. NE/TECH/HRST, Carolyn I. Coleman, Chairman
2. NE/TECH/HRST, Barry N. Heyman
3. NE/TECH/SARD, Jane Landy
4. NE/DP/PAE, Judith Wills
5. NE/DP, Geraldine Donnelly
6. GC/PE, Rodney Johnson
7. NE/PD, Barbara Ormond
8. NE/DP/PR, Leonard Rosenberg
9. NE/E, Bert Porter
10. NE/NENA, Alice Shimomura
11. NE/ME, Richard Burns
12. ST/DIU, Lida Allen
13. PPC/PB, Emily Hughes-Leonard

Project Approval Officer

AA/NE, W. Antoinette Ford

- * Because Phase II is a continuation of Phase I, it was not necessary for the PRC to meet for Phase II.

ACRONYMS

AID Agency for International Development

AMTID "Application of Modern Technology to International Development"

LA Latin America

NE Near East

NTIS National Technical Information Service

PASA Participating Agency Service Agreement

R&D Research and Development

S&T/DIU Science and Technology Bureau, Development Information and Utilization

TAB/OST Technical Assistance Bureau, Office of Science and Technology

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PART I. Recommendation

The Near East Bureau recommends that AID/W approve this four year project and thereby approve negotiation and execution, subject to all applicable AID procurement procedures, of a new grant agreement to provide \$1.3 million to broaden and maximize the use of appropriate science and technology information in solving development problems in the Near East. Priority countries for the first year of this project will be Cyprus, Egypt, Jordan, Morocco, and Tunisia, in accordance with the project summary and description below. Successful strategies for the implementation of technical information services will later be adapted for Lebanon, Oman, Turkey, Portugal and Yemen. It is proposed that this project be implemented through a Participating Agency Services Agreement (PASA) with the National Technical Information Service (NTIS) of the United States Department of Commerce.

PART II. Summary Statement

The Agency for International Development proposes this project to provide for the creation of a regional network project for technical information services in the Near East to be implemented through a Participating Agency Service Agreement with the National Technical Information Service of the U. S. Department of Commerce. It will be a regionally funded technical assistance project, sponsored by the Near East Bureau, to improve access by the Near East countries to scientific and technical information resulting primarily from United States Government R&D. This R&D is valued at over \$21 billion annually (which constitutes more than half of the total annual U.S. investment in R&D). Almost half (\$9 billion) of government research is directed toward civil applications. Information generated as a result of this R&D is available through the National Technical Information Service (NTIS). In addition, NTIS provides access to similar R&D results and technological developments in other countries and to growing bodies of U.S. private sector technological information in the NTIS data base.

This project will be one of three AID projects with NTIS, all with similar goals and purposes. Of the other two projects, one has a Latin American (LA) focus, and one has an African/Asian/Near Eastern focus. Significant users of NTIS services in Tunisia were identified and served under the latter project. The projects were separately funded by the LA Bureau and S&T/DIU, respectively. The S&T/DIU project, which included funding for the NE, terminated in FY 83.

This project will operate in the Near East. The project will expand the existing technical information network in Tunisia and initiate activities in selected cooperating agencies in nine additional countries: Cyprus, Egypt, Jordan, Lebanon, Morocco, Oman, Portugal, Turkey and Yemen. Of these, Cyprus, Egypt, Tunisia, Morocco and Jordan will receive priority attention during the first year of the project. It is expected that at the end of this project document requests in the five priority countries should total more than 35,000 annually. The level of requests should increase to more than 70,000 a year by the end of the decade.

The project will be implemented through a PASA between AID and NTIS, giving the latter responsibility for the following: (1) providing increased access to U.S. and worldwide scientific and technical information products in designated Near East countries; (2) increasing demand for U.S. and worldwide technical information for development problem solving by sponsoring seminars in project countries to broaden awareness of information availability and foster closer ties between cooperating agencies and their own local users; (3) conducting workshops at NTIS for officials of cooperating agencies to provide them with know-how concerning acquisition of U.S. and worldwide scientific and technical information and the operation of a national technical information service to meet national needs, including those groups working with low income people; (4) providing technical advisory services including user education and marketing support; (5) publishing and disseminating, every two months, "Application of Modern Technology to International Development" (AMTID) to cooperating agencies as a report of available NTIS acquisitions in LDC interest areas;

(6) priority handling of Near Eastern information requests and administration of an air mail postal subsidy; (7) providing special information materials and equipment compatible with the capabilities of each of the cooperating agencies; and (8) developing selected case studies for assessment of program benefits.

This project is designed to overcome, as far as possible, the deficiencies and complaints which were determined from the evaluation of the Latin American technical information project. Thus, in response to the users' complaints about delayed receipt of requested materials, this project includes a provision for airmail subsidies to speed delivery without increasing users' costs. NTIS suggested the inclusion of a more intensive promotional campaign in the Near East to avoid the complaint found in Latin America that users did not understand the potential services available. They provide a guarantee of a replacement of any illegible document received, if that illegibility results from the NTIS reproduction process. These adaptations to reduce the flaws of the earlier projects should improve response in the Near East.

These NTIS activities will produce two major results: an operating network of cooperating agencies for transfer of U.S. scientific and technical information to nine LDCs in the Near East and an increase in the flow of U.S. scientific and technical information products and services to project countries. The achievements of the previous eight years of NTIS/S&T/DIU and NTIS/LAC/DR projects provide evidence that inputs can reasonably be expected to produce outputs and purpose forecast.

It is proposed that this project be implemented over a four year period,

during which project methodology and regional innovations can be evaluated. At that time also, the role of the network, vis-a-vis other international and regional programs, can be re-studied. The local agencies will develop their services with a longer term objective of financial self-sufficiency.

Funding level for Phase I of this project was \$153,000. The funding level estimated for Phase II is one million one hundred forty seven thousand dollars (\$1,147,000) to be incrementally funded as follows:

FY 1984 -----\$350,000

FY 1985 -----\$286,600

FY 1986 -----\$510,400

PART III. National Technical Information Service (NTIS)

NTIS completed thirteen years of service in 1983 as an agency in the Department of Commerce, but its predecessor organizations go back to 1945 when President Truman signed Executive Order 9568 establishing the Publication Board to make available Government research that had been withheld during the war because of security classifications. Soon thereafter, an amendment extended the Publication Board's mission to include the handling of enemy scientific and industrial information.

The U.S. has no national science and technical information system. Rather, it has a plurality of products and services offered by government and

private sources. Of these, NTIS offers the broadest range of products and services within the spectrum of science and technology. NTIS is an information service organization that channels information about technological innovations and other specialized information to business, educators, government and the public. Its products and services are intended to increase the efficiency and effectiveness of U.S. research and development, to support foreign policy goals by assisting the social and economic development of other countries, and to increase the availability of foreign technical information in the United States. NTIS undertakes and develops innovative information products and programs appropriate for Government, but only those which have the potential to become self supporting. The entire output of federal government-funded research and development is made publicly available by NTIS. This amounts to over half of U.S. research and development programs. NTIS has become the primary source of R&D results and technological developments in other countries. All general-use computer programs developed by U.S. government agencies are now available to the public as a result of an agreement between General Services Administration and NTIS.

NTIS ships approximately 23,500 information products daily as one of the world's leading processors of specialty information. It supplies its customers with about six million documents and microforms annually. The NTIS information collection exceeds 1.2 million titles, all of which are available for sale. About 200,000 of NTIS's research report titles are of foreign origin.

NTIS sells technical reports and other information products and services of specialized interest under provisions of Title 15, U.S. Code 1151-7. This law, which establishes the clearinghouse for scientific, technical, and engineering information, also directs NTIS to be self-supporting and recover its cost from the sales of products and services.

NTIS, therefore, is a unique government Agency operating very much as a business in the public service. It is sustained only by its customers. All the costs of NTIS products and services, including rent, telephone, salaries, marketing, promotion and postage, are paid from the sales income as opposed to tax-supported Congressional appropriation. Congress does, however, assign very limited funds to NTIS that are earmarked for small development and experimental projects.

NTIS is the central source for information about U.S. government inventions. It handles the promotion, licensing, and foreign patent filing for those inventions assigned to the Department of Commerce. As the largest single source of U.S. government sponsored scientific and technical information, it covers the broadest possible spectrum of useful information. At one end are those sophisticated techniques that the post-industrialized world has come to depend upon for high energy use and capital intensive products. At the other end of the spectrum, NTIS has catalogued more than four thousand reports of a strictly "appropriate technology" classification, and has been adding between 50 and 100 new reports per month from less developed countries. The technologies in these reports tend to have the following characteristics:

1. They can be operated and maintained locally;
2. They are labor intensive;
3. They use renewable energy sources;
4. They make maximum use of local resources and skills;
5. They are specially designed to accommodate local values and needs.

NTIS offers each participating country relatively quick, easy, and inexpensive access to this diverse information collection.

NTIS is presently integrating into its own operation the Smithsonian Science Information Exchange database, a current listing of research-in-progress usually under government sponsorship. NTIS has formal relations with the Department of Energy Technical Information Service, Educational Resources Information Clearinghouse, Defense Technical Information Center, Department of Health and Human Services, and the Health Research Planning Information Center. The International Program of NTIS has established close working relationships with organizations familiar with development for specific project collaboration such as Volunteers in Technical Assistance (VITA), International Technology Development Group (ITDG), and the Denver Research Institute.

Timely and continuous reporting to subscribers is ensured by agreements among NTIS, research sponsoring organizations, and special technology groups. NTIS is the marketing coordinator for the latter, for their publications, technical inquiries, and special analyses.

Subscriber access to documents has been most commonly through the AMTID listing of new accessions which is published every two months. In Latin America the NTIS has found that about 85% of requests originate from readings of the AMTID lists. Customers may also quickly locate summaries of interest from among 750,000 federally sponsored research reports completed and published from 1964 to date by using the Agency's online computer search service ("NTISearch") or the more than 2,000 "Published Searches" in stock. About 70,000 new technical summaries and reports are added annually. Copies of the full research reports, on which the summaries are based, are sold by NTIS in paper or microform.

The NTIS Bibliographic Data Base (on magnetic tape) includes unpublished research summaries. Summaries of current research reports and other specialized information in various categories of interest are published in a

wide variety of weekly abstract newsletters and indexes. A standing order microfiche service, SELECTED RESEARCH IN MICROFICHE (SRIM), automatically provides subscribers with the full texts of research reports, specially selected to satisfy individual requirements.

Part IV. Project Background and Detailed Description

A. Background and Problem

In recent years, the less developed countries have been seeking better access to modern technologies, in part through their "technology transfer" demands at multinational forums. AID, in turn, has been calling for a strengthening of the absorptive capacities of the LDCs. The project described herein represents a specific and realistic response to current widespread interest in facilitating a flow of technologies to the LDCs of the Near East.

The project seeks to do the following:

1. To increase the flow of, access to, and use of scientific and technological information appropriate to the development of the Near East.
2. To create a self-sufficient mechanism which, without outside help, plans, directs, and manages the flow of access to, and use of scientific and technological information appropriate to the development of the Near East.

The importance of technological information has long been recognized by developing countries. At the 1979 United Nations Conference on Science and Technology, the following position was taken by the Group of Seventy-Seven delegates:

For developing countries to attempt . . . to generate all the scientific and technological knowledge required for their development without making full use of the relevant knowledge already available through the work of scientists and technologists all over the world, would not only be a task of extreme difficulty but would also be wasteful and unreasonable. It would not only extend beyond acceptable limits the time-frame in which these countries could hope to achieve their development goals but also . . . retard technological progress in all countries.^{1/}*

Officially, the United States has long espoused a free international market for information and ideas. Therefore, the notion of sharing technological and scientific information with developing countries gets a warm reception from planners of development assistance.

. . . in order to have an effective transfer, the information base in the developing countries must be broadened to permit them to select what they need from the informational supermarket of technology, to reject what they do not need, to choose among the competitive offerings, and to acquire what is most appropriate and economical to their development needs.^{2/}*

The nucleus around which the project is formed is the large and varied collection of the National Technical Information Service (NTIS) of the Department of Commerce. This collection is based largely on information generated as a result of U.S. Government-sponsored research and development

*Endnotes are on page 59.

activities. It also provides access to large bodies of private sector knowledge from the U.S. and abroad. Annex C gives an illustrative list of major donors to the NTIS system. (See page 64)

In answer to expressed desires by host countries, NTIS will accumulate appropriate technology collections on a worldwide basis in order to develop this essential resource. Over the last several years, a large number of smaller agencies have been established with various limited objectives in servicing LDC interest in development information. The volume of business done by these organizations has grown steadily and many find the burden of prompt response to an expanding number of requests excessively taxes their structure and resources. The centralization of appropriate technology information will facilitate the use of low-cost retrieval and dissemination techniques as well as be a real service to the inquirer who is now often uncertain as to which agency to address requests for information on a particular technology.

Technical information is a development tool which involves a variety of resource materials and services. Technical information services have a fundamental role to play in both regional and country development programs. These media constitute a channel of major significance for a continuing flow of U.S. technical, managerial and developmental expertise. Concepts transferred for economic development can solve or facilitate solutions to specific technical and conceptual problems. Backstopping and reference materials constitute an essential tool for U.S. and LDC experts engaged in specific technical assistance projects overseas. With the resource materials which can be provided, substantial time can be saved in preparatory and analytical work. The actual work of the expert is made more effective. Also, with a well structured and appropriate supply of technical

resource materials, trained persons can provide specific training and advice even for subject areas in which they lack expertise, thus reducing program costs.

The following list suggests some sources of appropriate technology information worldwide:

Academy of Scientific Research and Technology - Egypt

Intermediate Technology Development - England

Brace Research Institute - Canada

Appropriate Technology Cell - India

Technology Consultancy Centre - Kumasi

International Rice Research Institute - Philippines

Earth Resources Development Research Institute - United States

Division of Microprojects - Netherlands

Appropriate Technology Development Unit - India

A competent LDC implementing institution is essential for effective in-country use of technical information flowing from other lands. Without such a bridge between the knowledge donor and the host country user, the knowledge transfer process simply does not work. The purpose of this project is to improve information transfer services. This improvement in access to R&D results relevant to development throughout the Near East will be achieved by broadening and strengthening the technical information services of local agencies. The NTIS data files provide access to a large number of international scientific and technical documents containing information appropriate to the development of the Near East.

This project addresses two of the four priority pillars of AID: technology transfer and institutional development. For sustained development, it is crucial that a country have an indigenous capacity to create, adapt and apply appropriate technologies to development needs. The information that is needed is often absent. This project will not only transfer information generated in the U.S.; it will foster information exchange among developing countries. Institutional capacities to handle information exchange will be upgraded. The social infrastructure will be built as people are trained in how to operate an information analysis, dissemination and order processing operation; how to efficiently use information products and services; how to make efficient use of information products and services; how to develop markets and sales promotion tools; and develop an information network with other agencies.

B. Detailed Description

The goal of this project is to broaden and maximize the use of appropriate science and technology information in solving development problems in the Near East. The project purpose is two-fold: 1) to increase the flow of, access to, and use of scientific and technological information appropriate to the development of the Near East, and 2) to create a self-sufficient mechanism which, without outside help, plans, directs, and manages the flow of, access to, and use of scientific and technological information appropriate to the development of the Near East.

The project has two main components. The first one is designed to strengthen technical information service and staff capabilities of the Near Eastern cooperating institutions linked through bilateral agreements with NTIS, to expand the technical information network to include an appropriate technology component, and to expand the network of cooperating institutions (especially those serving the private sector) in ten Near Eastern countries. The second is designed to stimulate greater awareness of U.S. and worldwide technical information in order to increase public and private contacts on research, development, and application of appropriate technologies to meet LDC development needs. The countries of priority focus will be Egypt, Tunisia, Morocco and Jordan. Successful strategies developed in these countries will be adapted in the following countries: Cyprus, Lebanon, Morocco, Oman, Portugal, Turkey and Yemen. (Tunisia is the only one of the aforementioned that already has had an agreement with NTIS through the AID centrally-funded project.)

Documents will be disseminated through a local cooperating agency. This agency will maintain a facility readily accessible to the public. This facility will contain the microfiche key-word index with summaries of available documents. This facility will provide a point for the ordering of NTIS documents. One staff person, at least, will be available to assist users in information search efforts.

The cooperating agency will also be responsible for making potential users aware of the services available. The awareness efforts will involve the holding of seminars at selected institutions describing available services, and the distribution of synopses of new acquisitions (AMTID summaries).

Requested reports will be sent from the NTIS U.S. headquarters. Shipment will be by air with NTIS covering the cost difference between surface and air postage. The user, except for selected institutions serving the poor, must pay the costs of reproduction and shipment. The poor oriented institutions will receive documents free of charge.

Consideration must now be given to a mechanism for delivering this appropriate technology into the hands of its potential user population -- the productive (mostly private) sector. NTIS experience in other regions shows that between 54 and 79 percent of the spontaneous market for NTIS reports is comprised of relatively small, innovative businesses.

In order to reach other AID target populations -- specifically the economically disadvantaged, intermediaries will be sought, capable of adapting the information into a useful format, introducing it into a context

where there is a high propensity to utilize the information in a productive activity. Thus, private voluntary organizations will be targeted as users of information for the disadvantaged sectors.

Insofar as any sector of priority interest to a USAID Mission is not included in the established scope of clientele targeted by the cooperating agency, a sub-agency arrangement is foreseen to assure that a competent, information dissemination organization will look after the requirements of this sector.

There is no Near Eastern country in which a single organization concerns itself with the entire range of problems of the poor. On the other hand, experience has shown that there are definite advantages to working with only one cooperating agency in each country. For this reason, NTIS will use an existing broad-base information dissemination organization as the central node for the distribution of appropriate technology to the target groups. Since the NTIS cooperating agencies will be broad based information dissemination organizations, it follows that they will serve as the central nodes of the program in their respective countries.

It will be the responsibility of the cooperating agencies to seek, contact and work with the target groups. In cases in which the basic mission of the cooperating agencies does not permit or is not conducive to this kind of activity, one or more "subagents" will be established. These subagents will be organizations which normally work with the target groups, and which have the capability of carrying the project to those groups. An example of such a subagent would be an information center within a ministry of housing, public health, or agriculture.

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The subagents will promote appropriate technology materials to the target groups, accept orders (which would be charged against the NTIS deposit account number of the cooperating agency), and participate in and help to organize seminars and exhibits aimed at the target groups. They would be eligible to send staff members to the NTIS Workshop/Training Program Sessions and accrue certain other benefits provided by the Program.

Several special techniques will be used in an effort to "zero in" on the target groups and, ultimately, their clientele. Perhaps the most important will be a series of in-country seminars, designed to introduce the target groups to the importance of technical information to their activities and to available sources of this information. Secondly, special bibliographies covering selected appropriate technology subjects will be published in Arabic, English and French. Third, selected high interest documents will be in Arabic, English and French. The cooperating agencies, subagents, and USAID Missions will assist in selecting materials for translation. Finally, since the target groups are the kinds of organizations which are usually underfunded, limited financial assistance will be provided them for the purchase of appropriate technology materials.

One final strategy should here be mentioned. NTIS will seek involvement of the USAID Missions in these programs that will be done through mailings describing the program and its activities, as well as through personal contacts. The Missions will be asked, where possible, to assist the program in several ways. These include identifying, contacting, and evaluating potential cooperating agencies, subagents, and target groups; selecting

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documents for translation; and alerting NTIS to appropriate technology materials or sources which might not otherwise come to its attention.

The end-of-project conditions projected from these components are the following:

1. Local cooperating agencies in the NE countries capable of serving as a national focal point to direct and manage the flow of, access to, and use of scientific and technological information adaptable to each of the involved countries;

2. A technology information network established through bilateral agreements;

3. Communication networks between information sources and users. Each local cooperating agency will have two or more information scientists who have been trained in the United States and who are knowledgeable about world information sources, private and public, and have skills in ordering, retrieving, and disseminating technical information;

4. LDC cooperating agencies actively involved and committed to the education of potential users of U.S. and worldwide technical information;

5. Useful local research and development knowledge collected by local organizations in the Near East.

6. Requests for at least 30,000 documents per year to indicate wide application of research and development results to problem-solving in the Near East.

7. New and more effective channels for exchange between Near Eastern R&D institutions and U.S. counterparts.

8. Increased responsiveness by Near Eastern countries to acquiring research and development that contributes to urban and rural development.

9. A question/response network that obtains development-specific information on a country and regional basis.

The following project outputs are anticipated:

1. Introduction of computerized information search and retrieval techniques in at least four countries possessing adequate infrastructure. This will include long distance, on-line searching of American and European data bases where telecommunications are adequate to support this activity. Local computer centers will also be offered machine readable subsets of the NTIS data base for access by the local user population.

2. A search system which will yield summaries of all items in the NTIS collection containing information on any topic of interest. The full text of the items may be requested through the local cooperating agency, if desired. The remote terminals will be located at the offices of the cooperating agencies and at any other appropriate organization within the network countries. The cost of the data base, necessary programming and staff training by NTIS will be provided with project funds. All other costs (computer time, communication line use, etc.) will be borne by the cooperating agency or the end user, except in the case of the utilization of the appropriate technology component. When an organization utilizes this component, a determination of ability to pay will be made by the Cooperating Organization representative. In the event it is concluded that the organization is unable to pay, then credit can be extended from a deposit account specifically created for this end. Other data bases--both commercial and governmental--will be deposited at the central computer facility, so that the information that they contain can be searched throughout the network. The possibility of interfacing and integrating this network with the information center program will also be explored.

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3. Publication and dissemination of the bulletin entitled, "Application of Modern Technology to International Development" (AMTID). This bulletin will be produced every two months, highlighting newly available appropriate technology information. In addition, AMTID will provide current available information of interest overseas, reannounce useful but older technical reports, advertise cooperating agency services, and alert readers to new information sources and international activities pertaining to technical information. Approximately 1000 copies of each issue will be circulated through the outlets. Of these, 300 will be directed to specific addresses.

4. Quarterly newsletters for the cooperating agencies to provide a forum for exchange of ideas and experiences, especially "success stories" about users' implementation of new appropriate technology information.

5. Approximately 25 individuals from the centers will receive training in the USA in the methods and techniques of information transfer.

6. Seminars for participating member agencies on appropriate technology information and dissemination.

7. Training for agency representatives at NTIS on methods and techniques of information transfer.

8. A translation capability within the network, capable of translating documents determined to be in greatest demand by the LDCs of the Near East. Documents which can be identified as impacting directly on the development of the urban and rural peoples of the Near East will be translated in their entirety for distribution. Determination of which documents will be translated will be based upon criteria established by NTIS, USAID and Agent Representatives.

9. A \$1,000 deposit account for each participating agency to be

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utilized for transfer of appropriate technology information. This deposit account will be maintained at NTIS and will be utilized when an organization is unable to financially afford the technical information requested.

9. A questionnaire in French/English/Arabic developed to enable NTIS to obtain specific information concerning the impact, utilization and suggested utilization of relevant appropriate technology information.

10. An evaluation plan to record and measure outputs listed above. The plan will place special emphasis on tracing the success of the project in reaching the target population of the participant countries with focus on the provision and utilization of appropriate technology information.

Inputs

This project will provide one million dollars over a four year period to allow NTIS to provide the technical services, training, backstopping and physical inputs necessary to achieve the stated outputs and purpose.

The following project inputs will be required:

A. Identification, Equipping, and Staffing Implementing Agencies in Near East Countries. A competent LDC implementing institution is essential for effective in-country dissemination of technical information. Without such a bridge between the cooperating institutions, documentation access is unavailable, and the expected technology transfer or development does not take place. AID proposes that NTIS use its own staff and selected subcontractors to select local cooperating agencies where none now exist among the participant countries and to train local personnel in the accessing of local, regional, and worldwide sources of technical information. Concentration will be on enabling the local staff to become self-sufficient information managers, with proper manuals and procedures to

accommodate personnel changes which often plague such offices, Organizations will be selected for their potential in carrying out project objectives and growing into viable, self-sustaining information services. Bilateral agreements between NTIS and the local agencies will define responsibilities and objectives to be achieved.

B. Equipment Requirements. Once agreements have been signed, NTIS will provide for the following commodities and subsidies which form the core of the project, subject to modification as deemed necessary by project participants:

The cooperating agencies will receive;

1. A set of NTIS indexes(regularly updated) and other reference materials;
2. Five free subscriptions to classifications of AMTID news letters;
3. A microfiche reader and and index file;
4. Specialized training both on-site and at international workshops held in Washington (at least once a year) on various aspects of information systems management, including searching, abstracting, and ordering information from various sources.
5. Training in marketing and promotion as well as materials required in the course of outreach activities.
6. One base set of AMTID newsletters for the duration of the project and at least 5 additional copies of selected subjects.

Subsidies for users are:

1. Payment of airmail differential;
2. A 25% discount on the document price;
3. Waiver of document fee for "deserving" organizations;
4. A limited number of free copies of AMTID.

It should here be noted that NTIS contributes (without reimbursement from AID) a 25% commission on the sale of documents to help defray cooperating organization operating costs. There is a 100% subsidy for documents being used to benefit marginal populations and a 100% subsidy for the cost of airmail delivery of documents. AMTID, a monthly announcement catalogue of recent acquisitions, is provided free to each cooperating agency for local distribution. However, not all agencies input all of their documents. With respect to the current program, there are two main reasons for this: (a) because it is self-supporting, NTIS charges source clients an input fee; and (b) because traditionally there has been little or no market through NTIS for appropriate technology, many agencies have been reluctant to pay the above fee. NTIS will, however, waive the input fee on documents relevant to this program. Also, the program itself will create a market for appropriate technology materials.

With these barriers removed, the NTIS Chief of Acquisitions will seek appropriate technology materials which have not been made hitherto available through NTIS. This process has already started. For example, at one time virtually all U.S. AID unrestricted publications were made available through NTIS. AID subsequently ceased to input these publications because of the fee. Now that NTIS has agreed to waive the input fee, AID is once again making its documents available through NTIS.

Another source of information appropriate to the special needs of the LDCs is the LDCs themselves. NTIS will request that cooperating agencies identify and collect appropriate technology materials originating in their own countries. These materials will then be made available through NTIS.

C. Training. This includes the following:

1. Seminars in at least three Near Eastern countries to foster closer ties between cooperating agencies and local industry, government and

information and patents, and all organizations desiring access to appropriate technology and information focused on the poor. The seminars will provide a showcase for the LDC organization to display its expertise and strengthen its relationship with AID/NTIS constituency. The seminars should result in increased confidence of the LDC agency staff in itself and should increase the confidence of the clients in the agency. Increased demand for U.S. technical information utilizing appropriate technology will also be a product of these seminars.

2. Workshops at NTIS to introduce cooperating agencies to model information systems and services and to transfer know-how concerning acquisition, input processing, storage and retrieval, announcement, marketing, reproduction in both paper and microfilm, and processing requests. Participants in the workshops will be introduced to many other major elements of the U.S. information industry -- private as well as governmental. Elements of the workshop will be produced on video tape for use by cooperating agencies in training their support staff and other national information entities with which they work. NTIS will offer follow-up courses for former workshop participants, specializing in subjects of greatest need, such as user education.

D. Staffing Requirements Within the Region. It is necessary in the first stages of this project that local staff be designated by the Cooperating Organization (CO) to implement many of the project activities which may actually be outside of the organizational charter and normal operations of the CO. To take full advantage of the network's operations, two kinds of staff support will be required in-country:

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1. Network staff, one full time position per country;
2. A regional project field officer, under contract to the project, located in Egypt.

Considering the desire of the project to accommodate lower-income sectors of the population, support is required by the regional program for effective outreach and client service. Local staff together with a regional extension or field officer will have to coordinate training, orientation, provision of supplies, and design and dissemination of publications.

1. Network Staff. The full time staff position is filled at the pleasure of the CO director within the office which manages information activities for the organization. The job includes the following activities:

- A. Sending and processing overseas orders.
- B. Giving User Awareness Seminars and training to local potential user groups.
- C. Identifying local/national sources of indigenous information and documenting how such services may be accessed by national and other users in network countries.
- D. Writing announcement information and promoting local information in regional newsletters.
- E. Disseminating newsletters, promotional material, and bulletins to their respective countries.
- F. Developing case studies, documenting how information was used and, to the best of his/her knowledge, to what benefit, as well as performing other evaluation data-gathering activities.

G. Disseminating information to low-income groups and informing human service organizations about the appropriate technology subsidy and technical back up system.

H. Reporting monthly progress toward project objectives, including sectors reached and coverage obtained.

I. Working closely with other network members and the project field officer.

2. Regional Project Field Officer. A project field officer will be contracted to manage, coordinate, and consistently improve the communications and operation of the network. He/She will oversee all on-site training activities and operations, compile data collected by local staff, and assist in the design and dissemination of outreach materials throughout the region. The field officer will support staff during training exercises and help organize participation in international meetings.

The field officer will be responsible for coordinating support by NTIS and the local CO for AID projects in each country as well as activities by Peace Corps, International Executive Service Corps, and other voluntary organizations active in the region. He/She will coordinate case study development and other evaluation activities to make sure that project objectives are being met within project design.

These staff members will be the focus of training efforts in the countries. Each agency will have one trained information specialist, and, when possible, a back-up person on the same staff.

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NTIS Contribution

In addition to the inputs mentioned above, NTIS will contribute "in kind" as follows:

1. Provision of competent and innovative managerial leadership, beyond the positions allocated in the AID input. These include the NTIS's director, the entire Office of International Affairs staff of seven professional, three clerical and 14 technical information specialists responsible for analyzing information pertinent to LDCs. Administrative support procurements, travel, legal, budget, and accounting personnel are also included.
2. Subsidization of sales to LDCs, in two ways:
 - a. NTIS places a 100% surcharge on the document price for foreign users. This surcharge will be waived for orders through the cooperating agencies in this project.
 - b. Cooperating agencies receive a 25% discount on transactions. This is a commission credited to their accounts, and a loss of income to NTIS.

3. NTIS will continue to provide its mailing lists of clients to the cooperating agency. Average value per customer is \$50.00 annually.

Host Country Contribution

Generally speaking, the LDC cooperating agencies are government organizations. Therefore, their government's contribution is that of (1) establishing the agency as a development tool and enacting the necessary legislation that will enable it to function as an arm of the NTIS network; (2) providing an annual operating budget; and (3) stimulating a receptive environment in the country for R&D information transfer.

Each cooperating agency contributes the following:

1. A \$1,000 cash deposit in its NTIS account to act as a credit toward future purchases. (If the country cannot afford to pay this deposit at all or can pay only in their own local currency, NTIS will negotiate an acceptable arrangement [with the approval of AID].)

2. Management and clerical time to promote NTIS products and services; processing orders resulting from this effort; floor space and office overhead costs to house this new function; travel throughout the country to educate potential users and promote the products and services; participation in the NTIS Information Systems workshop in Washington, D.C.; postage costs to distribute AMTID to the established user list and to the organization's own mail list. As promotion increases, so demand and customer service will increase. Actual costs will differ from country to country, but the cost of such an effort (assuming an average of two full-time employees for most agencies) will be approximately \$25,000 for the first year, increasing as the sales' pace increases.

Assumptions

Key assumptions for goal, purpose and output relationships are:

1. Countries will acquire and utilize technological information rationally if a system exists to facilitate its transfer and use.
2. Countries will continue to strengthen their science and technology infrastructure and their efforts to expand and broaden the outreach of their scientific and technical information services in response to growing national needs.
3. A significant and increasing share of U.S. and worldwide research and development generates publicly-available information of value to problem-solving in developing countries.

A detailed Logical Framework appears in Annex A.

Part V. Project Analyses

A. Technical Analysis

A project similar to that described herein proved relatively successful during a TAB/OST-NTIS experimental project from FY 72 through FY 75. An extensive evaluation was conducted in March of 1976 and, two projects evolved from it: one in the Latin America/Caribbean Bureau and the other in the Development Support Bureau. In 1982, Inter-America Research Associates, Inc. (IRA) was contracted by LAC/DR to evaluate the utilization of technical information provided by the NTIS network. This study revealed that 81% of end-users utilized the information acquired in an "applicative" mode, with 34% of the total actually using it in a "hands-on" degree of application. Fully 96% judged the information useful. This indicates that access to the information provokes a high degree of utilization even though

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the project does not program that amount of follow-through. Consequently, an elaborate and lengthy technical analysis is not necessary at this point.

Given the success of NTIS efforts thus far in improving access to U.S. scientific and technical information (as reported in the TAB/OST evaluation document), as illustrated by the more than 9,000 requested research abstracts and reports distributed to Latin American countries in 1976, it appeared that this method of information dissemination was appropriate. This assumption was confirmed in 1982 in the evaluation of the LAC funded project. While other methods of information transfer will be explored during this project period, such inputs as the training of staff in host country agencies, provision of available information through NTIS catalogues, the response of NTIS to specific requests for information user education, the development of an appropriate technology component within NTIS, follow-up, and evaluation will all continue to assure that the project purpose is accomplished.

A recent sampling of user demand illustrates the pragmatic, problem-solving nature of the type of information currently requested by LDCs. In the LAC funded project, 54% of the clientele are private firms or industries, with the balance fairly evenly divided among autonomous organizations, universities and research institutes, government ministries, PVOs and consultants or students. The summary of the IRA findings is in Annex B.

<u>Field of Interest</u>	<u>% of Demand</u>
Engineering Materials	46
Environmental Pollution & Control, Water Resources	16
Energy Sources	11
Agriculture, Aquaculture and Food Technology	11
Information Sciences, Computers, Communication	11
Management, Administration	5

There are no special impediments known at this time which might be important in limiting the project's success. Surveys conducted in the previous projects indicated that, although most material made available through the NTIS program was in English, it did not prove to be a substantial barrier to its use. However, as the appropriate technology section is developed, the materials will focus more directly on the urban

and rural development problems of each country. Since some of the current organizational users and many of the projected users do not read English, many of the materials disseminated under the appropriate technology component will be translated into Arabic.

The experience in Tunisia has been that the University Consortium is the dominant user. In order to obtain a wider impact more attention is given in this project to the dissemination of information about the NTIS document library. For this reason the project contains a considerable component of training and for the holding of seminars.

B. Financial Analysis and Plan

1. Return on Investment

The immediate intended beneficiaries of this project are public and private organizations and individuals in the Near East for whom access to U.S. technology and world-wide appropriate technology may result in more effective selection, transfer and adaptation of technology. This can be considered the initial target group. However, as noted in the section on project issues, the ultimate target group represents a very much larger fraction of the population (those who receive the benefits of appropriate technology transfer in the urban and rural areas of the Near East) which will benefit from the redeployment of savings and new income generated from improved choices in industrial and rural research and development and in public investment.

A profile of some 4,000 regular users of technical information in LDCs shows the following distribution:

Business/Industry/Professional	79%
Government	7%
Individuals	5%
Libraries	4%
Universities	4%
Other Categories	1%

This distribution is based upon the previous AID funded NTIS projects which mainly focused on the transmittal of scientific and technical information to professional groups. The current project, while not disregarding the professional groups, will also focus its efforts on the development of an appropriate technology component for the dissemination of information to organizations and individuals that deal specifically with development problems of the urban and rural poor.

2. Financial Plan

The cost estimate and financial plans presented below are based on cost experience in the recently terminated projects. This project will operate with a major cost attached to the components for preparation and transfer of information products and services and user education.

INCREMENTALLY FUNDED PROJECTS
PROJECT SUMMARY -- AID APPROPRIATED FUNDS
(in \$ 000 or equivalent)

Regional Project
for the Near East

Project No.: 298-0049

Regional S&T Information
Transfer Project (NTIS)

Cost Components

BUDGET YEAR

FY 84 FY 85 FY 86 FY 87 Total

1. Preparation and
Transfer of Infor-
mation Products
and Services

51.4 50.3 50.6 22.8 175.1

Salary and Benefits

U.S. Technicians

Office Director

5.0 5.3 5.5 2.75 18.55

Project Manager	21.5	22.1	22.5	11.25	77.35
Operation Assistant	14.4	15.5	15.9	7.50	53.30
Administrative					
Assistant	8.5	9.1	9.3	4.50	31.4
International					
Services					
Assistant	3.5	3.7	3.9	2.00	13.1
Secretary	3.2	3.4	3.7	2.00	12.3
Secretary	11.0	11.3	11.9	6.00	40.2
NTIS Benefits (9.2%)					
of Personnel Cost	6.2	6.5	6.7	3.40	22.8
Logistical Costs					
(Floor space, commun-					
ication, utilities					
and postage)	7.5	7.2	7.0	3.00	24.7
Air Mail Subsidy	1.0	2.0	3.5	----	6.5
				Subtotal	475.3
2. Seminar Preparation					
and Implementation	8.5	8.8	10.5	5.25	33.05
				Subtotal	33.05
3. Participant Training					
(Student Subsidy for					
NTIS Information					
System Workshop)	15.0	14.3	18.0	10.5	57.8
				Subtotal	57.8

4. User Education

AMTID (Graphics, print, mailing)	34.0	24.0	20.0	11.0	89.0
Arabic and French Translation	19.8	13.0	19.0	12.0	63.8
Print Advertise- ment & Audio- visual Exhibits)	7.0	6.5	6.0	3.0	22.5
Special Bibliogra- phies	8.0	6.5	6.8	5.2	26.5
				Subtotal	264.3

5. U.S. Advisor	32.0	33.0	34.0	18.0	117
Translator	14.0	2.0	2.0	2.0	20
				Subtotal	137

6. International Travel	8.5	5.0	5.0	4.0	22.5
				Subtotal	22.5

7. International Meetings	1.0	1.0	1.0	1.0	4.0
				Subtotal	4.0

8. Per/diem	8.5	7.0	8.5	5.0	29.0
				Subtotal	29.0

9. Commodities (Computers, Information Resources, Pamphlets and Newsletters)	5.0	8.0	8.1	6.00	27.1
Microfiche Equipment	4.5	2.1	2.0	---	8.6
				Subtotal	25.7
10. Subsidy of reports to the poor	2.0	4.0	4.0	4.00	14.0
				Subtotal	14.0
11. Deposit Account	3.0	4.0	4.0	----	11.0
				Subtotal	11.0
12. Evaluation	35.0	----	50.0	----	85.0
				Subtotal	85.0
13. Contingencies and Inflation	8.0	8.0	8.0	8.00	32.0
				Subtotal	32.0
14. Misc.	3.0	3.0	1.5	1.35	8.85
				Subtotal	8.85
TOTAL	350.0	286.6	348.9	161.5	1147.00
GRAND TOTAL					1147.00

IN-COUNTRY SEMINARS COST ESTIMATE

AID

NTIS Participants

Travel-----	\$17,150
Per Diem-----	\$24,000
Shipping of Exhibits and Printed Materials-----	\$ 4,600
Preparation of Printed Materials in French/Arabic-----	\$25,500

HOST COUNTRY

Rental of Space and Fixtures-----	\$ 5,700
Publicity-----	\$ 4,500
Refreshments-----	\$ 1,800
Interpreter-----	\$ 3,900
Transportation (within Host City)-----	\$ 400
Management Costs (Salaries, costs, etc.)-----	\$ 6,000

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INFORMATION SYSTEMS WORKSHOPS

COST ESTIMATE

AID

Salaries of Personnel Not

Normally Assigned To This Project-----\$21,000

Field Agent Training

(3 sessions)-----\$ 3,000

Materials (including study and

reference texts)-----\$ 2,000

Travel and Per Diem for Selected

Individuals-----\$46,000

HOST COUNTRY

Travel and Per Diem-----\$40,000

NTIS

Transportation (in town)-----	\$ 4,000
Computer Time (on-line search training)-----	\$ 1,600
Overhead-----	\$ 900

C. Social Analysis

The proposed NTIS project is aimed at a combined audience of professionals as well as those identified as comprising the economically disadvantaged.

There are several reasons for this dichotomy.

1. The technical sophistication of currently available information is largely of little direct use to the economically disadvantaged. This is because in some cases the implementation of sophisticated technological or scientific techniques requires resources, entrepreneurial skills and coordination not totally available at the lower socioeconomic levels. However, the information will have direct application to the poor of the Near East through use by scientific and technical personnel.

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2. Those individuals or groups who have been identified as comprising the economically disadvantaged have more specific information requirements. Filling these requirements, which lack the sophistication of high level technology and center primarily on the intermediate level or the "appropriate technology level," can provide and contribute significantly to the amelioration of under-utilization of economic resources.

Theoretically, any program that acts to improve the general state of economic development (as opposed to economic growth) of a community can also be expected to impact beneficially upon the economically disadvantaged. Although this is a long-term process that is difficult to quantify, in the short run the thrust of this project, with its emphasis on the use of appropriate technologies by or for the poor majority, will create a more favorable climate for low-level infrastructural development and will impact directly upon the rural and/or urban poor.

The NTIS program is likely to have this effect. Experience with the broad spectrum of information requests has shown that programs with an appropriate technology information base have produced decisions or innovative developments that contribute directly to economic improvement in the welfare of the poor majority. A typical example of this is that in Ecuador a decision was made to establish a particle board factory on the basis of information obtained from NTIS.

The fact that more extensive examples of success of NTIS services are not documented is due to the reluctance of many industries in the LDCs to supply quantitative data to support examples such as the above. The proposed project has a component ("case studies") which will seek to document the effects of technical information on employment and other economic indicators.

There is another broad area in which information transferred through the proposed program can be expected to impact on the lower socio-economic levels. This is the "quality of life" area, especially as affected by the physical living environment. It can be argued that an adverse living environment, particularly an adverse urban environment, affects the poor to a proportionately greater extent than it does with respect to other socio-economic levels. Therefore, the poor will benefit to a proportionately greater extent from improvements in the environment that would affect all socio-economic levels.

In addition, the NTIS collection contains a variety of documents dealing with low-and intermediate-level technology. Such documents can be of immediate use to the poor. For example, one of the best selling documents in the LDCs has been Handbook for Building Homes of Earth. Furthermore, NTIS has acquired many titles of a basic how-to-do-it type from the Peace Corps. During the proposed project, an effort will be made to collect and make available additional documents of this type, from both U.S. and LDC sources.

However, it must be recognized that written technical information, even at the low technology level, is not generally very useful to the poor, since they often do not read. Consequently even potentially useful documents are often not used by the poor. In the practical world these documents must be translated into action. This translation must be done by some intermediary organization working with the poor. NTIS currently supplies information to many such organizations. This project will strengthen NTIS's ability to send information to organizations concerned with the poor.

In summary:

1. The proposed program will impact on the poor by providing information which will help to do the following:
 - a) Create new job opportunities,
 - b) Improve the quality of life in rural and urban areas, and
 - c) Increase agricultural production.

2. Some low and intermediate technology is now available from NTIS and more will be sought and added.

3. Much information will be supplied to organizations through NTIS mailing lists which work with the poor and which can translate the written word into useful action.

NTIS will also establish linkages with Near East AID missions to backstop the information needs of current and proposed projects. This closer involvement and interaction with mission staffs directly responsible for the conceptualization, design and implementation of projects focusing on the urban and rural poor should contribute to a greater optimization and impact of agency proposed programs.

Women in Development

Section 113 of the Foreign Assistance Act reads: "Integrating Women into National Economics. Section 103 through 107 of this Act shall be administered so as to give particular attention to those programs, projects and activities which tend to integrate women into the national economies of foreign countries."

This project will obtain assurances and monitor activities of the agent representatives, who act as the liaison between NTIS and the various institutions in LDCs, to assure that women are integrated to the maximum extent possible within the structural organizations of the various participating agent representatives. This project also presents a specific opportunity to enhance the role of women through technological information transfer. Historically, relatively larger numbers of women are associated with library and information sciences than in other industries. The majority of representatives of cooperating agencies trained at NTIS have been women and the trend toward involvement of a larger number of women in

the project is expected to continue. This trend will be encouraged in the process of negotiating all future cooperating agency agreements.

D. Evaluation Plan

Given the nature of this project, comprised as it is of elements in nine different countries, the evaluation plan must be coordinated among the participant countries. The following outlines an approach to evaluation which can contribute to project monitoring improvement and assessment.

1. At least annually, NE/TECH will review project performance in the context of project objectives, field conditions, and make recommendations, as necessary, to the contractor.
2. USAID Missions will briefly report annually on the manner in which the project is progressing in their respective countries.
3. The project will be revised as necessary based on the outcome of 1 and 2 above.
4. An external evaluation is planned for the second and fourth years of the project. The evaluations will consider a) the quality of the work performed; b) levels of demand; c) the management process; d) contractor performance.

Due to the nature of the project, there are two areas to be evaluated. First, the evaluators should determine the extent to which information supplied by the project is being utilized and how that information contributes to technological change, and thus, to the development process

itself. The second key area to be evaluated will be the manner in which the host country agencies are handling the procurement and dissemination of information.

The findings of evaluations of previous NTIS projects indicate that questions asked were too technically specific. The evaluation for this project will be executed through open-ended questions. Much will be left to executive interviewing techniques which will rely heavily on the skill of the interviewer to guide respondents through loosely structured discussions. The selection of end-users to be interviewed will be identified using a stratified sample. Interviews will be conducted in person by the interviewer alone with the respondent. Questions will center around topics such as the general satisfaction of the materials obtained, language requirements, technical information needs, advertisement of services, timing from order to actual receipt of documents, etc. A utilization hierarchy will be developed to describe and distinguish between the different uses of applied information.

E. Environmental Threshold Decision

There are no environmental issues. A threshold determination has been reached that an environmental assessment is not needed.

P. Economic Analysis

As stated, the purpose of this project is two-fold: 1) to increase the flow of, access to, and use of scientific and technological information appropriate to the development of the Near East, and 2) to create a self-sufficient mechanism which, without outside help, plans, directs, and manages the flow of information appropriate to the development of the Near East.

It has not been possible to analyse this project so as to make a quantified judgment of its effect on the economies of the project countries. The economic benefits obtained from the transfer of technical information can be traced only with much difficulty. It is possible to reach only broad conclusions as to the probable economic impact of this proposed project based on the high level of document sales obtained in the previous AID funded projects. The array of unquantifiable economic benefits, as against the modest costs of obtaining the information and transferring it, qualify the project as cost effective and economically justifiable.

The participant countries themselves have a very clear appreciation of the economic benefits to be obtained from the transfer of technology and technological information. They recognize the savings to be obtained from not having to duplicate the R&D involved. They clamor for greater opportunity to select, acquire and utilize technological information.

The NTIS project directly responds to this strongly expressed need. The overall economic effect of this project will be an accumulation of economic benefits obtained by the whole group of end users who make up the growing market.

Other questions which merit attention include the following:

1. Does the utilization of scientific and technical information aid in economic development?
2. Does the agent/representative possess the necessary manpower to act as an effective intermediary and catalyst between the developing country and NTIS?
3. Will the appropriate technologies be adopted by LDC institutions on terms that are both economically and socially sound?
4. Will assimilation and implementation of new technologies by LDC institutions increase employment investments, savings, and consumption, or will this create considerable frictional or structural unemployment?

As stated, these issues and questions can only be answered definitely over the long run and will be included in mid-term and end-of-project evaluations. However, steps should be taken in the short run to assure that the transfer of technology does effectively and efficiently enhance the economic development of LDCs and lead to amelioration of the economic and social conditions of its poorer citizens. From this point of view pertinent issues are addressed.

1. Governments use technical information for economic planning purposes, while other types of institutions may employ it in projects, libraries, scientific and technological research, and training. For instance, information on energy conservation goes to governments which will be able to use it in long-run national energy resource-saving programs.

The LDC buyers who use imported technical information for problem solving in their operations include R&D managers, engineers, consultants, and similar professionals. Unfortunately, NTIS has only a relatively small collection of case histories wherein it can be demonstrated that a specific piece of technical information was applied to obtain a given production increase. (Evaluation of the previous projects in the S&T and Latin American Bureaus called for the accumulation of more case histories to guide future development efforts. This suggestion has been included in this project design.) Yet the rapid growth in private sector end users continuously supports the assumption that availability of a wide choice of technical information will result in wide use by LDC consumers who value the productive potential of the information well above its cost. Furthermore, where production increases have occurred, increases in factor incomes result.

2) Will assimilation and implementation of new technologies by LDC institutions increase employment, investment and consumption, or will this create considerable frictional or structural unemployment?

Analyzing the contribution of the successful adaptation of new technologies to economic growth or development is difficult. The question of whether assimilation of new technologies by LDCs has increased employment, savings and investment remains to be answered.

Qualitative or quantitative changes in the factors of production should enable the public or private sector to obtain more productivity within the constraints of resource availability. In the private sector this would be translated into more profits, which should create more investment and more employment. Under certain circumstances this situation has tended to create unemployment, and this problem will have to be addressed on a continuous basis through the life of the project. With increased incomes and employment, consumption and saving will increase, thereby creating more demand which would be translated into more investment and even more employment.

In the public sector, profit may not be the primary inducement for investment. However, efficiencies of labor and other factors should reduce the opportunity cost of resource utilization and permit a reallocation of these "saved" resources to other areas. This also, because of resource allocation efficiencies, could result in increased investment, employment, income consumption, and savings.

3) Are appropriate technologies likely to be adopted by LDC institutions on terms that are both economically and socially sound?

This question perhaps can best be answered in light of the U.S. Government's role in LDCs. One U.S. role is to make freely available the conceptual tools and information needed to encourage growing technological independence. Our approach to this is to make accessible to participant countries and institutions the ideas, people, institutions, and reservoir of hard scientific and technical information that are the bases of much of our own complex technological society. The nature of technology transfer and economic development is such that the selective and productive application of these tools is the responsibility of the developing country. So are national planning, assessment of priorities, resource allocations, understanding of the technology market, selection of appropriate technologies, local adaptation, negotiation of necessary legislation, governmental follow-up, and linking productive sectors of the economy. By working with technology information specialists, host country officials and the users of the "appropriate technology," one can make additional evaluatory studies to determine the negative or positive effects of the technology transfer.

Technical information is also delivered to the LDCs at a very modest price relative to the U.S. cost of producing and transferring the information. Information from U.S. Government R & D represents a cost to the U.S. Government, but Congress has directed that the information be used for public benefit by being made publicly available after serving its original purpose. NTIS charges depositing agencies for its services in retaining the information in reproducible form. The price charged for the

subsequent sale of the information in the U.S. and abroad represents actual storage and processing costs to an agency which operates on a profitless, cost-recovery basis. Project subsidies to help establish local marketing agencies bring the information cost to project countries down even further. The value of a piece of appropriate technological information considered against its actual cost to the LDC (and the original cost of the U.S. R & D that produced it) provides an indication of the potentially favorable cost/benefit ratio to the LDCs of this form of technology transfer.

4) Does the agent representative possess the necessary manpower and capability to act as an effective intermediary and catalyst between NTIS and the developing country?

A network of locally based "technology agent" organizations has been successfully created in developing countries as outlets for NTIS services and products. The agents either are private entrepreneurs or are part of a government ministry for technology or economic development. The local agent is selected by his own government and intensively trained by NTIS in providing information service and products. The agent performs marketing, local promotion, order handling and customer service in return for a 25% discount from listed prices. The local agent has been determined by NTIS to be an effective vehicle to provide a developing country easy and inexpensive access to the ever-growing store-house of U.S. Government-sponsored science and technology. The agent also can form partnerships with institutions in the country to help them strengthen their awareness of available resources

and thus create user capabilities as a longer term benefit for future development. Local agents, indigenous to their respective countries and cognizant of the respective needs of various institutions, can expand and modify their services according to customer and national needs. Furthermore, because of the somewhat related logistics involved, horizontal linkages can be developed that will facilitate a more effective triangular relationship between NTIS, agent representatives and technology users.

G. Administrative Feasibility and Contracting Plan

It is proposed that this project be implemented through a PASA with NTIS of the Department of Commerce. The proposed direct responsibilities of NTIS will be to:

1. Provide increased access to U.S. and worldwide technical information products in nine Near East countries;
2. Increase demand for U.S. and worldwide technical information for development problem solving by sponsoring seminars in project countries to broaden awareness of information availability and foster closer ties between cooperating agencies and their own local users;
3. Conduct workshops at NTIS for officials of cooperating agencies to provide them with know-how concerning acquisition of U.S. and worldwide scientific and technical information services to meet national needs, including those groups working with low income people;

4. Provide technical advisory services including user education and marketing support;
5. Publish and disseminate "Application of Modern Technology to International Development" in English, French and Arabic to cooperating agencies as a bi-monthly report of available NTIS acquisitions in LDC interest areas.
6. Handle Near East information requests on a priority basis and administrate an air mail postal subsidy package;
7. Provide special information materials and equipment compatible with the capabilities of each of the cooperating agencies;
8. Develop selected case studies for assessment of program benefits.

Some foreseeable problems during the initial implementation phase have been addressed in other NTIS network countries in the following ways:

1. Foreign exchange restrictions: NTIS deposit accounts must be replenished with dollars, some of which can be paid by the project as reimbursement for local services, such as translation, printing, or locally purchased tickets to training activities. Over the long term, however, success will depend on a workable foreign exchange payment mechanism being in place.
2. Bureaucratic problems: Purely state-run bureaucracies seldom perform well. NTIS has had good success working with private agencies in more developed countries, as well as India, Peru and Panama. Significant profit is not to be expected from these sales, however, personal initiative and interest are required by staff responsible for this program.

(d)

3. Customs clearance: NTIS reports usually clear customs unhindered when sent single copy airmail. Otherwise, they may fall under duties applicable to books. Microfiches are sometimes seized as film, not printed matter. Trial deliveries will detect problems.

4. Deficient management: Poor management capability by local staff is being addressed by the availability of a field officer contracted by the project and probably located in Cairo. The project will also add management to its training program. Mission support will be sought in this area.

Host country and USAID participation typically has the following agenda:

1. Country is visited by NTIS, where all information dissemination organizations are reviewed for candidacy to participate in the project. Priority sectors of USAID are identified. Related support services, such as mail, customs, bookstores and schools are reviewed and interviewed.
2. One agency is invited to coordinate NTIS information transfer in the country, possibly in cooperation with other agencies which are ready and able to participate. Agreement is signed within six months of invitation.
3. Basic commodities are shipped to agency. On-site training of clerical staff is provided (two days), and training in Washington for the chief is scheduled for within six months after agreement is signed.

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4. Marketing plan is developed with unit chief, including listing of priority sectors, media available to reach them, materials appropriate to them. First new promotional materials are produced within six months of signed agreement.
5. Local distribution of AMTID and other catalogs is begun as soon as agreement is signed.
6. First participation in public seminars, conferences, or trade fairs is held within twelve months of signed agreement.
7. Problems with ordering and delivering NTIS information are identified within twelve months of first field visit, solutions are projected within twelve months.
8. Special promotion is effected within eighteen months to target populations, such as private voluntary organizations.
9. Promotions are scheduled regularly; USAID mission is informed of progress or unexpected problems.
10. Visits by NTIS field officer at least every six months assure that marketing plan is maintained.
11. Training is scheduled for agency staff on-site or in U.S.
12. Sales have increased 100 percent within eighteen months of signed agreement. Number of sectors reached by NTIS covers all local AID priority sectors within twenty-four months.

When deemed necessary by AID and NTIS to subcontract, NTIS will, advertise in the Commerce Business Daily for services required. NTIS will be sensitive to all federal government regulations regarding utilization of small and minority businesses. AID will assist in the evaluation of all submitted bids, and will approve any contracts prior to their finalization.

6:

NTIS has experience in implementing previous similar AID funded projects. Their experience in working with AID, developing countries, and in being the federal repository for information team to make NTIS the preferred contractor for the implementation of this project.

The majority of the USAID responsibility and burden will be in the beginning of the project. (This project is designed with Mission staff demands in mind.) Once the Missions have assisted in identifying the most appropriate entity to house this project in their country, the host country will identify the cooperating agency. Missions will be asked to serve as liaisons so that the information generated throughout the project can be easily tapped for monitoring and evaluation purposes. They will again be requested to assist in the mid-point and final evaluations. During the course of implementation, it may be necessary for the Missions to transmit cables.

The project will be backstopped in NE/TECH/HRST in AID/W.

AID and Other Relevant Experience

The exploitation of science and technology to aid national economic, humanistic and industrial development has been an especially active program of the U.S. Government in the past two decades. Not only have science and

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technology been focused on the problems of U.S. national development, but also new strength has been given to the long-standing policy of sharing government-sponsored science and technology with other nations.

How to facilitate the application of modern technologies in development, utilizing scientific and technical information, is a problem of serious concern to both developing national governments and development assistance agencies.

In addressing the problem, AID has found that, when a capability for applied research builds within a nation, the need for information resources (identifying, locating, acquiring) is recognized by the national government and the academic community. However, the vast quantities and qualities of information available have complicated efforts to find practical technical information that can actually be utilized.

Effective management, therefore, of scientific and technical information is the critical first step in employing technology for development. The costs of information management within the United States involves investments amounting to billions of dollars. Sophisticated, expensive techniques are available to store retrievable information to assure that it can reach the final user in a readable form when he needs it. This type of system, however, cannot be duplicated in a developing country. It is economically prohibitive. AID has been exploring ways to transfer appropriate scientific and technical information to developing countries in an efficient effective manner for several years.

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ENDNOTES

1. Statement dated May 1, 1979 (A/Conf. 81/PC/CRP.2/Add.1) in which the Group of 77 presented their position regarding a program of action for UNCSTD.

2. U. S. Coordinator of UNCSTD. Science and Technology for Development.
U. S. Government Printing Office. Washington, D. C. 1979.

SELECTED REFERENCES

OAS. "Summary Appraisal of Technical Information Situation in Latin America in Relation to Possible International Networks," J. E. Beverly. UN Economic Commission for Latin America, Unit for Science and Technology, Mexico City, CEPAL/MEX/77/14, July 1977.

Seminar on Industrial Information, Denver Research Institute at Mexico City, 1-2 October 1976. Sponsored by NSF and U.S. Department of State.

AID Richard Morse, "Responding to Technical Information Needs of Developing Countries: Evaluative Review of the Volunteers for International Technical Assistance International Inquiry Service." Prepared for AID, NTIS.

Latin America and Technical Assistance Bureaus National Technical Information Service Project Papers and project evaluations.

Marina Fanning-Firfer. "An Evaluation of Scientific and Technical Information Distribution and Use in Latin America: The NTIS Program in Five Selected Countries.

6.

ANNEX A

LOGICAL FRAMEWORK

6

PROJECT DESIGN SUMMARY
 LOGICAL FRAMEWORK

INSTRUCTION: THIS IS AN OPTIONAL FORM WHICH CAN BE USED AS AN AID TO ORGANIZING DATA FOR THE PAR REPORT. IT NEED NOT BE RETAINED OR SUBMITTED.

Life of Project: From FY 1983 to FY 1986
 Total U.S. Funding \$3 million
 Date Prepared: JUNE 7, 1983

Project Title & Number: 298-0049

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program or Sector Goal: The broader objective to which this project contributes:</p> <p>To broaden and maximize the use of appropriate science and technology information in solving development problems in the Near East.</p>	<p>Measures of Goal Achievement:</p> <ol style="list-style-type: none"> 1. Wider application of U.S. R&D results to problem-solving in LDCs 2. New and improved channels for exchange between technical institutions and professionals and U.S. counterparts. 3. Greater LDC demand for U.S. technological products and services. 	<ol style="list-style-type: none"> 1. LDC government statements on the extent to which progress is being achieved in the selection and transfer of technology attributable to "freest and fullest possible access" to technologies not in private hands. 2. Reports of cooperating agencies. 3. Reports of national and industrial research institutes. 4. Professional papers. 	<p>Assumptions for achieving goal targets:</p> <ol style="list-style-type: none"> 1. Users of information can influence development decisions. 2. Information transferred is applicable to identified problems of the Near East. 3. Significant and increasing share of R&D generates information of value to national problem solving in developing countries. 4. Countries will acquire and utilize technological information nationally if a system exists to foster its transfer and use.

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project: _____ to FY 1986
From FY 1983 to FY _____
Total U.S. Funding 1.3 million
Date Prepared: June 2, 1983

act Title & Number: 298-0049

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Project Purpose:</p> <ol style="list-style-type: none"> To increase the flow of, access to, and use of scientific and technological information appropriate to the development of the Near East. To create a self-sufficient mechanism which, without outside help, plans, directs, and manages the flow of, access to, and use of scientific and technological information appropriate to the development of the Near East. 	<p>Conditions that will indicate purpose has been achieved: End of project status.</p> <ol style="list-style-type: none"> Accomplishment without outside of: <ol style="list-style-type: none"> Materials Acquisitions, Selection, adaptation Maintenance and creation of communications networks <ol style="list-style-type: none"> with sources <ol style="list-style-type: none"> In the USA In the Near East Elsewhere with users <ul style="list-style-type: none"> Professionals The poor Training <ol style="list-style-type: none"> Information managers Information users Progress monitoring <ol style="list-style-type: none"> Solution to development problems Information flow, access, use. Self financing An operating network of 9 LDC agencies cooperating through bilateral agreements with NTIS to increase access to U.S. science and technology. A substantial increase in flow of S&T information products and services to cooperating countries over 4 years. 	<ol style="list-style-type: none"> Assessments of: <ol style="list-style-type: none"> Institutional strength of collaborating agencies. Communication network of information collection and distribution networks. Contractor, host country and USAID monitoring reports. Mid and final evaluations. Bilateral agreements between NTIS and LDC cooperating agencies. Sales of S&T information products and services to LDCs. Growth in demand and effective utilization of S&T information and patents. 	<p>Assumptions for achieving purpose:</p> <ol style="list-style-type: none"> Near East governments will continue to support dissemination of scientific and technological information. No important impediment will arise to broadening the NTIS information transfer network through bilateral agreements with cooperating agencies in additional countries. LDC demand for S&T information products and services will continue to increase.

PROJECT DESIGN SUMMARY
 LOGICAL FRAMEWORK

Life of Project: _____
 From FY 1983 to FY 1986
 Total U.S. Funding 1.3 million
 Date Prepared: June 7, 1983

Project Title & Number: 298-0049

PAGE 3

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Outputs:</p> <ol style="list-style-type: none"> 1. Identification, equipping, and staffing collaborating agencies in Near East countries. 2. Acquisition and adaptation of scientific and technological information. 	<p>Magnitude of Outputs:</p> <ol style="list-style-type: none"> 1. Twenty in-country training seminars conducted over life-of-project. 2. Four training courses conducted at NTIS over life-of-project. 3. Dissemination of at least 22 issues of English AMTID to nine addressees, and 22 issues of Arabic AMTID to six addressees. 	<ol style="list-style-type: none"> 1. Signed PASA. 2. Contractor, Mission and host country reports. 3. Evaluations. 	<p>Assumptions for achieving outputs:</p> <ol style="list-style-type: none"> 1. PASA w/ NTIS will be finalized. 2. Host country cooperative agencies will be identified.

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project: _____ to FY 1986
From FY 1983 to FY _____
Total U.S. Funding: 1.3 million
Date Prepared: June 2, 1981

Project Title & Number: 298-0049

PAGE 4

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Inputs:</p> <ol style="list-style-type: none"> 1. Nine cooperating agency agreements. 2. Nine cooperating agencies oriented and providing local service to improve access to USA scientific and technical information. 3. Cooperating agencies provided training and support for promotion and operations. 4. Publication and increasing dissemination. 	<p>Implementation Target (Type and Quantity) *</p> <p>FY 1983 ---\$310.0 FY 1984 ---\$350.0 FY 1986 ---\$286.6 FY 1987 ---\$353.4</p> <p>*AID input only. This will be supplemented by field mission and host country funding.</p>	<ol style="list-style-type: none"> 1. Contractor, host country and USAID monitoring reports. 2. AMTID publications and NTIS mailing list. 3. Periodic NTIS reports. 	<p>Assumptions for providing inputs:</p> <ol style="list-style-type: none"> 1. U.S. sources of information cooperate. 2. Local sources of appropriate technology information will contribute documents to the network. 3. Air, customs will not unduly delay delivery of materials once orders are filled by NTIS/Washington. 4. LDCs will continue to seek cooperative agreements with NTIS. 5. LDCs will fully support local costs of in-country seminars and continue to seek participation in training courses at NTIS.

ANNEX B

UTILIZATION OF SCIENTIFIC AND TECHNICAL INFORMATION
IN LATIN AMERICA

ANNEX B

UTILIZATION OF SCIENTIFIC AND TECHNICAL INFORMATION IN LATIN AMERICA

In 1981, Inter-America Research Associates, Inc. was contracted by LAC/DR to evaluate the utilization of technical information provided by the NTIS network. This study revealed that 81% of end-users utilized the information acquired in an "applicative" mode, with 34% of the total actually using it in a "hands-on" degree of application. Fully 96% judged the information useful. This indicates that access to the information provokes a high degree of utilization even though the project does not program that amount of follow-through.

Another statistic of import to AID is the make-up of the clientele: 54% are private firms or industries, with the balance fairly evenly divided among autonomous organizations, universities and research institutes, government ministries, PVOs and consultants or students. The summary of IRA findings are presented below.

The study focused on five Latin American countries (Mexico, Costa Rica, Colombia, Peru and the Dominican Republic) and interviewed a total of ninety-nine end users. The major finding of the study was that NTIS information, when accessed, contributes significantly toward technological change. The end to which users could apply information accessed through NTIS was broken down into 6 major categories: 1) information not read, 2) information read and not utilized, 3) information read and circulated or incorporated in a reference center or library, 4) information utilized as didactic material or in studies and reports, 5) information used to determine national or technological policies or standards, 6) information assimilated and transformed in applied research, and 7) hands-on application of information such as manufacturing, building or creating something. Categories two and three were considered referential uses of information and categories four, five, six and seven were considered applicative uses. The information gathered in personal interviews and subsequently analyzed showed that 82% of the end users interviewed fell into the applicative category. Of significance is the fact that only one end

user fell in category one, and that more than half of all users (54%) fell in categories six and seven, applied research (24%) and operational, hands-on manufacturing applications (30%).

The major conclusion which can be drawn from this exceptionally high utilization rate is that NTIS is not only a very important source of information for the transfer of technology in the region, but that the uses to which the information is put and the frequency with which it is applied, demonstrate its significance, and its actual and potential contribution towards technological capacity building, and, therefore, towards development in Latin America. This conclusion is supported by the views expressed by end-users, who value the availability of the information highly.

The primary recommendation of the study is that the NTIS network should continue to receive the support it requires, and that strengthening and streamlining in two major areas would significantly improve the service and expand its coverage. The first of these areas is the ordering process and the second is the outreach activities.

From data gathered, both from end-users and staff of the distribution centers, it was found that:

Very little active promoting of NTIS publications or services takes place beyond the AMTID newsletters.

On the average, the recurrence is only about one full-time person in each distribution center devoted to NTIS related activities; including time devoted to processing orders as well as any outreach activities.

Users expressed frustration in not knowing what the universe from which they could draw looked like.

There was practically no awareness of the range of NTIS services.

Users expressed dissatisfaction with delays in receiving the documents and with other aspects of the ordering process. This included the problem posed by floating exchange rates which, in some instances, have doubled the price of the document. This was because the price was paid in dollars at the rate of exchange at time of delivery, not ordering, and often several months intervene.

Specific recommendations stemming from the above are: a) that the staff of the distribution centers (whose time is currently spent processing orders), may be employed promoting NTIS services and documents, and that a system be designed which permits end-users to order the publications directly from NTIS. (This system could be patterned after the one successfully employed in Latin America by the British Lending Library. UNESCO coupons, which are already accepted by NTIS, could be used to effect payment); and b) that the NTIS-designed distribution centers be significantly increased in number to cover more cities in a given country and more locations within large cities.

ANNEX C

MAJOR DONORS TO NTIS SYSTEM

ANNEX C

MAJOR DONORS TO NTIS SYSTEM

Though not exhaustive, the following list indicates some of the major donors to the NTIS collection:

Massachusetts Institute of Technology, Allied Chemical, Harvard University, Standard Oil of Indiana, Yale University, Aluminum Company of America, University of Pennsylvania, Combustion Engineering, Stanford University, Deere and Company, Cornell University, IBM, Texas A&M University, General Electric, University of Rochester, General Motors, Johns Hopkins University, Rockwell International, University of California, Eastman Kodak, University of Illinois, Rand Corporation, University of Wisconsin, Tennessee Valley Authority, University of Michigan, International Telephone and Telegraph, Columbia University, Honeywell, University of Minnesota, Fairchild, University of Washington, Ford Motor Co., Shell Oil, Union Carbide, Crown Zellerbach, Swift and Company, Monsanto, Gulf Oil, Carborundum, Kaiser Aluminum and Chemical, Control Data, RCA, Westinghouse Electric Corporation, International Nuclear Information System, Engineering Index, Inc., Lockheed Information Systems, National Library of Medicine, and The Urban Institute

One is reminded that most government research is conducted by U.S. corporations, federal laboratories, and universities under contract to government Agencies.

June 11, 1984

MEMORANDUM

TO: NE/TECH/HRST, Carolyn I. Coleman
FROM: NE/PD/ENV, Stephen F. Lintner *SFL*
SUBJECT: REGIONAL - Science and Technology Information Transfer Project
(298-0049)

I have reviewed the proposed project and recommend that it be granted a "Categorical Exclusion" under the provisions of 22 CFR 216.2(c), "AID Environmental Procedures."

04 JUN 1984

ACTION MEMORANDUM FOR THE ASSISTANT ADMINISTRATOR, BUREAU FOR NEAR EAST

FROM : NE/TECH, Kenneth H. Sherper *K&S*

SUBJECT: PP Approval for Regional Science and Technology Information Transfer Project, Phase II, 298-0049

Problem: Your approval is required for a Phase II Authorization of the Regional Science and Technology Information Transfer (STIT) Project.

Discussion: On July 12, 1983, the Near East Advisory Committee (NEAC), under the chairmanship of Mr. Bradshaw Langmaid, Jr., DAA/NE, reviewed and recommended approval of the PID for the STIT Project. At that time it was decided that a Phase I would be implemented at a total cost of \$153,000, which would allow the NE to assume responsibility for technical services to Tunisia that had begun under a centrally funded project; to commence exploratory activities in Egypt, Jordan and Morocco; and to receive feedback from proposed participant countries. NE/TECH/HRST was instructed to prepare the PP based on field input, and submit for authorization. It was decided that there was not a need for further NEAC review.

The project has a two-fold purpose: (1) to increase the flow of, access to and use of scientific and technological information appropriate to the development of the Near East; and (2) to create a self-sufficient mechanism which, without outside help, plans, directs, and manages the flow of, access to, and use of scientific and technological information appropriate to the development of the Near East. As originally designed, the following countries were to be involved: Cyprus, Egypt, Jordan, Lebanon, Morocco, Oman, Portugal Tunisia, Turkey and Yemen. At the suggestion of Mr. Langmaid, the regional advisor for STIT was to be stationed in Egypt. After reviewing the Project, USAID/Cairo decided that the concept was close to that of various projects already in implementation, and therefore did not want to be included in STIT. All other aforementioned countries will be involved, and the regional advisor will probably be based in Tunisia. The three year project has a total funding level of \$1,147,000.

The Project will provide for the creation of a regional network for technical information services in the Near East and will be implemented through a Participating Agency Service Agreement (PASA) with the National Technical Information Service (NTIS) of the U. S. Department of Commerce. The U.S. has no national science and technical information system. Rather, it has a multitude of products and services offered by government and private sources. Of these, NTIS offers the broadest range of products as it is a service organization that channels information about technological innovations to business, educators, government and the public. NTIS has over 1.5 million titles for sale, 250,000 of which are of foreign origin. Under law, NTIS is the only government agency that must be self supporting by recovering its costs from sales of products and services; it acts as a commercial business.

The contracting mode is critical to meeting the objective of the Project. Other information services would have to go to NTIS to gain access to many of

the publications, thus layering the retrieval mechanism. NTIS is, according to the terms set forth in OMB Circular A-76, uniquely qualified and capable of implementing this Project. The use of NTIS implements one of the major recommendations of the General Accounting Office report "Capital Saving Technology in AID's Development Assistance Program: Opportunities for Increased Use." The report encourages and recommends a continued relationship with NTIS, characterized by increased marketing to help ensure implementation of section 107 of the International Development and Food Assistance Act of 1975 which authorized AID to support expanded efforts in the field of capital saving technology.

The products and services of NTIS are intended to increase the efficiency and effectiveness of U.S. research and development to support foreign policy goals by assisting the social and economic development of other countries and to increase the availability of foreign technical information in the United States. This is very important to the achievement of the second purpose of the Project: creating a self-sufficient mechanism with the participant countries for the retrieval, dissemination and use of technological information that is appropriate to the development of the Near East.

The project addresses two of the four Agency priority pillars: technology transfer and institutional development.

Realizing that a country needs to have an indigenous capacity to create, adapt and apply appropriate technologies for sustained development, the project will not only transfer information generated in the U.S.; it will foster information exchange among developing countries. Institutional capacities to handle information exchange will be upgraded. Through this project, social infrastructure will also be upgraded as people are trained in operating an information analysis, dissemination and order processing operation; how to efficiently use information products and services; how to develop markets and sales promotion tools; and how to develop an information network with other agencies. The \$1,147,000 funding will be used for the components and preparation and transfer of information products and services and user education. The involved countries will pay the cost of all documents ordered.

A Congressional Advice of Program Change was sent to Congress on November 23, 1983, to reflect that A.I.D. plans to obligate \$118,000 in FY 1984 grant funds for this project. On June 22, 1984, a Technical Notification was sent to Congress to reflect that we plan to obligate an additional \$232,000 for a total of \$350,000 in FY 1984 grant funds for the project. Both waiting periods expired without objection.

Recommendation: That you approve Phase II of the project and funding at a level of \$1,147,000 by signing the attached Project Authorization.

Attachments:

Project Paper
Advice of Program Change
Project Authorization

Clearances

NE/TECH/HRST, Harold Freeman H F
~~NE/DP, Alico Shimomura~~
NE/DP, Charles Johnson Ch J
GC/NE, Michael Williams (draft)
NE/NENA, Thomas Reese (draft)
NE/EUR, Russell Misheloff (draft)
NE/ME, Gerald Kamens (draft)
PPC/PB, Emily Hughes-Leonard E L
DAA/NE, Bradshaw Langmaid, Jr. BL
NE/E, R. Blue (info)

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Drafted by: NE/TECH/HRST, Carolyn I. Coleman:4/6/84:X23228:1ch (0675J)

8

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON D C 20523

PROJECT AUTHORIZATION

Name of Country: Near East
Regional

Name of Project: Science and
Technology
Information
Transfer

Number of Project: 298-0049

1. Pursuant to Section 105 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Science and Technology Information Transfer Project (Phase Two) for the Near East Region involving planned obligations of not to exceed \$1,147,000 in grant funds over a three-year period from date of authorization, subject to the availability of funds in accordance with AID OYB/allotment process, to help in financing foreign exchange and local currency costs for the project. The planned life of the project is three years from the date of initial obligation.

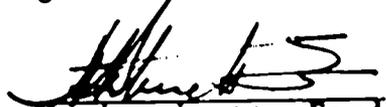
2. The project consists of assisting in the creation of a regional network for technical information services in the Near East through a Participating Agency Service Agreement with the National Technical Information Service of the Department of Commerce. Phase Two, authorized hereunder, shall provide technical services to countries in the Near East.

3. The obligating document(s) which may be negotiated and executed by the officer(s) to whom such authority is delegated in accordance with AID regulations and Delegations of Authority shall be subject to such terms and conditions as AID may deem appropriate.

4. Source and Origin of Commodities, Nationality of Services

Commodities financed by AID under the project shall have their source and origin in the United States or the country in the Near East Region in which the project activity is being undertaken, except as AID may otherwise agree in writing. Except for ocean shipping, the suppliers of commodities or services shall have the United States or the country in the Near East Region in which the project activity is being undertaken as their place of nationality, except as AID may otherwise agree in writing. Ocean shipping

financed by AID under the project shall, except as AID may otherwise agree in writing, be financed only on flag vessels of the United States.


W. Antoinette Ford


Date

AGENCY FOR INTERNATIONAL DEVELOPMENT
ADVICE OF PROGRAM CHANGE

DATE

Country: Near East Regional

Project Title: Science and Technology Information Transfer

Project Number: 298-0049

FY 1984 CP Reference: Annex IV, Near East, Page 115

Appropriation Category: Education and Human Resources

Life-of-Project Funding: \$1,300,000 (Grant)

Intended FY 1984 Obligation: \$230,000

This is to advise that A.I.D. intends to obligate \$230,000 in FY 1984 grant funds for this project and increase life-of-project funding to \$1.3 million.

This expanded project will continue technical services to Egypt, Cyprus, Jordan, Morocco and Tunisia, and will initiate information transfer activities in Turkey, Lebanon, Oman, Portugal and Yemen. At the time of the FY 1984 Congressional Presentation, the project scope was not fully conceptualized. Plans for expansion of the project were indicated in Advice of Program Change No. 613, submitted on July 26, 1983.

An Activity Data Sheet is attached.

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Clearances

AA/NE, W.A. Ford Pos for

DAA/NE, B. Langmaid Pos for

NE/DP, C. Johnson Pos for

GC/LPL, R. Lester DR

GC/NE, G. Davidson DR

NE/TECH, K. Sherper DR

NE/TECH/HRST, B. Heyman DR

Drafted by: NE/TECH/HRST: C. I. Coleman: 11/08/83: X23228: es

8/1

AGENCY FOR INTERNATIONAL DEVELOPMENT

TECHNICAL NOTIFICATION

<u>Project Title and Number</u>	<u>FY 84 CP and Prior Reference</u>	<u>Country or Central Program</u>	<u>Appropriation Account</u>	<u>FY 84 CP Amount</u>	<u>Amount Now Required</u>	<u>Amount of Increase</u>	<u>Reason for Change</u>
Science & Technology Information Transfer 298-0049	Annex IV, Near East, page 115 CN #57 dated 11/23/83	Near East Regional	Education and Human Resources (grant)	\$118,000	\$350,000	\$232,000	Increase in fiscal year 84 funding

Clearances:

NE/TECH/HRST, C. Coleman _____
NE/TECH/HRST, H. Freeman _____
NE/TECH, K. Sherper *KS* _____
NM/DP, ~~Lance Dunning~~ _____
NE/DP, C. Johnson *CS* _____
DAA/NE, B. Langsald *BL* _____

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NEE-03 COM-02 HEMR-03 RELO-01 HAST-01 /030 A2 1027

INFO OCT-00 EUR-00 EB-08 NEA-07 L-03 /018 R

DRAFTED BY AID/NE/TECH/HRST, JANICE WEBER:ES
APPROVED BY AID/NE/TECH/HRST, HAROLD FREEMAN
AID/NE/E, B. PORTER (INFO)
AID/NE/HENA, J. ROBERTS (INFO)
AID/NE/HE, G. KAMENS (INFO)
AID/NE/EUR, M. STERNE (INFO)
AID/NE/HEUR, R. BURNS (INFO)

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AMEMBASSY RABAT
AMEMBASSY MUSCAT
AMEMBASSY LISBON
AMEMBASSY TUNIS
AMEMBASSY ANKARA
AMEMBASSY SAHARA
INFO AMEMBASSY CAIRO

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AIDAC

E.O. 12356 N/A

TAGS:

SUBJECT: REGIONAL SCIENCE AND TECHNOLOGY INFORMATION
TRANSFER PROJECT, PHASE II, 298-0049 (STIT)

REF: STATE 225363

1. SUMMARY: SUBJECT PROJECT WAS AUTHORIZED ON 9 JULY 1984 BY AA/NE V. ANTOINETTE FORD. THE PROJECT IS A FOLLOW-ON TO PHASE I, PER REFTEL, AND WILL BE IMPLEMENTED THROUGH A PASA WITH THE NATIONAL TECHNICAL INFORMATION SERVICE (NTIS) OF THE U.S. DEPARTMENT OF COMMERCE. THE THREE-YEAR PROJECT WILL INVOLVE ADDRESSEE MISSIONS AND, POSSIBLY, LEBANON. TOTAL LOP FUNDING IS DOLS. 1.15 MILLION OVER THREE YEARS.

2. AS IN PHASE I, THE GOAL OF THE STIT PROJECT IS TO BROADEN AND MAXIMIZE THE USE OF APPROPRIATE SCIENCE AND TECHNOLOGY INFORMATION IN SOLVING DEVELOPMENT PROBLEMS IN THE NEAR EAST. THE PURPOSE IS TWO-FOLD: (1) TO INCREASE THE FLOW OF, ACCESS TO AND USE OF SCIENTIFIC AND TECHNOLOGICAL INFORMATION APPROPRIATE TO THE DEVELOPMENT OF THE NEAR EAST; AND (2) TO CREATE A SELF-SUFFICIENT MECHANISM WHICH, WITHOUT OUTSIDE HELP, WILL PLAN, DIRECT, AND MANAGE THE FLOW OF, ACCESS TO,

AND USE OF SCIENTIFIC AND TECHNOLOGICAL INFORMATION APPROPRIATE TO THE DEVELOPMENT OF THE NEAR EAST. END SUMMARY.

3. THE PROJECT WILL PROVIDE FOR THE CREATION OF A REGIONAL NETWORK FOR TECHNICAL INFORMATION SERVICES IN THE NEAR EAST AND WILL BE IMPLEMENTED THROUGH A PARTICIPATING AGENCY SERVICE AGREEMENT (PASA) WITH THE NATIONAL TECHNICAL INFORMATION SERVICE (NTIS) OF THE U.S. DEPARTMENT OF COMMERCE. VISITS BY MESSRS. FRANK POST AND JOHN HOUNSELL OVER THE LAST YEAR HAVE PROVIDED MISSIONS WITH FURTHER DETAILS ON STIT PROJECT.

4. THE PRODUCTS AND SERVICES OF NTIS ARE INTENDED TO INCREASE THE EFFICIENCY AND EFFECTIVENESS OF U.S. RESEARCH AND DEVELOPMENT TO SUPPORT FOREIGN POLICY GOALS BY ASSISTING THE SOCIAL AND ECONOMIC DEVELOPMENT OF OTHER COUNTRIES AND TO INCREASE THE AVAILABILITY OF FOREIGN TECHNICAL INFORMATION IN THE UNITED STATES. THIS IS VERY IMPORTANT TO THE ACHIEVEMENT OF THE SECOND PURPOSE OF THE PROJECT: CREATING A SELF-SUFFICIENT MECHANISM WITH THE PARTICIPANT COUNTRIES FOR THE RETRIEVAL, DISSEMINATION AND USE OF TECHNOLOGICAL INFORMATION THAT IS APPROPRIATE TO THE DEVELOPMENT OF THE NEAR EAST.

5. THE PROJECT ADDRESSES TWO OF THE FOUR AGENCY PRIORITY PILLARS: TECHNOLOGY TRANSFER AND INSTITUTIONAL DEVELOPMENT. REALIZING THAT A COUNTRY NEEDS TO HAVE AN INDIGENOUS CAPACITY TO CREATE, ADAPT AND APPLY APPROPRIATE TECHNOLOGIES FOR SUSTAINED DEVELOPMENT, THE PROJECT WILL NOT ONLY TRANSFER INFORMATION GENERATED IN THE U.S.; IT WILL FOSTER INFORMATION EXCHANGE AMONG DEVELOPING COUNTRIES. INSTITUTIONAL CAPACITIES TO HANDLE INFORMATION EXCHANGE WILL BE UPGRADED. THROUGH THIS PROJECT, SOCIAL INFRASTRUCTURE WILL ALSO BE UPGRADED AS PEOPLE ARE TRAINED IN OPERATING AN INFORMATION ANALYSIS, DISSEMINATION AND ORDER PROCESSING OPERATION; HOW TO EFFICIENTLY USE INFORMATION PRODUCTS AND SERVICES; HOW TO DEVELOP MARKETS AND SALES PROMOTION TOOLS; AND HOW TO DEVELOP AN INFORMATION NETWORK WITH OTHER AGENCIES. THE DOLS. 1,147,000 FUNDING WILL BE USED FOR THE COMPONENTS AND PREPARATION AND TRANSFER OF INFORMATION PRODUCTS AND SERVICES AND USER EDUCATION. THE INVOLVED COUNTRIES WILL PAY THE COST OF ALL DOCUMENTS ORDERED.

6. THOUGH PP HAS BEEN PREPARED, NO NCAC WAS DEEMED NECESSARY. WILL ADVISE WHEN COPIES OF PP POUCHED.

7. FYI, PROJECT IS BACKSTOPPED IN NE/TECH/HRST BY CAROLYN I. COLEMAN. END FYI. SHULTZ

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DRAFTED BY AID/NE/TECH/POST CAROLYN COLEMAN ES
APPROVED BY AID/NE/TECH/POST BARRY HEIMAN
AID/NE/E G. PORTER - INFO
AID/NE/ENA A. SHUMWAY - INFO
AID/NE/ME R. BRONK - INFO
AID/NE/ER P. SCHEMEL - INFO

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EO: 12356 N/A
TAGS:
SUBJECT: REGIONAL S AND T INFORMATION TRANSFER PROJECT
298-0249

REF: STATE 229363

1. AS PROMISED IN PARA 9 OF REF, THIS CABLE GIVES TOPICS TO BE DISCUSSED AT UPCOMING INFORMATION TRANSFER MEETINGS. SUBJECT PROJECT WILL PAY TRAVEL, PER DIEM AND TUITION/REGISTRATION FOR MEETINGS FOR ONE HOST COUNTRY REPRESENTATIVE FROM EGYPT, TUNISIA, MOROCCO AND JORDAN SINCE THESE COUNTRIES ARE THE PRIMARY FOCUS FOR THE FIRST YEAR OF THE PROJECT. OTHER COUNTRIES WILL BE ELIGIBLE FOR SIMILAR MEETINGS AS PROJECT IS IMPLEMENTED.

2. MARKETING AND PROMOTION WORKSHOP WILL BE HELD SEPTEMBER 26-30, 1983 AT THE LEIDA GRADUATE SCHOOL, 602 MARYLAND AVE., S.W.; WASHINGTON, D.C. TOPICS TO BE DISCUSSED INCLUDE THE FOLLOWING:

- A. SEMINAR ON MARKETING AND PROMOTION OF TECHNICAL INFORMATION SERVICES IN DEVELOPING COUNTRIES
- B. BASIC PRINCIPLES OF MARKETING MANAGEMENT
- C. ADAPTATION OF MARKETING MANAGEMENT PRINCIPLES TO DEVELOPING COUNTRIES
- D. MODERN METHODS OF MARKETING RESEARCH
- E. COMPUTER RELATION
- F. PRICE ANALYSIS AND MANAGEMENT
- G. DATA COLLECTION AND PROCESSING
- H. FOLLOW-UP RESEARCH

1. PRINCIPLES OF PROMOTION DESIGN AND LAYOUT: TUITION FOR WORKSHOP IS \$200.00

3. ANNUAL MEETING OF THE AMERICAN SOCIETY FOR INFORMATION SCIENCE WILL BE HELD AT TOWN BRIDGES HARRIOTT HOTEL IN ALEXANDRIA VIRGINIA FROM OCTOBER 2-6, 1983. PRODUCTIVITY IN THE INFORMATION AGE IS THE THEME OF THE CONFERENCE. SEMINAR TOPICS FOLLOW:

OCTOBER 2

- A. PLANNING FOR NEW TECHNOLOGIES FOR INFORMATION HANDLING
- B. INFORMATION RESOURCES FOR ENGINEERS AND SCIENTISTS
- C. TREASURES CONSTRUCTION AND MAINTENANCE
- D. FUNDAMENTALS OF MICROCOMPUTERS
- E. PLANNING THE ELECTRONIC LIBRARY
- F. INFORMATION MANAGEMENT SOFTWARE
- G. MICROCOMPUTER APPLICATIONS AND FUTURE DEVELOPMENT
- H. MANAGEMENT COMMUNICATION IN INFORMATION ORGANIZATIONS
- I. HOW TO CREATE A DATA BASE

OCTOBER 3

- A. ROLE OF INFORMATION SCIENCE IN INCREASING PRODUCTIVITY
- B. OPTIMIZING ON-LINE SEARCH STRATEGIES
- C. SELECTING NETWORKING ISSUES AND THEIR DIRECTION
- D. PRODUCTIVITY AND THE DEVELOPMENT OF HUMAN RESOURCES
- E. REDEFINING PRODUCTIVITY IN AN INFORMATION AGE
- F. SYMPOSIUM ON OFFICE AUTOMATION
- G. COMPUTER GRAPHICS
- H. THE CORE CURRICULUM AND TODAY'S INFORMATIONAL PROFESSIONAL
- I. SYMPOSIUM ON END-USER TRAINING
- J. NEW DEVELOPMENTS IN COMPUTER PROGRAMMING
- K. VALUE ADDED CHARACTERISTICS OF ENERGY AND ENVIRONMENTAL DATA SYSTEMS
- L. SYSTEMS ANALYSIS TRAINING

OCTOBER 4

- A. INFORMATION AND COMMUNICATION
- B. PRODUCTIVITY IN INDUSTRY AND ACADEMIA
- C. LOCAL AREA NETWORKS
- D. COST EFFECTIVENESS OF CONTROLLED VOCABULARIES
- E. IMPROVED PRODUCTIVITY THROUGH TECHNOLOGY TRANSFER: SBI SYSTEMS AND TELECONFERENCING

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F. CREATION OF PRODUCTIVE IDEAS IN THE AGE OF INFORMATION

I. REPORT ON THE WHITE HOUSE CONFERENCE ON PRODUCTIVITY

G. NEW STORAGE TECHNOLOGIES: DISKS AND COMPUTER TAPE

J. OPTIMIZING DATA BASES FOR INCREASED PRODUCTIVITY

H. ON-LINE SYSTEMS: EVALUATION AND USER-SYSTEM INTER-ACTION

K. STUDIES OF DOCUMENT CONTENT AND AUTOMATED PUBLISHING

I. NEW DIRECTIONS FOR THE EDUCATION AND TRAINING OF INFORMATION PROFESSIONALS

L. LIBRARY AND INFORMATION CENTER OPERATIONS STAFF: PRODUCTIVITY AND FISCAL ASPECTS

J. MICROCOMPUTERS FOR PRODUCTIVITY MANAGEMENT

M. TRAINING TECHNOLOGY FOR INCREASED PRODUCTIVITY (REGISTRATION FEE FOR MEETING: \$ 0005 160)

K. EFFECTS OF USING INFORMATION ON INDIVIDUAL PRODUCTIVITY

A. PLEASE ADVISE ASAP NAME, INSTITUTE OR AND POSITION OF REPRESENTATIVE WHO WILL ATTEND. WE REALIZE THAT COUNTRY AGREEMENTS WILL NOT BE SIGNED BY THE TIME OF THE MEETINGS.

L. INSTITUTIONAL ASPECTS OF INFORMATION SYSTEMS AND PRODUCTIVITY (FOCUS ON DEVELOPMENT IN ASIA)

WE WOULD ALSO WELCOME PARTICIPATION AT SEPTEMBER MEETING BY INDIVIDUALS FROM INFO ADDRESSEES. SHOULD MISSION OR HOST COUNTRY CHOOSE TO PAY TRAVEL, PER DIEM AND COURSE REGISTRATION COSTS. PLEASE ADVISE. DAN

M. ENHANCING PRODUCTIVITY IN LIBRARIES: APPLICATIONS OF NEW TECHNOLOGIES

OCTOBER 5

A. AN INTERNATIONAL PERSPECTIVE ON PRODUCTIVITY AND INFORMATION PROCESSES (EUROPE AND JAPAN)

B. NATIONAL PROGRAM OF PRODUCTIVITY

C. LIBRARY AUTOMATION: DEVELOPMENT AND EVALUATION OF ON-LINE CATALOGUES

D. INTERNATIONAL CLASSIFICATION RESEARCH FORUM

E. KNOWLEDGE-BASED SYSTEMS

F. NEW AND INNOVATIVE PUBLISHING

G. THE WORLD'S INFORMATION SYSTEM AND PRODUCTIVITY

H. THE USE AND PRODUCTION OF VIDEODISCS

I. EDUCATION INFORMATION SERVICES: FEDERAL PERSPECTIVES AND PRIORITIES

J. LIBRARY AUTOMATION: EVALUATION AND SYSTEM ASPECTS

OCTOBER 6

A. DATA FOR INCREASED PRODUCTIVITY

B. IMPROVED EFFICIENCY OF INFORMATION STORAGE AND RETRIEVAL THROUGH MICROCOMPUTERS

C. TRENDS IN GOVERNMENT AND PRIVATE SECTOR: JOINT R AND D IN INFORMATION TRANSFER

D. THE INFORMATION AGE AND THE PRODUCTION OF REAL WEALTH

E. LIBRARY OPERATIONS: ORGANIZATIONAL ASPECTS

F. TOUR OF THE DATA EVALUATION CENTERS OF THE OFFICE OF STANDARD REFERENCE DATA OF NATIONAL BUREAU OF STANDARDS

G. PRODUCTIVITY IMPROVEMENT THROUGH HUMAN FACTORS RESEARCH

H. THE WHOLE EARTH DATA BASE: BETTER METHODS FOR ORGANIZING AND FINDING NON-BIBLIOGRAPHIC INFORMATION

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DRAFTED BY AID/NE/TECH/HRST; COLEMAN; LRS;

APPROVED BY AID/NA/NE; WAFORD

AID/CA/NE; BLANCHARD

AID/NE/DP; JOHNSON

AID/NE/TECH; SHEPPER

AID/NE/E; REBUE (DRAFT)

AID/NE/NENA; BOOHEM (DRAFT)

AID/NE/NE; GRAMENS (DRAFT)

AID/NE/EUR; METERNE (DRAFT)

NE/TECH/HRST; BNEYMAN (DRAFT)

AID/GC/NE; BJANIGIAN (DRAFT) AIO/PPC/PB; ENUGHES-LEONARD

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TAGS:

SUBJECT: NEAR EAST REGIONAL S&T INFORMATION TRANSFER
X PROJECT, 298-0049 (STIT)

1. SUMMARY: AID/NE/TECH/HRST HAS DEVELOPED A PROJECT IDENTIFICATION DOCUMENT (PID) FOR 1983 - 87, SCIENCE AND TECHNOLOGY TRANSFER PROJECT (STIT.) THE PROJECT IS A SPIN-OFF OF A CENTRALLY FUNDED S&T PROJECT WITH THE NATIONAL TECHNICAL INFORMATION SERVICE (NTIS) OF THE U.S. DEPARTMENT OF COMMERCE (USDOC). THE GOAL OF THE STIT PROJECT IS TO BROADEN AND MAXIMIZE THE USE OF APPROPRIATE SCIENCE AND TECHNOLOGY INFORMATION IN SOLVING DEVELOPMENT PROBLEMS IN THE NEAR EAST. THE PURPOSE IS TWO-FOLD: 1) TO INCREASE THE FLOW OF, ACCESS TO, AND USE OF SCIENTIFIC AND TECHNOLOGICAL INFORMATION APPROPRIATE TO THE DEVELOPMENT OF THE NEAR EAST, AND 2) TO CREATE A SELF-SUFFICIENT MECHANISM WHICH WITHOUT OUTSIDE HELP, WILL PLAN, DIRECT, AND MANAGE THE FLOW OF, ACCESS TO, AND USE OF SCIENTIFIC AND TECHNOLOGICAL INFORMATION APPROPRIATE TO THE DEVELOPMENT OF THE NEAR EAST. THE COUNTRIES OF PRIORITY FOCUS (ESPECIALLY DURING THE FIRST YEAR OF THE PROJECT) WILL BE EGYPT,

TUNISIA, MOROCCO AND JORDAN. CYPRUS, LEBANON, OMAN, PORTUGAL, TURKEY AND YEMEN ARE ALSO SLATED AS POTENTIAL PARTICIPANTS. TOTAL LOP FUNDING IS A DOLS. 1.3 MILLION GRANT.

2. NEAR EAST ADVISORY COMMITTEE (NEAC) REVIEWED AND

APPROVED SUBJECT PID FOR ON JULY 12, 1983. NEAC DESIGNED THAT MINIMAL MODIFICATIONS, ALONG WITH FIELD COMMENTS ON THE PID, WILL PERMIT THE DOCUMENT TO STAND AS A PROJECT PAPER (PP). PID WAS PHONED ON JULY 26 TO PREPARE OFFICERS AT ALL CONCERNED MISSIONS AND TO ECONOMIC OFFICERS OR AID REPRESENTATIVES AT POSTS WITHOUT AID MISSIONS. FIELD COMMENTS ON PID AND ON THIS CABLE ARE REQUESTED BY AUGUST 31 SO THAT FIELD & HOST COUNTRY INTEREST CAN BE ASCERTAINED AND A DECISION REACHED ON HOW BEST TO PROCEED. THIS CABLE SUMMARIZES THE MAJOR POINTS OF THE PID IN CASE IT HAS NOT BEEN RECEIVED. END SUMMARY.

3. NEAC REVIEWED PID FOR STIT PROJECT ON JULY 12 WITH DAA/NE B. LANGMAYR AS CHAIRMAN. NEAC AGREED TO INCLUDE CYPRUS AS THE TENTH NE COUNTRY FOR POTENTIAL INVOLVEMENT IN STIT, RECOMMENDED FIRST PRIORITY ATTENTION BE GIVEN TO EGYPT, MOROCCO, TUNISIA & JORDAN. CYPRUS, OMAN, LEBANON, YEMEN, TURKEY & PORTUGAL WOULD ALSO BE ELIGIBLE FOR INVOLVEMENT, BUT THE SUBSIDY PROVISIONS MAY BE LIMITED.

4. PP IS TO NOTE THAT NTIS WILL CONDUCT CLOSELY WITH USAID MISSIONS AND AID/NA REGARDING EXTENT THAT LATTER COUNTRIES BENEFIT FROM NTIS MAILING SUBSIDIES AND PARTICIPANT TRAINING. NEAC NOTED STIT PROJECT MAY BE A HIGHLY SUITABLE ACTIVITY FOR PHASE OUT/DOWN COUNTRIES SUCH AS PORTUGAL & TUNISIA. NEAC DECIDED PP WOULD INCLUDE AN ANNEX WITH AN ASSESSMENT OF HOW THE STIT WOULD FUNCTION IN EACH PARTICIPATING COUNTRY (EG, MAIL, CUSTOMS CLEARANCE, DISTRIBUTION ETC.) AND A PLAN OF ACTION FOR IDENTIFYING, COLLABORATING WITH A COOPERATING AGENCY AND ITS CLIENTS IN EACH PARTICIPATING COUNTRY. NEAC REQUIRED THE PP TO DETAIL HOW EACH PARTICIPATING COUNTRY WILL WORK WITH AND ASSIST THE PRIVATE SECTOR AS BENEFICIARIES/CLIENTS, ALTHOUGH NOT NECESSARILY AS COOPERATING AGENCIES. NEAC ALSO REQUIRED THAT AN ANNEX TO THE PP DESCRIBE AID'S EXPERIENCE WITH NTIS IN TUNISIA AND IN LATIN AMERICA AND HOW THE STIT PROJECT WILL RELATE TO EGYPT APPLIED S&T PROJECT'S SCIENCE AND TECHNOLOGY INFORMATION COMPONENT. NEAC ENCOURAGED MISSIONS TO TOP OFF FUNDING OF STIT PROJECT ACTIVITIES IN THEIR COUNTRIES WITH TECH SERVICES OR OTHER BILATERAL PROJECT FUNDS WHERE SO INCLINED. FINALLY, NEAC AGREED WITH PID'S PROPOSED EVALUATION PLAN, BUT REITERATED IMPORTANCE OF AN INTERIM EVALUATION OF NTIS SUCCESS UNDER THE STIT PROJECT AFTER 12 - 18 MONTHS OF IMPLEMENTATION. IN PARTICULAR, THE NEAC FELT THE PROGRAM IN TUNISIA SHOULD BE EVALUATED EARLY GIVEN ITS LONGER INVOLVEMENT WITH NTIS. NEAC AGREED TO INTERIM FUNDING TO ALLOW ABOVE PID MODIFICATIONS TO BE ADDRESSED AND FIELD COMMENTS SOLICITED, SO THAT BOTH CAN BE INCORPORATED INTO THE PID TO PERMIT THE DOCUMENT TO STAND AS A PP. (NOTE: SINCE THE NEAC, INTERIM FUNDING HAS BEEN APPROVED.)

5. DEVELOPING COUNTRIES HAVE BEEN SEEKING BETTER ACCESS TO MODERN TECHNOLOGIES, IN PART THROUGH THEIR "TECHNOLOGY TRANSFER" DEMAND AT MULTINATIONAL FORUMS. AID, IN TURN, HAS CALLED FOR A STRENGTHENING OF THE ABSORPTIVE CAPACITIES OF THE LOCS. STIT ADDRESSES TWO OF THE FOUR AGENCY PRIORITY PILLARS: TECHNOLOGY TRANSFER AND INSTITUTIONAL DEVELOPMENT. REALIZING THAT A COUNTRY NEEDS TO HAVE AN INDIGENOUS CAPACITY TO CREATE, ADAPT AND APPLY APPROPRIATE TECHNOLOGIES FOR SUSTAINED DEVELOPMENT, THE PROJECT WILL NOT ONLY TRANSFER INFORMATION GENERATED IN THE U.S., BUT WILL ALSO FOSTER INFORMATION EXCHANGE AMONG DEVELOPING COUNTRIES. INSTITUTIONAL CAPACITIES TO HANDLE INFORMATION EXCHANGE WILL BE UPGRADED. SOCIAL INFRASTRUCTURE WILL BE BUILT/UPGRADED AS PEOPLE ARE TRAINED IN: OPERATING AN INFORMATION ANALYSIS, DISSEMINATION AND ORDER PROCESSING OPERATION; HOW TO EFFICIENTLY USE INFORMATION PRODUCTS AND SERVICES; HOW TO

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MAKE EFFICIENT USE OF INFORMATION PRODUCTS AND SERVICES; HOW TO DEVELOP MARKETS AND SALES PROMOTION TOOLS; AND HOW TO DEVELOP AN INFORMATION NETWORK WITH OTHER AGENCIES.

6. THE 1.3 MILLION DOLLAR FUNDING FOR THE PROJECT WILL BE USED FOR PREPARATION AND TRANSFER OF INFORMATION PRODUCTS AND SERVICES AND USER EDUCATION. NTIS WILL WAIVE 25 COMMISSION NORMALLY LEVIED ON THE SALE OF DOCUMENTS BEING USED TO BENEFIT CERTAIN POPULATIONS OUTSIDE NORTH AMERICA. UNDER STIT, COOPERATING AGENCIES WOULD PAY NORTH AMERICA PRICES FOR NTIS REPORTS, WHICH REPRESENT APPROXIMATELY A 50 PERCENT SAVING OVER INTERNATIONAL ORDERS.

7. IT IS PROPOSED THAT STIT BE IMPLEMENTED THROUGH A PAGA WITH THE NTIS. NTIS HAS HAD EXPERIENCE IN IMPLEMENTING TWO PREVIOUS AID PROJECTS WITH SIMILAR GOALS AND PURPOSES THAT WERE SEPARATELY FUNDED BY THE LATIN AMERICA AND CARIBBEAN (LAC) AND SCIENCE AND TECHNOLOGY (S&T) BUREAUS. NTIS WILL HAVE RESPONSIBILITY FOR THE FOLLOWING:

A. PROVIDING INCREASED ACCESS TO U.S. AND WORLD WIDE TECHNICAL INFORMATION PRODUCTS IN TEN NEAR EAST COUNTRIES.

B. INCREASING DEMAND FOR U.S. AND WORLD WIDE TECHNICAL INFORMATION FOR DEVELOPMENT PROBLEM-SOLVING BY SPONSORING SEMINARS IN PROJECT COUNTRIES TO BROADEN AWARENESS OF INFORMATION AVAILABILITY AND FOSTER CLOSER TIES BETWEEN COOPERATING AGENCIES AND THEIR OWN LOCAL USERS.

C. CONDUCTING WORKSHOPS AT NTIS FOR OFFICIALS OF COOPERATING AGENCIES TO PROVIDE THEM WITH KNOW-HOW CONCERNING ACQUISITION OF U.S. AND WORLD WIDE SCIENTIFIC AND TECHNICAL INFORMATION AND THE OPERATION OF A NATIONAL TECHNICAL INFORMATION SERVICE TO MEET NATIONAL NEEDS, INCLUDING THOSE GROUPS WORKING WITH LOW-INCOME PEOPLE.

D. PROVIDING TECHNICAL ADVISORY SERVICES INCLUDING USER EDUCATION AND MARKETING SUPPORT.

E. PUBLISHING AND DISSEMINATING APPLICATION OF MODERN TECHNOLOGY TO INTERNATIONAL DEVELOPMENT (AMTID) TO COOPERATING AGENCIES AS A BI-MONTHLY REPORT OF AVAILABLE NTIS ACQUISITIONS IN LOC INTEREST AREAS IN ENGLISH, ARABIC AND/OR FRENCH.

F. PRIORITY HANDLING OF NEAR EASTERN INFORMATION REQUESTS AND ADMINISTRATION OF AN AIR MAIL POSTAL SUBSIDY.

G. PROVIDING SPECIAL INFORMATION MATERIALS AND EQUIPMENT COMPATIBLE WITH THE CAPABILITIES OF EACH OF THE COOPERATING AGENCIES.

H. DEVELOPING SELECTED CASE STUDIES FOR THE ASSESSMENT OF PROGRAM BENEFITS.

8. IN THE PAST, SIMILAR PROJECTS WITH NTIS HAVE BEEN CHARACTERIZED BY A WIDE RANGE OF MISSION INVOLVEMENT, RANGING FROM LITTLE OR NO BACKSTOPPING REQUIRED BY MISSION PERSONNEL TO VERY ACTIVE MISSION PERSONNEL WORKING HOST COUNTRY COOPERATING AGENCY. THE FOLLOWING DESCRIBES TYPICAL MISSION INVOLVEMENT ANTICIPATED UNDER STIT PROJECT: MISSIONS WILL BE ASKED TO HELP SURVEY LOCAL PROVIDERS OF INFORMATION, ESPECIALLY ON SCIENCE AND TECHNOLOGY, AND IDENTIFY A COOPERATING AGENCY WITH WHICH AN AGREEMENT CAN BE SIGNED. MISSION PRIORITY SECTORS AND GROUPS WILL BE TARGETED, E.G. SMALL BUSINESSES, UNIVERSITIES. MISSION CONTACT OFFICERS WILL BE ASKED TO MONITOR PROGRESS OR UNEXPECTED PROBLEMS IN DEVELOPMENT OF

LOCAL SERVICE AT AGENCIES SELECTED. MISSIONS WILL BE AFFORDED, THROUGH THESE AGENCIES, IMPROVED ACCESS TO TECHNICAL INFORMATION FOR OTHER PROJECTS. THIS LIAISON SHOULD REQUIRE TWO TO TEN MORE DAYS PER YEAR, DEPENDING ON MISSION PRIORITIES. AS NTIS IS AN AGENCY OF USDOC, ECON/COMMERICAL OFFICERS WILL BE ASKED FOR INITIAL ASSISTANCE WHERE AID HAS NO PRESENCE.

9. NTIS PAGA WILL BE SIGNED BY AID/W AS A REGIONAL PROJECT. NTIS AND INVOLVED MISSIONS WILL AGREE ON SELECTION OF ONE OR MORE LOCAL COOPERATING AGENCIES TO MANAGE TWO FUNCTIONS:

A. PERFORMANCE OF ORDER-TAKING AND DELIVERY OF TECHNICAL REPORT LITERATURE IN PAPER AND MICROFICHE.

B. PROMOTION OF LOCAL AVAILABILITY OF THESE SERVICES.

THE COOPERATING AGENCY IN EACH COUNTRY IS EXPECTED TO SIGN A FORMAL AGREEMENT WITH NTIS WITHIN SIX MONTHS OF AGREEMENT IN PRINCIPLE. MISSIONS MAY BE REQUESTED TO ASSIST IN EXPEDITING SIGNING OF AGREEMENTS. COOPERATING AGENCY STAFF WOULD INCLUDE ONE CLERICAL AND ONE SUPERVISOR ASSIGNED TO TRANSMIT ORDERS, USE REFERENCE MATERIALS, RECEIVE INQUIRIES AND PROVIDE PROMOTIONAL ACTIVITIES. COOPERATING AGENCIES WILL TEST THEM FROM CLEARANCE PROCESSES FOR REPORTS (PRINTED AND MICROFICHE) THROUGH TRAIL DELIVERY, AS WELL AS DIFFICULTY IN REMITTING FOREIGN EXCHANGE AND POSSIBLE ALTERNATIVE ARRANGEMENTS USING NTIS DEPOSIT ACCOUNTS. ON THE ASSUMPTION THAT STIT PROJECT WILL BE AUTHORIZED IN FY 82, TRAINING HAS BEEN ORGANIZED ON-SITE IN WASHINGTON FOR CLERICALS AND SUPERVISORS IN MARKETING AND PROMOTION OF TECHNICAL INFORMATION FROM SEPTEMBER 26 - 30, 1983, FOLLOWED BY ANNUAL MEETING OF AMERICAN SOCIETY FOR INFORMATION SCIENCE FROM OCTOBER 2 - 5. DETAILED INFORMATION ON TRAINING ACTIVITIES WILL FOLLOW AT A FUTURE DATE.

10. DISTRIBUTION OF PERIODICAL CATALOGS, SPECIAL BIBLIOGRAPHIES IN ENGLISH, ARABIC AND/OR FRENCH, AND DEVELOPMENT OF INITIAL STANDARD MAILING LIST WILL BECOME REGULARIZED AFTER EIGHTEEN TO TWENTY-FOUR MONTHS. PLEASE ADVISE WHETHER FRENCH OR ARABIC PREFERRED FOR TRANSLATED MATERIALS.

11. IT IS PROPOSED THAT THE PROJECT HAVE A FULL TIME REGIONAL FIELD REPRESENTATIVE TO ENSURE PROJECT MANAGEMENT CONTINUITY THROUGH PERIODIC FIELD VISITS AND

TO BE ABLE TO BE MORE RESPONSIVE TO COOPERATING AGENCY NEEDS. INFORMATION NEEDS OF OTHER MISSION PROJECTS ARE TO BE CHANNLED THROUGH THE LOCAL HOST COUNTRY AGENCY, FOR CAIRO: AT NEAC REVIEW, DAA/HE LANGRISH SUGGESTED ABOVE MENTIONED FIELD REPRESENTATIVE RESIDE IN CAIRO. PLEASE ADVISE ON WILLINGNESS OF USAID TO ACCEPT PROJECT FUNDED REGIONAL RESIDENT ADVISOR.

12. EXPERIENCE WITH TWO PREVIOUS AID-FUNDED SIMILAR PROJECTS REVEALS FOUR TYPICAL PROBLEMS OF IMPLEMENTATION:

A. FOREIGN EXCHANGE RESTRICTIONS: HOST COUNTRY COOPERATING AGENCIES WILL BE KINDLY ASKED TO ESTABLISH DEPOSIT ACCOUNTS WITH NTIS IN THE AMOUNT OF DOLLARS 1,000. IF THE COOPERATING AGENCY CANNOT AFFORD TO DO SO, ALTERNATIVE ARRANGEMENTS CAN BE MADE. DEPOSIT ACCOUNTS WITH NTIS CAN BE PAID WITH DOLLARS FROM STIT FOR LOCAL EXPENSES. MONIES FROM OTHER INTERNATIONAL PROGRAMS, SUCH AS WORLD BANK, MAY ALSO BE USED.

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B. BUREAUCRATIC OBSTACLES HAVE BEEN CHARACTERIZED BY QUESTIONS CONCERNING WHO WOULD SIGN AGREEMENTS FOR STAT WHEN THERE IS NO CENTRAL BODY RESPONSIBLE FOR POLICE POLICY. POLICE STATE BUREAUCRACIES SELDOM HAVE PERFORMED WELL. PAPER-DOTAL OR PRIVATE NEGOTIATED NORMALLY PERFORM BETTER AS LONG AS THEY DO NOT EXPECT GREAT PROFIT FROM THE SALE OF INFORMATION. PERSONAL INITIATIVE AND INTEREST ARE USUALLY NEEDED ON THE PART OF INVOLVED PARTIES.

C. CUSTOMS CLEARANCES ARE USUALLY OBTAINED WHEN SINGLE COPIES HAVE BEEN SENT BY MAIL; OTHERWISE THEY MEET ENCOUNTER BOOK IMPORT RESTRICTIONS AND DUTIES.

MICROFILMS MAY GET DELAYED AS FILM RATHER THAN PRINTED MATERIALS. TRIAL DELIVERIES WILL HOPEFULLY DETECT PROBABLE PROBLEMS.

D. INADEQUATE MANAGEMENT CAPABILITIES ON THE PART OF LOCAL STAFF WOULD BE ADDRESSED BY A FIELD OFFICER CONTRACTED AND POSTED, POSSIBLY IN CAIRO. MANAGEMENT TRAINING WILL ALSO BE GIVEN, AND MISSION SUPPORT WILL BE SOUGHT IN THIS AREA.

13. WE REQUEST THAT COMMENTS ON AIR-POUCHED STAT PID AND THIS CABLE BE RECEIVED BY AUGUST 31. PLEASE CABLE RESPONSE TO ME/TECHHRST, CAROLYN I. COLEMAN. SHULTZ

REGIONAL S&T INFORMATION TRANSFER PROJECT

NEAR EAST BUREAU REGIONAL PROJECT

298-0049

PROJECT PAPER

ABBREVIATIONS

AID	Agency for International Development
AMTID	"Application of Modern Technology to International Development"
LA	Latin America
NE	Near East
NTIS	National Technical Information Service
PASA	Participating Agency Service Agreement
R&D	Research and Development
S&T/DIU	Science and Technology Bureau, Development Information and Utilization
TAB/OST	Technical Assistance Bureau, Office of Science and Technology

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PART I. Recommendation

The Near East Bureau recommends that AID/W approve this four year project and thereby approve negotiation and execution, subject to all applicable AID procurement procedures, of a new grant agreement to provide \$1.3 million to broaden and maximize the use of appropriate science and technology information in solving development problems in the Near East. Priority countries for the first year of this project will be Cyprus, Egypt, Jordan, Morocco, and Tunisia, in accordance with the project summary and description below. Successful strategies for the implementation of technical information services will later be adapted for Lebanon, Oman, Turkey, Portugal and Yemen. It is proposed that this project be implemented through a Participating Agency Services Agreement (PASA) with the National Technical Information Service (NTIS) of the United States Department of Commerce.

PART II. Summary Statement

The Agency for International Development proposes this project to provide for the creation of a regional network project for technical information services in the Near East to be implemented through a Participating Agency Service Agreement with the National Technical Information Service of the U. S. Department of Commerce. It will be a regionally funded technical assistance project, sponsored by the Near East Bureau, to improve access by the Near East countries to scientific and technical information resulting primarily from United States Government R&D. This R&D is valued at over \$21 billion annually (which constitutes more than half of the total annual U.S. investment in R&D). Almost half (\$9 billion) of government research is directed toward civil applications. Information generated as a result of this R&D is available through the National Technical Information Service (NTIS). In addition, NTIS provides access to similar R&D results and technological developments in other countries and to growing bodies of U.S. private sector technological information in the NTIS data base.

This project will be one of three AID projects with NTIS, all with similar goals and purposes. Of the other two projects, one has a Latin American (LA) focus, and one has an African/Asian/Near Eastern focus. Significant users of NTIS services in Tunisia were identified and served under the latter project. The projects were separately funded by the LA Bureau and S&T/DIU, respectively. The S&T/DIU project, which included funding for the NE, terminated in FY 83.

This project will operate in the Near East. The project will expand the existing technical information network in Tunisia and initiate activities in selected cooperating agencies in nine additional countries: Cyprus, Egypt, Jordan, Lebanon, Morocco, Oman, Portugal, Turkey and Yemen. Of these, Cyprus, Egypt, Tunisia, Morocco and Jordan will receive priority attention during the first year of the project. It is expected that at the end of this project document requests in the five priority countries should total more than 35,000 annually. The level of requests should increase to more than 70,000 a year by the end of the decade.

The project will be implemented through a PASA between AID and NTIS, giving the latter responsibility for the following: (1) providing increased access to U.S. and worldwide scientific and technical information products in designated Near East countries; (2) increasing demand for U.S. and worldwide technical information for development problem solving by sponsoring seminars in project countries to broaden awareness of information availability and foster closer ties between cooperating agencies and their own local users; (3) conducting workshops at NTIS for officials of cooperating agencies to provide them with know-how concerning acquisition of U.S. and worldwide scientific and technical information and the operation of a national technical information service to meet national needs, including those groups working with low income people; (4) providing technical advisory services including user education and marketing support; (5) publishing and disseminating, every two months, "Application of Modern Technology to International Development" (AMTID) to cooperating agencies as a report of available NTIS acquisitions in LDC interest areas;

(6) priority handling of Near Eastern information requests and administration of an air mail postal subsidy; (7) providing special information materials and equipment compatible with the capabilities of each of the cooperating agencies; and (8) developing selected case studies for assessment of program benefits.

This project is designed to overcome, as far as possible, the deficiencies and complaints which were determined from the evaluation of the Latin American technical information project. Thus, in response to the users' complaints about delayed receipt of requested materials, this project includes a provision for airmail subsidies to speed delivery without increasing users' costs. NTIS suggested the inclusion of a more intensive promotional campaign in the Near East to avoid the complaint found in Latin America that users did not understand the potential services available. They provide a guarantee of a replacement of any illegible document received, if that illegibility results from the NTIS reproduction process. These adaptations to reduce the flaws of the earlier projects should improve response in the Near East.

These NTIS activities will produce two major results: an operating network of cooperating agencies for transfer of U.S. scientific and technical information to nine LDCs in the Near East and an increase in the flow of U.S. scientific and technical information products and services to project countries. The achievements of the previous eight years of NTIS/S&T/DIU and NTIS/LAC/DR projects provide evidence that inputs can reasonably be expected to produce outputs and purpose forecast.

It is proposed that this project be implemented over a four year period,

during which project methodology and regional innovations can be evaluated. At that time also, the role of the network, vis-a-vis other international and regional programs, can be re-studied. The local agencies will develop their services with a longer term objective of financial self-sufficiency.

Funding level for Phase I of this project was \$153,000. The funding level estimated for Phase II is one million one hundred forty seven thousand dollars (\$1,147,000) to be incrementally funded as follows:

FY 1984 -----\$350,000

FY 1985 -----\$286,600

FY 1986 -----\$510,400

PART III. National Technical Information Service (NTIS)

NTIS completed thirteen years of service in 1983 as an agency in the Department of Commerce, but its predecessor organizations go back to 1945 when President Truman signed Executive Order 9568 establishing the Publication Board to make available Government research that had been withheld during the war because of security classifications. Soon thereafter, an amendment extended the Publication Board's mission to include the handling of enemy scientific and industrial information.

The U.S. has no national science and technical information system. Rather, it has a plurality of products and services offered by government and

private sources. Of these, NTIS offers the broadest range of products and services within the spectrum of science and technology. NTIS is an information service organization that channels information about technological innovations and other specialized information to business, educators, government and the public. Its products and services are intended to increase the efficiency and effectiveness of U.S. research and development, to support foreign policy goals by assisting the social and economic development of other countries, and to increase the availability of foreign technical information in the United States. NTIS undertakes and develops innovative information products and programs appropriate for Government, but only those which have the potential to become self supporting. The entire output of federal government-funded research and development is made publicly available by NTIS. This amounts to over half of U.S. research and development programs. NTIS has become the primary source of R&D results and technological developments in other countries. All general-use computer programs developed by U.S. government agencies are now available to the public as a result of an agreement between General Services Administration and NTIS.

NTIS ships approximately 23,500 information products daily as one of the world's leading processors of specialty information. It supplies its customers with about six million documents and microforms annually. The NTIS information collection exceeds 1.2 million titles, all of which are available for sale. About 200,000 of NTIS's research report titles are of foreign origin.

NTIS sells technical reports and other information products and services of specialized interest under provisions of Title 15, U.S. Code 1151-7. This law, which establishes the clearinghouse for scientific, technical, and engineering information, also directs NTIS to be self-supporting and recover its cost from the sales of products and services.

NTIS, therefore, is a unique government Agency operating very much as a business in the public service. It is sustained only by its customers. All the costs of NTIS products and services, including rent, telephone, salaries, marketing, promotion and postage, are paid from the sales income as opposed to tax-supported Congressional appropriation. Congress does, however, assign very limited funds to NTIS that are earmarked for small development and experimental projects.

NTIS is the central source for information about U.S. government inventions. It handles the promotion, licensing, and foreign patent filing for those inventions assigned to the Department of Commerce. As the largest single source of U.S. government sponsored scientific and technical information, it covers the broadest possible spectrum of useful information. At one end are those sophisticated techniques that the post-industrialized world has come to depend upon for high energy use and capital intensive products. At the other end of the spectrum, NTIS has catalogued more than four thousand reports of a strictly "appropriate technology" classification, and has been adding between 50 and 100 new reports per month from less developed countries. The technologies in these reports tend to have the following characteristics:

1. They can be operated and maintained locally;
2. They are labor intensive;
3. They use renewable energy sources;
4. They make maximum use of local resources and skills;
5. They are specially designed to accommodate local values and needs.

NTIS offers each participating country relatively quick, easy, and inexpensive access to this diverse information collection.

NTIS is presently integrating into its own operation the Smithsonian Science Information Exchange database, a current listing of research-in-progress usually under government sponsorship. NTIS has formal relations with the Department of Energy Technical Information Service, Educational Resources Information Clearinghouse, Defense Technical Information Center, Department of Health and Human Services, and the Health Research Planning Information Center. The International Program of NTIS has established close working relationships with organizations familiar with development for specific project collaboration such as Volunteers in Technical Assistance (VITA), International Technology Development Group (ITDG), and the Denver Research Institute.

Timely and continuous reporting to subscribers is ensured by agreements among NTIS, research sponsoring organizations, and special technology groups. NTIS is the marketing coordinator for the latter, for their publications, technical inquiries, and special analyses.

Subscriber access to documents has been most commonly through the AMTID listing of new accessions which is published every two months. In Latin America the NTIS has found that about 85% of requests originate from readings of the AMTID lists. Customers may also quickly locate summaries of interest from among 750,000 federally sponsored research reports completed and published from 1964 to date by using the Agency's online computer search service ("NTISearch") or the more than 2,000 "Published Searches" in stock. About 70,000 new technical summaries and reports are added annually. Copies of the full research reports, on which the summaries are based, are sold by NTIS in paper or microform.

The NTIS Bibliographic Data Base (on magnetic tape) includes unpublished research summaries. Summaries of current research reports and other specialized information in various categories of interest are published in a

wide variety of weekly abstract newsletters and indexes. A standing order microfiche service, SELECTED RESEARCH IN MICROFICHE (SRIM), automatically provides subscribers with the full texts of research reports, specially selected to satisfy individual requirements.

Part IV. Project Background and Detailed Description

A. Background and Problem

In recent years, the less developed countries have been seeking better access to modern technologies, in part through their "technology transfer" demands at multinational forums. AID, in turn, has been calling for a strengthening of the absorptive capacities of the LDCs. The project described herein represents a specific and realistic response to current widespread interest in facilitating a flow of technologies to the LDCs of the Near East.

The project seeks to do the following:

1. To increase the flow of, access to, and use of scientific and technological information appropriate to the development of the Near East.
2. To create a self-sufficient mechanism which, without outside help, plans, directs, and manages the flow of, access to, and use of scientific and technological information appropriate to the development of the Near East.

The importance of technological information has long been recognized by developing countries. At the 1979 United Nations Conference on Science and Technology, the following position was taken by the Group of Seventy-Seven delegates:

For developing countries to attempt . . . to generate all the scientific and technological knowledge required for their development without making full use of the relevant knowledge already available through the work of scientists and technologists all over the world, would not only be a task of extreme difficulty but would also be wasteful and unreasonable. It would not only extend beyond acceptable limits the time-frame in which these countries could hope to achieve their development goals but also . . . retard technological progress in all countries.^{1/}*

Officially, the United States has long espoused a free international market for information and ideas. Therefore, the notion of sharing technological and scientific information with developing countries gets a warm reception from planners of development assistance.

. . . in order to have an effective transfer, the information base in the developing countries must be broadened to permit them to select what they need from the informational supermarket of technology, to reject what they do not need, to choose among the competitive offerings, and to acquire what is most appropriate and economical to their development needs.^{2/}*

The nucleus around which the project is formed is the large and varied collection of the National Technical Information Service (NTIS) of the Department of Commerce. This collection is based largely on information generated as a result of U.S. Government-sponsored research and development

*Endnotes are on page 59.

activities. It also provides access to large bodies of private sector knowledge from the U.S. and abroad. Annex C gives an illustrative list of major donors to the NTIS system. (See page 64)

In answer to expressed desires by host countries, NTIS will accumulate appropriate technology collections on a worldwide basis in order to develop this essential resource. Over the last several years, a large number of smaller agencies have been established with various limited objectives in servicing LDC interest in development information. The volume of business done by these organizations has grown steadily and many find the burden of prompt response to an expanding number of requests excessively taxes their structure and resources. The centralization of appropriate technology information will facilitate the use of low-cost retrieval and dissemination techniques as well as be a real service to the inquirer who is now often uncertain as to which agency to address requests for information on a particular technology.

Technical information is a development tool which involves a variety of resource materials and services. Technical information services have a fundamental role to play in both regional and country development programs. These media constitute a channel of major significance for a continuing flow of U.S. technical, managerial and developmental expertise. Concepts transferred for economic development can solve or facilitate solutions to specific technical and conceptual problems. Backstopping and reference materials constitute an essential tool for U.S. and LDC experts engaged in specific technical assistance projects overseas. With the resource materials which can be provided, substantial time can be saved in preparatory and analytical work. The actual work of the expert is made more effective. Also, with a well structured and appropriate supply of technical

resource materials, trained persons can provide specific training and advice even for subject areas in which they lack expertise, thus reducing program costs.

The following list suggests some sources of appropriate technology information worldwide:

Academy of Scientific Research and Technology - Egypt

Intermediate Technology Development - England

Brace Research Institute - Canada

Appropriate Technology Cell - India

Technology Consultancy Centre - Kumasi

International Rice Research Institute - Philippines

Earth Resources Development Research Institute - United States

Division of Microprojects - Netherlands

Appropriate Technology Development Unit - India

A competent LDC implementing institution is essential for effective in-country use of technical information flowing from other lands. Without such a bridge between the knowledge donor and the host country user, the knowledge transfer process simply does not work. The purpose of this project is to improve information transfer services. This improvement in access to R&D results relevant to development throughout the Near East will be achieved by broadening and strengthening the technical information services of local agencies. The NTIS data files provide access to a large number of international scientific and technical documents containing information appropriate to the development of the Near East.

This project addresses two of the four priority pillars of AID: technology transfer and institutional development. For sustained development, it is crucial that a country have an indigenous capacity to create, adapt and apply appropriate technologies to development needs. The information that is needed is often absent. This project will not only transfer information generated in the U.S.; it will foster information exchange among developing countries. Institutional capacities to handle information exchange will be upgraded. The social infrastructure will be built as people are trained in how to operate an information analysis, dissemination and order processing operation; how to efficiently use information products and services; how to make efficient use of information products and services; how to develop markets and sales promotion tools; and develop an information network with other agencies.

B. Detailed Description

The goal of this project is to broaden and maximize the use of appropriate science and technology information in solving development problems in the Near East. The project purpose is two-fold: 1) to increase the flow of, access to, and use of scientific and technological information appropriate to the development of the Near East, and 2) to create a self-sufficient mechanism which, without outside help, plans, directs, and manages the flow of, access to, and use of scientific and technological information appropriate to the development of the Near East.

The project has two main components. The first one is designed to strengthen technical information service and staff capabilities of the Near Eastern cooperating institutions linked through bilateral agreements with NTIS, to expand the technical information network to include an appropriate technology component, and to expand the network of cooperating institutions (especially those serving the private sector) in ten Near Eastern countries. The second is designed to stimulate greater awareness of U.S. and worldwide technical information in order to increase public and private contacts on research, development, and application of appropriate technologies to meet LDC development needs. The countries of priority focus will be Egypt, Tunisia, Morocco and Jordan. Successful strategies developed in these countries will be adapted in the following countries: Cyprus, Lebanon, Morocco, Oman, Portugal, Turkey and Yemen. (Tunisia is the only one of the aforementioned that already has had an agreement with NTIS through the AID centrally-funded project.)

Documents will be disseminated through a local cooperating agency. This agency will maintain a facility readily accessible to the public. This facility will contain the microfiche key-word index with summaries of available documents. This facility will provide a point for the ordering of NTIS documents. One staff person, at least, will be available to assist users in information search efforts.

The cooperating agency will also be responsible for making potential users aware of the services available. The awareness efforts will involve the holding of seminars at selected institutions describing available services, and the distribution of synopses of new acquisitions (AMTID summaries).

Requested reports will be sent from the NTIS U.S. headquarters. Shipment will be by air with NTIS covering the cost difference between surface and air postage. The user, except for selected institutions serving the poor, must pay the costs of reproduction and shipment. The poor oriented institutions will receive documents free of charge.

Consideration must now be given to a mechanism for delivering this appropriate technology into the hands of its potential user population — the productive (mostly private) sector. NTIS experience in other regions shows that between 54 and 79 percent of the spontaneous market for NTIS reports is comprised of relatively small, innovative businesses.

In order to reach other AID target populations — specifically the economically disadvantaged, intermediaries will be sought, capable of adapting the information into a useful format, introducing it into a context

where there is a high propensity to utilize the information in a productive activity. Thus, private voluntary organizations will be targeted as users of information for the disadvantaged sectors.

Insofar as any sector of priority interest to a USAID Mission is not included in the established scope of clientele targeted by the cooperating agency, a sub-agency arrangement is foreseen to assure that a competent, information dissemination organization will look after the requirements of this sector.

There is no Near Eastern country in which a single organization concerns itself with the entire range of problems of the poor. On the other hand, experience has shown that there are definite advantages to working with only one cooperating agency in each country. For this reason, NTIS will use an existing broad-base information dissemination organization as the central node for the distribution of appropriate technology to the target groups. Since the NTIS cooperating agencies will be broad based information dissemination organizations, it follows that they will serve as the central nodes of the program in their respective countries.

It will be the responsibility of the cooperating agencies to seek, contact and work with the target groups. In cases in which the basic mission of the cooperating agencies does not permit or is not conducive to this kind of activity, one or more "subagents" will be established. These subagents will be organizations which normally work with the target groups, and which have the capability of carrying the project to those groups. An example of such a subagent would be an information center within a ministry of housing, public health, or agriculture.

The subagents will promote appropriate technology materials to the target groups, accept orders (which would be charged against the NTIS deposit account number of the cooperating agency), and participate in and help to organize seminars and exhibits aimed at the target groups. They would be eligible to send staff members to the NTIS Workshop/Training Program Sessions and accrue certain other benefits provided by the Program.

Several special techniques will be used in an effort to "zero in" on the target groups and, ultimately, their clientele. Perhaps the most important will be a series of in-country seminars, designed to introduce the target groups to the importance of technical information to their activities and to available sources of this information. Secondly, special bibliographies covering selected appropriate technology subjects will be published in Arabic, English and French. Third, selected high interest documents will be in Arabic, English and French. The cooperating agencies, subagents, and USAID Missions will assist in selecting materials for translation. Finally, since the target groups are the kinds of organizations which are usually underfunded, limited financial assistance will be provided them for the purchase of appropriate technology materials.

One final strategy should here be mentioned. NTIS will seek involvement of the USAID Missions in these programs that will be done through mailings describing the program and its activities, as well as through personal contacts. The Missions will be asked, where possible, to assist the program in several ways. These include identifying, contacting, and evaluating potential cooperating agencies, subagents, and target groups; selecting

documents for translation; and alerting NTIS to appropriate technology materials or sources which might not otherwise come to its attention.

The end-of-project conditions projected from these components are the following:

1. Local cooperating agencies in the NE countries capable of serving as a national focal point to direct and manage the flow of, access to, and use of scientific and technological information adaptable to each of the involved countries;

2. A technology information network established through bilateral agreements;

3. Communication networks between information sources and users. Each local cooperating agency will have two or more information scientists who have been trained in the United States and who are knowledgeable about world information sources, private and public, and have skills in ordering, retrieving, and disseminating technical information;

4. LDC cooperating agencies actively involved and committed to the education of potential users of U.S. and worldwide technical information;

5. Useful local research and development knowledge collected by local organizations in the Near East.

6. Requests for at least 30,000 documents per year to indicate wide application of research and development results to problem-solving in the Near East.

7. New and more effective channels for exchange between Near Eastern R&D institutions and U.S. counterparts.

8. Increased responsiveness by Near Eastern countries to acquiring research and development that contributes to urban and rural development.

9. A question/response network that obtains development-specific information on a country and regional basis.

The following project outputs are anticipated:

1. Introduction of computerized information search and retrieval techniques in at least four countries possessing adequate infrastructure. This will include long distance, on-line searching of American and European data bases where telecommunications are adequate to support this activity. Local computer centers will also be offered machine readable subsets of the NTIS data base for access by the local user population.

2. A search system which will yield summaries of all items in the NTIS collection containing information on any topic of interest. The full text of the items may be requested through the local cooperating agency, if desired. The remote terminals will be located at the offices of the cooperating agencies and at any other appropriate organization within the network countries. The cost of the data base, necessary programming and staff training by NTIS will be provided with project funds. All other costs (computer time, communication line use, etc.) will be borne by the cooperating agency or the end user, except in the case of the utilization of the appropriate technology component. When an organization utilizes this component, a determination of ability to pay will be made by the Cooperating Organization representative. In the event it is concluded that the organization is unable to pay, then credit can be extended from a deposit account specifically created for this end. Other data bases—both commercial and governmental—will be deposited at the central computer facility, so that the information that they contain can be searched throughout the network. The possibility of interfacing and integrating this network with the information center program will also be explored.

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3. Publication and dissemination of the bulletin entitled, "Application of Modern Technology to International Development" (AMTID). This bulletin will be produced every two months, highlighting newly available appropriate technology information. In addition, AMTID will provide current available information of interest overseas, reannounce useful but older technical reports, advertise cooperating agency services, and alert readers to new information sources and international activities pertaining to technical information. Approximately 1000 copies of each issue will be circulated through the outlets. Of these, 300 will be directed to specific addresses.

4. Quarterly newsletters for the cooperating agencies to provide a forum for exchange of ideas and experiences, especially "success stories" about users' implementation of new appropriate technology information.

5. Approximately 25 individuals from the centers will receive training in the USA in the methods and techniques of information transfer.

6. Seminars for participating member agencies on appropriate technology information and dissemination.

7. Training for agency representatives at NTIS on methods and techniques of information transfer.

8. A translation capability within the network, capable of translating documents determined to be in greatest demand by the LDCs of the Near East. Documents which can be identified as impacting directly on the development of the urban and rural peoples of the Near East will be translated in their entirety for distribution. Determination of which documents will be translated will be based upon criteria established by NTIS, USAID and Agent Representatives.

9. A \$1,000 deposit account for each participating agency to be

utilized for transfer of appropriate technology information. This deposit account will be maintained at NTIS and will be utilized when an organization is unable to financially afford the technical information requested.

9. A questionnaire in French/English/Arabic developed to enable NTIS to obtain specific information concerning the impact, utilization and suggested utilization of relevant appropriate technology information.

10. An evaluation plan to record and measure outputs listed above. The plan will place special emphasis on tracing the success of the project in reaching the target population of the participant countries with focus on the provision and utilization of appropriate technology information.

Inputs

This project will provide one million dollars over a four year period to allow NTIS to provide the technical services, training, backstopping and physical inputs necessary to achieve the stated outputs and purpose.

The following project inputs will be required:

A. Identification, Equipping, and Staffing Implementing Agencies in Near East Countries. A competent LDC implementing institution is essential for effective in-country dissemination of technical information. Without such a bridge between the cooperating institutions, documentation access is unavailable, and the expected technology transfer or development does not take place. AID proposes that NTIS use its own staff and selected subcontractors to select local cooperating agencies where none now exist among the participant countries and to train local personnel in the accessing of local, regional, and worldwide sources of technical information. Concentration will be on enabling the local staff to become self-sufficient information managers, with proper manuals and procedures to

accommodate personnel changes which often plague such offices, Organizations will be selected for their potential in carrying out project objectives and growing into viable, self-sustaining information services. Bilateral agreements between NTIS and the local agencies will define responsibilities and objectives to be achieved.

B. Equipment Requirements. Once agreements have been signed, NTIS will provide for the following commodities and subsidies which form the core of the project, subject to modification as deemed necessary by project participants:

The cooperating agencies will receive;

1. A set of NTIS indexes(regularly updated) and other reference materials;
2. Five free subscriptions to classifications of AMTID news letters;
3. A microfiche reader and and index file;
4. Specialized training both on-site and at international workshops held in Washington (at least once a year) on various aspects of information systems management, including searching, abstracting, and ordering information from various sources.
5. Training in marketing and promotion as well as materials required in the course of outreach activities.
6. One base set of AMTID newsletters for the duration of the project and at least 5 additional copies of selected subjects.

Subsidies for users are:

1. Payment of airmail differential;
2. A 25% discount on the document price;
3. Waiver of document fee for "deserving" organizations;
4. A limited number of free copies of AMTID.

It should here be noted that NTIS contributes (without reimbursement from AID) a 25% commission on the sale of documents to help defray cooperating organization operating costs. There is a 100% subsidy for documents being used to benefit marginal populations and a 100% subsidy for the cost of airmail delivery of documents. AMTID, a monthly announcement catalogue of recent acquisitions, is provided free to each cooperating agency for local distribution. However, not all agencies input all of their documents. With respect to the current program, there are two main reasons for this: (a) because it is self-supporting, NTIS charges source clients an input fee; and (b) because traditionally there has been little or no market through NTIS for appropriate technology, many agencies have been reluctant to pay the above fee. NTIS will, however, waive the input fee on documents relevant to this program. Also, the program itself will create a market for appropriate technology materials.

With these barriers removed, the NTIS Chief of Acquisitions will seek appropriate technology materials which have not been made hitherto available through NTIS. This process has already started. For example, at one time virtually all U.S. AID unrestricted publications were made available through NTIS. AID subsequently ceased to input these publications because of the fee. Now that NTIS has agreed to waive the input fee, AID is once again making its documents available through NTIS.

Another source of information appropriate to the special needs of the LDCs is the LDCs themselves. NTIS will request that cooperating agencies identify and collect appropriate technology materials originating in their own countries. These materials will then be made available through NTIS.

C. Training. This includes the following:

1. Seminars in at least three Near Eastern countries to foster close ties between cooperating agencies and local industry, government and

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information and patents, and all organizations desiring access to appropriate technology and information focused on the poor. The seminars will provide a showcase for the LDC organization to display its expertise and strengthen its relationship with AID/NTIS constituency. The seminars should result in increased confidence of the LDC agency staff in itself and should increase the confidence of the clients in the agency. Increased demand for U.S. technical information utilizing appropriate technology will also be a product of these seminars.

2. Workshops at NTIS to introduce cooperating agencies to model information systems and services and to transfer know-how concerning acquisition, input processing, storage and retrieval, announcement, marketing, reproduction in both paper and microfilm, and processing requests. Participants in the workshops will be introduced to many other major elements of the U.S. information industry -- private as well as governmental. Elements of the workshop will be produced on video tape for use by cooperating agencies in training their support staff and other national information entities with which they work. NTIS will offer follow-up courses for former workshop participants, specializing in subjects of greatest need, such as user education.

D. Staffing Requirements Within the Region. It is necessary in the first stages of this project that local staff be designated by the Cooperating Organization (CO) to implement many of the project activities which may actually be outside of the organizational charter and normal operations of the CO. To take full advantage of the network's operations, two kinds of staff support will be required in-country:

1. Network staff, one full time position per country;
2. A regional project field officer, under contract to the project, located in Egypt.

Considering the desire of the project to accommodate lower-income sectors of the population, support is required by the regional program for effective outreach and client service. Local staff together with a regional extension or field officer will have to coordinate training, orientation, provision of supplies, and design and dissemination of publications.

1. Network Staff. The full time staff position is filled at the pleasure of the CO director within the office which manages information activities for the organization. The job includes the following activities:

- A. Sending and processing overseas orders.
- B. Giving User Awareness Seminars and training to local potential user groups.
- C. Identifying local/national sources of indigenous information and documenting how such services may be accessed by national and other users in network countries.
- D. Writing announcement information and promoting local information in regional newsletters.
- E. Disseminating newsletters, promotional material, and bulletins to their respective countries.
- F. Developing case studies, documenting how information was used and, to the best of his/her knowledge, to what benefit, as well as performing other evaluation data-gathering activities.

G. Disseminating information to low-income groups and informing human service organizations about the appropriate technology subsidy and technical back-up system.

H. Reporting monthly progress toward project objectives, including sectors reached and coverage obtained.

I. Working closely with other network members and the project field officer.

2. Regional Project Field Officer. A project field officer will be contracted to manage, coordinate, and consistently improve the communications and operation of the network. He/She will oversee all on-site training activities and operations, compile data collected by local staff, and assist in the design and dissemination of outreach materials throughout the region. The field officer will support staff during training exercises and help organize participation in international meetings.

The field officer will be responsible for coordinating support by NTIS and the local CO for AID projects in each country as well as activities by Peace Corps, International Executive Service Corps, and other voluntary organizations active in the region. He/She will coordinate case study development and other evaluation activities to make sure that project objectives are being met within project design.

These staff members will be the focus of training efforts in the countries. Each agency will have one trained information specialist, and, when possible, a back-up person on the same staff.

NTIS Contribution

In addition to the inputs mentioned above, NTIS will contribute "in kind" as follows:

1. Provision of competent and innovative managerial leadership, beyond the positions allocated in the AID input. These include the NTIS's director, the entire Office of International Affairs staff of seven professional, three clerical and 14 technical information specialists responsible for analyzing information pertinent to LDCs. Administrative support procurements, travel, legal, budget, and accounting personnel are also included.
2. Subsidization of sales to LDCs, in two ways:
 - a. NTIS places a 100% surcharge on the document price for foreign users. This surcharge will be waived for orders through the cooperating agencies in this project.
 - b. Cooperating agencies receive a 25% discount on transactions. This is a commission credited to their accounts, and a loss of income to NTIS.

3. NTIS will continue to provide its mailing lists of clients to the cooperating agency. Average value per customer is \$50.00 annually.

Host Country Contribution

Generally speaking, the LDC cooperating agencies are government organizations. Therefore, their government's contribution is that of (1) establishing the agency as a development tool and enacting the necessary legislation that will enable it to function as an arm of the NTIS network; (2) providing an annual operating budget; and (3) stimulating a receptive environment in the country for R&D information transfer.

Each cooperating agency contributes the following:

1. A \$1,000 cash deposit in its NTIS account to act as a credit toward future purchases. (If the country cannot afford to pay this deposit at all or can pay only in their own local currency, NTIS will negotiate an acceptable arrangement [with the approval of AID].)

2. Management and clerical time to promote NTIS products and services; processing orders resulting from this effort; floor space and office overhead costs to house this new function; travel throughout the country to educate potential users and promote the products and services; participation in the NTIS Information Systems workshop in Washington, D.C.; postage costs to distribute AMTID to the established user list and to the organization's own mail list. As promotion increases, so demand and customer service will increase. Actual costs will differ from country to country, but the cost of such an effort (assuming an average of two full-time employees for most agencies) will be approximately \$25,000 for the first year, increasing as the sales' pace increases.

Assumptions

Key assumptions for goal, purpose and output relationships are:

1. Countries will acquire and utilize technological information rationally if a system exists to facilitate its transfer and use.
2. Countries will continue to strengthen their science and technology infrastructure and their efforts to expand and broaden the outreach of their scientific and technical information services in response to growing national needs.
3. A significant and increasing share of U.S. and worldwide research and development generates publicly-available information of value to problem-solving in developing countries.

A detailed Logical Framework appears in Annex A.

Part V. Project Analyses

A. Technical Analysis

A project similar to that described herein proved relatively successful during a TAB/OST-NTIS experimental project from FY 72 through FY 75. An extensive evaluation was conducted in March of 1976 and, two projects evolved from it: one in the Latin America/Caribbean Bureau and the other in the Development Support Bureau. In 1982, Inter-America Research Associates, Inc. (IRA) was contracted by LAC/DR to evaluate the utilization of technical information provided by the NTIS network. This study revealed that 81% of end-users utilized the information acquired in an "applicative" mode, with 34% of the total actually using it in a "hands-on" degree of application. Fully 96% judged the information useful. This indicates that access to the information provokes a high degree of utilization even though

the project does not program that amount of follow-through. Consequently, an elaborate and lengthy technical analysis is not necessary at this point.

Given the success of NTIS efforts thus far in improving access to U.S. scientific and technical information (as reported in the TAR/OST evaluation document), as illustrated by the more than 9,000 requested research abstracts and reports distributed to Latin American countries in 1976, it appeared that this method of information dissemination was appropriate. This assumption was confirmed in 1982 in the evaluation of the LAC funded project. While other methods of information transfer will be explored during this project period, such inputs as the training of staff in host country agencies, provision of available information through NTIS catalogues, the response of NTIS to specific requests for information user education, the development of an appropriate technology component within NTIS, follow-up, and evaluation will all continue to assure that the project purpose is accomplished.

A recent sampling of user demand illustrates the pragmatic, problem-solving nature of the type of information currently requested by LDCs. In the LAC funded project, 54% of the clientele are private firms or industries, with the balance fairly evenly divided among autonomous organizations, universities and research institutes, government ministries, PVOs and consultants or students. The summary of the IRA findings is in Annex B.

<u>Field of Interest</u>	<u>% of Demand</u>
Engineering Materials	46
Environmental Pollution & Control, Water Resources	16
Energy Sources	11
Agriculture, Aquaculture and Food Technology	11
Information Sciences, Computers, Communication	11
Management, Administration	5

There are no special impediments known at this time which might be important in limiting the project's success. Surveys conducted in the previous projects indicated that, although most material made available through the NTIS program was in English, it did not prove to be a substantial barrier to its use. However, as the appropriate technology section is developed, the materials will focus more directly on the urban

and rural development problems of each country. Since some of the current organizational users and many of the projected users do not read English, many of the materials disseminated under the appropriate technology component will be translated into Arabic.

The experience in Tunisia has been that the University Consortium is the dominant user. In order to obtain a wider impact more attention is given in this project to the dissemination of information about the NTIS document library. For this reason the project contains a considerable component of training and for the holding of seminars.

B. Financial Analysis and Plan

1. Return on Investment

The immediate intended beneficiaries of this project are public and private organizations and individuals in the Near East for whom access to U.S. technology and world-wide appropriate technology may result in more effective selection, transfer and adaptation of technology. This can be considered the initial target group. However, as noted in the section on project issues, the ultimate target group represents a very much larger fraction of the population (those who receive the benefits of appropriate technology transfer in the urban and rural areas of the Near East) which will benefit from the redeployment of savings and new income generated from improved choices in industrial and rural research and development and in public investment.

A profile of some 4,000 regular users of technical information in LDCs shows the following distribution:

101'

Business/Industry/Professional	79%
Government	7%
Individuals	5%
Libraries	4%
Universities	4%
Other Categories	1%

This distribution is based upon the previous AID funded NTIS projects which mainly focused on the transmittal of scientific and technical information to professional groups. The current project, while not disregarding the professional groups, will also focus its efforts on the development of an appropriate technology component for the dissemination of information to organizations and individuals that deal specifically with development problems of the urban and rural poor.

2. Financial Plan

The cost estimate and financial plans presented below are based on cost experience in the recently terminated projects. This project will operate with a major cost attached to the components for preparation and transfer of information products and services and user education.

INCREMENTALLY FUNDED PROJECTS
PROJECT SUMMARY -- AID APPROPRIATED FUNDS
(in \$ 000 or equivalent)

Regional Project
for the Near East

Project No.: 298-0049

Regional S&T Information
Transfer Project (NTIS)

Cost Components

BUDGET YEAR

	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>Total</u>
1. Preparation and Transfer of Infor- mation Products and Services	51.4	50.3	50.6	22.8	175.1
<u>Salary and Benefits</u> U.S. Technicians					
Office Director	5.0	5.3	5.5	2.75	18.55

Project Manager	21.5	22.1	22.5	11.25	77.35
Operation Assistant	14.4	15.5	15.9	7.50	53.30
Administrative					
Assistant	8.5	9.1	9.3	4.50	31.4
International					
Services					
Assistant	3.5	3.7	3.9	2.00	13.1
Secretary	3.2	3.4	3.7	2.00	12.3
Secretary	11.0	11.3	11.9	6.00	40.2
NTIS Benefits (9.2%)					
of Personnel Cost	6.2	6.5	6.7	3.40	22.8
Logistical Costs					
(Floor space, communication, utilities and postage)	7.5	7.2	7.0	3.00	24.7
Air Mail Subsidy	1.0	2.0	3.5	----	6.5
				Subtotal	475.3
2. Seminar Preparation and Implementation	8.5	8.8	10.5	5.25	33.05
				Subtotal	33.05
3. Participant Training (Student Subsidy for NTIS Information System Workshop)	15.0	14.3	18.0	10.5	57.8
				Subtotal	57.8

4. User Education					
AMTID (Graphics, print, mailing)	34.0	24.0	20.0	11.0	89.0
Arabic and French Translation	19.8	13.0	19.0	12.0	63.8
Print Advertise- ment & Audio- visual Exhibits)	7.0	6.5	6.0	3.0	22.5
Special Bibliogra- phies	8.0	6.5	6.8	5.2	26.5
				Subtotal	264.3
5. U.S. Advisor	32.0	33.0	34.0	18.0	117
Translator	14.0	2.0	2.0	2.0	20
				Subtotal	137
6. International Travel	8.5	5.0	5.0	4.0	22.5
				Subtotal	22.5
7. International Meetings	1.0	1.0	1.0	1.0	4.0
				Subtotal	4.0
8. Per/diem	8.5	7.0	8.5	5.0	29.0
				Subtotal	29.0

9. Commodities (Computers, Information Resources, Pamphlets and Newsletters)	5.0	8.0	8.1	6.00	27.1
Microfiche Equipment	4.5	2.1	2.0	---	8.6
				Subtotal	25.7
10. Subsidy of reports to the poor	2.0	4.0	4.0	4.00	14.0
				Subtotal	14.0
11. Deposit Account	3.0	4.0	4.0	----	11.0
				Subtotal	11.0
12. Evaluation	35.0	----	50.0	----	85.0
				Subtotal	85.0
13. Contingencies and Inflation	8.0	8.0	8.0	8.00	32.0
				Subtotal	32.0
14. Misc.	3.0	3.0	1.5	1.35	8.85
				Subtotal	8.85
TOTAL	350.0	286.6	348.9	161.5	1147.00
GRAND TOTAL					1147.00

IN-COUNTRY SEMINARS COST ESTIMATE

AID

NTIS Participants

Travel	\$17,150
Per Diem	\$24,000
Shipping of Exhibits and Printed Materials	\$ 4,600
Preparation of Printed Materials in French/Arabic	\$25,500

HOST COUNTRY

Rental of Space and Fixtures	\$ 5,700
Publicity	\$ 4,500
Refreshments	\$ 1,800
Interpreter	\$ 3,900
Transportation (within Host City)	\$ 400
Management Costs (Salaries, costs, etc.)	\$ 6,000

INFORMATION SYSTEMS WORKSHOPS

COST ESTIMATE

AID

Salaries of Personnel Not

Normally Assigned To This Project-----\$21,000

Field Agent Training

(3 sessions)-----\$ 3,000

Materials (including study and

reference texts)-----\$ 2,000

Travel and Per Diem for Selected

Individuals-----\$46,000

HOST COUNTRY

Travel and Per Diem-----\$40,000

NTIS

Transportation (in town)	\$ 4,000
Computer Time (on-line search training)	\$ 1,600
Overhead	\$ 900

C. Social Analysis

The proposed NTIS project is aimed at a combined audience of professionals as well as those identified as comprising the economically disadvantaged.

There are several reasons for this dichotomy.

1. The technical sophistication of currently available information is largely of little direct use to the economically disadvantaged. This is because in some cases the implementation of sophisticated technological or scientific techniques requires resources, entrepreneurial skills and coordination not totally available at the lower socioeconomic levels. However, the information will have direct application to the poor of the Near East through use by scientific and technical personnel.

2. Those individuals or groups who have been identified as comprising the economically disadvantaged have more specific information requirements. Filling these requirements, which lack the sophistication of high level technology and center primarily on the intermediate level or the "appropriate technology level," can provide and contribute significantly to the amelioration of under-utilization of economic resources.

Theoretically, any program that acts to improve the general state of economic development (as opposed to economic growth) of a community can also be expected to impact beneficially upon the economically disadvantaged. Although this is a long-term process that is difficult to quantify, in the short run the thrust of this project, with its emphasis on the use of appropriate technologies by or for the poor majority, will create a more favorable climate for low-level infrastructural development and will impact directly upon the rural and/or urban poor.

The NTIS program is likely to have this effect. Experience with the broad spectrum of information requests has shown that programs with an appropriate technology information base have produced decisions or innovative developments that contribute directly to economic improvement in the welfare of the poor majority. A typical example of this is that in Ecuador a decision was made to establish a particle board factory on the basis of information obtained from NTIS.

The fact that more extensive examples of success of NTIS services are not documented is due to the reluctance of many industries in the LDCs to supply quantitative data to support examples such as the above. The proposed project has a component ("case studies") which will seek to document the effects of technical information on employment and other economic indicators.

There is another broad area in which information transferred through the proposed program can be expected to impact on the lower socio-economic levels. This is the "quality of life" area, especially as affected by the physical living environment. It can be argued that an adverse living environment, particularly an adverse urban environment, affects the poor to a proportionately greater extent than it does with respect to other socio-economic levels. Therefore, the poor will benefit to a proportionately greater extent from improvements in the environment that would affect all socio-economic levels.

In addition, the NTIS collection contains a variety of documents dealing with low-and intermediate-level technology. Such documents can be of immediate use to the poor. For example, one of the best selling documents in the LDCs has been Handbook for Building Homes of Earth. Furthermore, NTIS has acquired many titles of a basic how-to-do-it type from the Peace Corps. During the proposed project, an effort will be made to collect and make available additional documents of this type, from both U.S. and LDC sources.

However, it must be recognized that written technical information, even at the low technology level, is not generally very useful to the poor, since they often do not read. Consequently even potentially useful documents are often not used by the poor. In the practical world these documents must be translated into action. This translation must be done by some intermediary organization working with the poor. NTIS currently supplies information to many such organizations. This project will strengthen NTIS's ability to send information to organizations concerned with the poor.

In summary:

1. The proposed program will impact on the poor by providing information which will help to do the following:
 - a) Create new job opportunities,
 - b) Improve the quality of life in rural and urban areas, and
 - c) Increase agricultural production.

2. Some low and intermediate technology is now available from NTIS and more will be sought and added.

3. Much information will be supplied to organizations through NTIS mailing lists which work with the poor and which can translate the written word into useful action.

NTIS will also establish linkages with Near East AID missions to backstop the information needs of current and proposed projects. This closer involvement and interaction with mission staffs directly responsible for the conceptualization, design and implementation of projects focusing on the urban and rural poor should contribute to a greater optimization and impact of agency proposed programs.

Women in Development

Section 113 of the Foreign Assistance Act reads: "Integrating Women into National Economics. Section 103 through 107 of this Act shall be administered so as to give particular attention to those programs, projects and activities which tend to integrate women into the national economies of foreign countries."

This project will obtain assurances and monitor activities of the agent representatives, who act as the liaison between NTIS and the various institutions in LDCs, to assure that women are integrated to the maximum extent possible within the structural organizations of the various participating agent representatives. This project also presents a specific opportunity to enhance the role of women through technological information transfer. Historically, relatively larger numbers of women are associated with library and information sciences than in other industries. The majority of representatives of cooperating agencies trained at NTIS have been women and the trend toward involvement of a larger number of women in

the project is expected to continue. This trend will be encouraged in the process of negotiating all future cooperating agency agreements.

D. Evaluation Plan

Given the nature of this project, comprised as it is of elements in nine different countries, the evaluation plan must be coordinated among the participant countries. The following outlines an approach to evaluation which can contribute to project monitoring improvement and assessment.

1. At least annually, NE/TECH will review project performance in the context of project objectives, field conditions, and make recommendations, as necessary, to the contractor.

2. USAID Missions will briefly report annually on the manner in which the project is progressing in their respective countries.

3. The project will be revised as necessary based on the outcome of 1 and 2 above.

4. An external evaluation is planned for the second and fourth years of the project. The evaluations will consider a) the quality of the work performed; b) levels of demand; c) the management process; d) contractor performance.

Due to the nature of the project, there are two areas to be evaluated. First, the evaluators should determine the extent to which information supplied by the project is being utilized and how that information contributes to technological change, and thus, to the development process

itself. The second key area to be evaluated will be the manner in which the host country agencies are handling the procurement and dissemination of information.

The findings of evaluations of previous NTIS projects indicate that questions asked were too technically specific. The evaluation for this project will be executed through open-ended questions. Much will be left to executive interviewing techniques which will rely heavily on the skill of the interviewer to guide respondents through loosely structured discussions. The selection of end-users to be interviewed will be identified using a stratified sample. Interviews will be conducted in person by the interviewer alone with the respondent. Questions will center around topics such as the general satisfaction of the materials obtained, language requirements, technical information needs, advertisement of services, timing from order to actual receipt of documents, etc. A utilization hierarchy will be developed to describe and distinguish between the different uses of applied information.

E. Environmental Threshold Decision

There are no environmental issues. A threshold determination has been reached that an environmental assessment is not needed.

F. Economic Analysis

As stated, the purpose of this project is two-fold: 1) to increase the flow of, access to, and use of scientific and technological information appropriate to the development of the Near East, and 2) to create a self-sufficient mechanism which, without outside help, plans, directs, and manages the flow of information appropriate to the development of the Near East.

It has not been possible to analyse this project so as to make a quantified judgment of its effect on the economies of the project countries. The economic benefits obtained from the transfer of technical information can be traced only with much difficulty. It is possible to reach only broad conclusions as to the probable economic impact of this proposed project based on the high level of document sales obtained in the previous AID funded projects. The array of unquantifiable economic benefits, as against the modest costs of obtaining the information and transferring it, qualify the project as cost effective and economically justifiable.

The participant countries themselves have a very clear appreciation of the economic benefits to be obtained from the transfer of technology and technological information. They recognize the savings to be obtained from not having to duplicate the R&D involved. They clamor for greater opportunity to select, acquire and utilize technological information.

The NTIS project directly responds to this strongly expressed need. The overall economic effect of this project will be an accumulation of economic benefits obtained by the whole group of end users who make up the growing market.

Other questions which merit attention include the following:

1. Does the utilization of scientific and technical information aid in economic development?
2. Does the agent/representative possess the necessary manpower to act as an effective intermediary and catalyst between the developing country and NTIS?
3. Will the appropriate technologies be adopted by LDC institutions on terms that are both economically and socially sound?
4. Will assimilation and implementation of new technologies by LDC institutions increase employment investments, savings, and consumption, or will this create considerable frictional or structural unemployment?

As stated, these issues and questions can only be answered definitely over the long run and will be included in mid-term and end-of-project evaluations. However, steps should be taken in the short run to assure that the transfer of technology does effectively and efficiently enhance the economic development of LDCs and lead to amelioration of the economic and social conditions of its poorer citizens. From this point of view pertinent issues are addressed.

1. Governments use technical information for economic planning purposes, while other types of institutions may employ it in projects, libraries, scientific and technological research, and training. For instance, information on energy conservation goes to governments which will be able to use it in long-run national energy resource-saving programs.

The LDC buyers who use imported technical information for problem solving in their operations include R&D managers, engineers, consultants, and similar professionals. Unfortunately, NTIS has only a relatively small collection of case histories wherein it can be demonstrated that a specific piece of technical information was applied to obtain a given production increase. (Evaluation of the previous projects in the S&T and Latin American Bureaus called for the accumulation of more case histories to guide future development efforts. This suggestion has been included in this project design.) Yet the rapid growth in private sector end users continuously supports the assumption that availability of a wide choice of technical information will result in wide use by LDC consumers who value the productive potential of the information well above its cost. Furthermore, where production increases have occurred, increases in factor incomes result.

2) Will assimilation and implementation of new technologies by LDC institutions increase employment, investment and consumption, or will this create considerable frictional or structural unemployment?

Analyzing the contribution of the successful adaptation of new technologies to economic growth or development is difficult. The question of whether assimilation of new technologies by LDCs has increased employment, savings and investment remains to be answered.

Qualitative or quantitative changes in the factors of production should enable the public or private sector to obtain more productivity within the constraints of resource availability. In the private sector this would be translated into more profits, which should create more investment and more employment. Under certain circumstances this situation has tended to create unemployment, and this problem will have to be addressed on a continuous basis through the life of the project. With increased incomes and employment, consumption and saving will increase, thereby creating more demand which would be translated into more investment and even more employment.

In the public sector, profit may not be the primary inducement for investment. However, efficiencies of labor and other factors should reduce the opportunity cost of resource utilization and permit a reallocation of these "saved" resources to other areas. This also, because of resource allocation efficiencies, could result in increased investment, employment, income consumption, and savings.

3) Are appropriate technologies likely to be adopted by LDC institutions on terms that are both economically and socially sound?

This question perhaps can best be answered in light of the U.S. Government's role in LDCs. One U.S. role is to make freely available the conceptual tools and information needed to encourage growing technological independence. Our approach to this is to make accessible to participant countries and institutions the ideas, people, institutions, and reservoir of hard scientific and technical information that are the bases of much of our own complex technological society. The nature of technology transfer and economic development is such that the selective and productive application of these tools is the responsibility of the developing country. So are national planning, assessment of priorities, resource allocations, understanding of the technology market, selection of appropriate technologies, local adaptation, negotiation of necessary legislation, governmental follow-up, and linking productive sectors of the economy. By working with technology information specialists, host country officials and the users of the "appropriate technology," one can make additional evaluatory studies to determine the negative or positive effects of the technology transfer.

Technical information is also delivered to the LDCs at a very modest price relative to the U.S. cost of producing and transferring the information. Information from U.S. Government R & D represents a cost to the U.S. Government, but Congress has directed that the information be used for public benefit by being made publicly available after serving its original purpose. NTIS charges depositing agencies for its services in retaining the information in reproducible form. The price charged for the

subsequent sale of the information in the U.S. and abroad represents actual storage and processing costs to an agency which operates on a profitless, cost-recovery basis. Project subsidies to help establish local marketing agencies bring the information cost to project countries down even further. The value of a piece of appropriate technological information considered against its actual cost to the LDC (and the original cost of the U.S. R & D that produced it) provides an indication of the potentially favorable cost/benefit ratio to the LDCs of this form of technology transfer.

4) Does the agent representative possess the necessary manpower and capability to act as an effective intermediary and catalyst between NTIS and the developing country?

A network of locally based "technology agent" organizations has been successfully created in developing countries as outlets for NTIS services and products. The agents either are private entrepreneurs or are part of a government ministry for technology or economic development. The local agent is selected by his own government and intensively trained by NTIS in providing information service and products. The agent performs marketing, local promotion, order handling and customer service in return for a 25% discount from listed prices. The local agent has been determined by NTIS to be an effective vehicle to provide a developing country easy and inexpensive access to the ever-growing store-house of U.S. Government-sponsored science and technology. The agent also can form partnerships with institutions in the country to help them strengthen their awareness of available resources

and thus create user capabilities as a longer term benefit for future development. Local agents, indigenous to their respective countries and cognizant of the respective needs of various institutions, can expand and modify their services according to customer and national needs. Furthermore, because of the somewhat related logistics involved, horizontal linkages can be developed that will facilitate a more effective triangular relationship between NTIS, agent representatives and technology users.

G. Administrative Feasibility and Contracting Plan

It is proposed that this project be implemented through a PASA with NTIS of the Department of Commerce. The proposed direct responsibilities of NTIS will be to:

1. Provide increased access to U.S. and worldwide technical information products in nine Near East countries;
2. Increase demand for U.S. and worldwide technical information for development problem solving by sponsoring seminars in project countries to broaden awareness of information availability and foster closer ties between cooperating agencies and their own local users;
3. Conduct workshops at NTIS for officials of cooperating agencies to provide them with know-how concerning acquisition of U.S. and worldwide scientific and technical information services to meet national needs, including those groups working with low income people;

4. Provide technical advisory services including user education and marketing support;
5. Publish and disseminate "Application of Modern Technology to International Development" in English, French and Arabic to cooperating agencies as a bi-monthly report of available NTIS acquisitions in LDC interest areas.
6. Handle Near East information requests on a priority basis and administrate an air mail postal subsidy package;
7. Provide special information materials and equipment compatible with the capabilities of each of the cooperating agencies;
8. Develop selected case studies for assessment of program benefits.

Some foreseeable problems during the initial implementation phase have been addressed in other NTIS network countries in the following ways:

1. Foreign exchange restrictions: NTIS deposit accounts must be replenished with dollars, some of which can be paid by the project as reimbursement for local services, such as translation, printing, or locally purchased tickets to training activities. Over the long term, however, success will depend on a workable foreign exchange payment mechanism being in place.
2. Bureaucratic problems: Purely state-run bureaucracies seldom perform well. NTIS has had good success working with private agencies in more developed countries, as well as India, Peru and Panama. Significant profit is not to be expected from these sales, however, personal initiative and interest are required by staff responsible for this program.

3. Customs clearance: NTIS reports usually clear customs unhindered when sent single copy airmail. Otherwise, they may fall under duties applicable to books. Microfiches are sometimes seized as film, not printed matter. Trial deliveries will detect problems.

4. Deficient management: Poor management capability by local staff is being addressed by the availability of a field officer contracted by the project and probably located in Cairo. The project will also add management to its training program. Mission support will be sought in this area.

Host country and USAID participation typically has the following agenda:

1. Country is visited by NTIS, where all information dissemination organizations are reviewed for candidacy to participate in the project. Priority sectors of USAID are identified. Related support services, such as mail, customs, bookstores and schools are reviewed and interviewed.
2. One agency is invited to coordinate NTIS information transfer in the country, possibly in cooperation with other agencies which are ready and able to participate. Agreement is signed within six months of invitation.
3. Basic commodities are shipped to agency. On-site training of clerical staff is provided (two days), and training in Washington for the chief is scheduled for within six months after agreement is signed.

4. Marketing plan is developed with unit chief, including listing of priority sectors, media available to reach them, materials appropriate to them. First new promotional materials are produced within six months of signed agreement.
5. Local distribution of AMTID and other catalogs is begun as soon as agreement is signed.
6. First participation in public seminars, conferences, or trade fairs is held within twelve months of signed agreement.
7. Problems with ordering and delivering NTIS information are identified within twelve months of first field visit, solutions are projected within twelve months.
8. Special promotion is effected within eighteen months to target populations, such as private voluntary organizations.
9. Promotions are scheduled regularly; USAID mission is informed of progress or unexpected problems.
10. Visits by NTIS field officer at least every six months assure that marketing plan is maintained.
11. Training is scheduled for agency staff on-site or in U.S.
12. Sales have increased 100 percent within eighteen months of signed agreement. Number of sectors reached by NTIS covers all local AID priority sectors within twenty-four months.

When deemed necessary by AID and NTIS to subcontract, NTIS will, advertise in the Commerce Business Daily for services required. NTIS will be sensitive to all federal government regulations regarding utilization of small and minority businesses. AID will assist in the evaluation of all submitted bids, and will approve any contracts prior to their finalization.

technology been focused on the problems of U.S. national development, but also new strength has been given to the long-standing policy of sharing government-sponsored science and technology with other nations.

How to facilitate the application of modern technologies in development, utilizing scientific and technical information, is a problem of serious concern to both developing national governments and development assistance agencies.

In addressing the problem, AID has found that, when a capability for applied research builds within a nation, the need for information resources (identifying, locating, acquiring) is recognized by the national government and the academic community. However, the vast quantities and qualities of information available have complicated efforts to find practical technical information that can actually be utilized.

Effective management, therefore, of scientific and technical information is the critical first step in employing technology for development. The costs of information management within the United States involves investments amounting to billions of dollars. Sophisticated, expensive techniques are available to store retrievable information to assure that it can reach the final user in a readable form when he needs it. This type of system, however, cannot be duplicated in a developing country. It is economically prohibitive. AID has been exploring ways to transfer appropriate scientific and technical information to developing countries in an efficient effective manner for several years.

ENDNOTES

1. Statement dated May 1, 1979 (A/Conf. 81/PC/CRP.2/Add.1) in which the Group of 77 presented their position regarding a program of action for UNCSTD.

2. U. S. Coordinator of UNCSTD. Science and Technology for Development.
U. S. Government Printing Office. Washington, D. C. 1979.

SELECTED REFERENCES

OAS. "Summary Appraisal of Technical Information Situation in Latin America in Relation to Possible International Networks," J. E. Beverly. UN Economic Commission for Latin America, Unit for Science and Technology, Mexico City, CEPAL/MEX/77/14 July 1977.

Seminar on Industrial Information, Denver Research Institute at Mexico City, 1-2 October 1976. Sponsored by NSF and U.S. Department of State.

AID Richard Morse, "Responding to Technical Information Needs of Developing Countries: Evaluative Review of the Volunteers for International Technical Assistance International Inquiry Service." Prepared for AID, NTIS.

Latin America and Technical Assistance Bureaus National Technical Information Service Project Papers and project evaluations.

Marina Fanning-Firfer. "An Evaluation of Scientific and Technical Information Distribution and Use in Latin America: The NTIS Program in Five Selected Countries.

ANNEX A

LOGICAL FRAMEWORK

PROJECT DESIGN SUMMARY
 LOGICAL FRAMEWORK

INSTRUCTION: THIS IS AN OPTIONAL
 FORM WHICH CAN BE USED AS AN AID
 TO ORGANIZING DATA FOR THE PAR
 REPORT. IT NEED NOT BE RETAINED
 OR SUBMITTED.

Life of Project: From FY 1983 to FY 1986
 Total U.S. Funding 1.3 million
 Date Prepared JUNE 7, 1981

Project Title & Number: 298-0049

PAGE 1

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program or Sector Goal: The broader objective to which this project contributes:</p> <p>To broaden and maximize the use of appropriate science and technology information in solving development problems in the Near East.</p>	<p>Measures of Goal Achievement:</p> <ol style="list-style-type: none"> 1. Wider application of U.S. R&D results to problem-solving in LDCs 2. New and improved channels for exchange between technical institutions and professionals and U.S. counterparts. 3. Greater LDC demand for U.S. technological products and services. 	<ol style="list-style-type: none"> 1. LDC government statements on the extent to which progress is being achieved in the selection and transfer of technology attributable to "freest and fullest possible access" to technologies not in private hands. 2. Reports of cooperating agencies. 3. Reports of national and industrial research institutes. 4. Professional papers. 	<p>Assumptions for achieving goal targets:</p> <ol style="list-style-type: none"> 1. Users of information can influence development decisions. 2. Information transferred is applicable to identified problems of the Near East. 3. Significant and increasing share of R&D generates information of value to national problem solving in developing countries. 4. Countries will acquire and utilize technological information nationally if a system exists to foster its transfer and use.

01A

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PROJECT DESIGN SUMMARY
 LOGICAL FRAMEWORK

Life of Project: _____ to FY 1986
 From FY 1983 to FY _____
 Total U.S. Funding 1.3 million
 Date Prepared: March, 1983

Project Title & Number: 298-0049

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Project Purpose:</p> <ol style="list-style-type: none"> 1. To increase the flow of, access to, and use of scientific and technological information appropriate to the development of the Near East. 2. To create a self-sufficient mechanism which, without outside help, plans, directs, and manages the flow of, access to, and use of scientific and technological information appropriate to the development of the Near East. 	<p>Conditions that will indicate purpose has been achieved: End of project status.</p> <ol style="list-style-type: none"> 1. Accomplishment without outside of: <ol style="list-style-type: none"> A. Materials Acquisitions, Selection, adaptation B. Maintenance and creation of communications networks <ol style="list-style-type: none"> 1. with sources <ol style="list-style-type: none"> a. In the USA b. In the Near East c. Elsewhere 2. with users <ul style="list-style-type: none"> - Professionals - The poor C. Training <ol style="list-style-type: none"> 1. Information managers 2. Information users D. Progress monitoring <ol style="list-style-type: none"> 1. Solution to development problems 2. Information flow, access, use. E. Self financing 2. An operating network of 9 LDC agencies cooperating through bilateral agreements with NTIS to increase access to U.S. science and technology. 3. A substantial increase in flow of S&T information products and services to cooperating countries over 4 years. 	<ol style="list-style-type: none"> 1. Assessments of: <ol style="list-style-type: none"> A. Institutional strength of collaborating agencies. B. Communication network of information collection and distribution networks. 2. Contractor, host country and USAID monitoring reports. 3. Mid and final evaluations. 4. Bilateral agreements between NTIS and LDC cooperating agencies. 5. Sales of S&T information products and services to LDCs. 6. Growth in demand and effective utilization of S&T information and patents. 	<p>Assumptions for achieving purpose:</p> <ol style="list-style-type: none"> 1. Near East governments will continue to support dissemination of scientific and technological information. 2. No important impediment will arise to broadening the NTIS information transfer network through bilateral agreements with cooperating agencies in additional countries. 3. LDC demand for S&T information products and services will continue to increase.

PROJECT DESIGN SUMMARY
 LOGICAL FRAMEWORK

Life of Project: _____
 From FY 1983 to FY 1986
 Total U.S. Funding 1.3 million
 Date Prepared: June 2, 1983

Project Title & Number: 298-0049

PAGE 3

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Outputs:</p> <ol style="list-style-type: none"> 1. Identification, equipping, and staffing collaborating agencies in Near East countries. 2. Acquisition and adaptation of scientific and technological information. 	<p>Magnitude of Output:</p> <ol style="list-style-type: none"> 1. Twenty in-country training seminars conducted over life-of-project. 2. Four training courses conducted at NTIS over life-of-project. 3. Dissemination of at least 22 issues of English AHTID to nine addressees, and 22 issues of Arabic AHTID to six addressees. 	<ol style="list-style-type: none"> 1. Signed PASA. 2. Contractor, Mission and host country reports. 3. Evaluations. 	<p>Assumptions for achieving outputs:</p> <ol style="list-style-type: none"> 1. PASA with NTIS will be finalized. 2. Host country cooperative agencies will be identified.

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project: 1983 to FY 1986
From FY 1983 to FY 1986
Total U.S. Funding: 1.3 million
Date Prepared: June 7, 1983

Project Title & Number: 298-0049

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Inputs:</p> <ol style="list-style-type: none"> 1. Nine cooperating agency agreement. 2. Nine cooperating agencies oriented and providing local service to improve access to USA scientific and technical information. 3. Cooperating agencies provided training and support for promotion and operations. 4. Publication and increasing dissemination. 	<p>Implementation Target (Type and Quantity) ^a</p> <p>FY 1983 ---\$310.0 FY 1984 ---\$350.0 FY 1986 ---\$286.6 FY 1987 ---\$353.4</p> <p>^aAID input only. This will be supplemented by field mission and host country funding.</p>	<ol style="list-style-type: none"> 1. Contractor, host country and USAID monitoring reports. 2. AXTID publications and NTIS mailing list. 3. Periodic NTIS reports. 	<p>Assumptions for providing inputs:</p> <ol style="list-style-type: none"> 1. U.S. sources of information cooperate. 2. Local sources of appropriate technology information will contribute documents to the network. 3. Mail, customs will not unduly delay delivery of materials once orders are filled by NTIS/Washington. 4. LDCs will continue to seek cooperative agreements with NTIS. 5. LDCs will fully support local costs of in-country seminars and continue to seek participation in training courses at NTIS.

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ANNEX B

UTILIZATION OF SCIENTIFIC AND TECHNICAL INFORMATION IN LATIN AMERICA

In 1981, Inter-America Research Associates, Inc. was contracted by LAC/DR to evaluate the utilization of technical information provided by the NTIS network. This study revealed that 81% of end-users utilized the information acquired in an "applicative" mode, with 34% of the total actually using it in a "hands-on" degree of application. Fully 96% judged the information useful. This indicates that access to the information provokes a high degree of utilization even though the project does not program that amount of follow-through.

Another statistic of import to AID is the make-up of the clientele: 54% are private firms or industries, with the balance fairly evenly divided among autonomous organizations, universities and research institutes, government ministries, PVOs and consultants or students. The summary of IRA findings are presented below.

The study focused on five Latin American countries (Mexico, Costa Rica, Colombia, Peru and the Dominican Republic) and interviewed a total of ninety-nine end users. The major finding of the study was that NTIS information, when accessed, contributes significantly toward technological change. The end to which users could apply information accessed through NTIS was broken down into 6 major categories: 1) information not read, 2) information read and not utilized, 3) information read and circulated or incorporated in a reference center or library, 4) information utilized as didactic material or in studies and reports, 5) information used to determine national or technological policies or standards, 6) information assimilated and transformed in applied research, and 7) hands-on application of information such as manufacturing, building or creating something. Categories two and three were considered referential uses of information and categories four, five, six and seven were considered applicative uses. The information gathered in personal interviews and subsequently analyzed showed that 82% of the end users interviewed fell into the applicative category. Of significance is the fact that only one end

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user fell in category one, and that more than half of all users (54%) fell in categories six and seven, applied research (24%) and operational, hands-on manufacturing applications (30%).

The major conclusion which can be drawn from this exceptionally high utilization rate is that NTIS is not only a very important source of information for the transfer of technology in the region, but that the uses to which the information is put and the frequency with which it is applied, demonstrate its significance, and its actual and potential contribution towards technological capacity building, and, therefore, towards development in Latin America. This conclusion is supported by the views expressed by end-users, who value the availability of the information highly.

The primary recommendation of the study is that the NTIS network should continue to receive the support it requires, and that strengthening and streamlining in two major areas would significantly improve the service and expand its coverage. The first of these areas is the ordering process and the second is the outreach activities.

From data gathered, both from end-users and staff of the distribution centers, it was found that:

Very little active promoting of NTIS publications or services takes place beyond the AMTID newsletters.

On the average, the recurrence is only about one full-time person in each distribution center devoted to NTIS related activities; including time devoted to processing orders as well as any outreach activities.

Users expressed frustration in not knowing what the universe from which they could draw looked like.

There was practically no awareness of the range of NTIS services.

Users expressed dissatisfaction with delays in receiving the documents and with other aspects of the ordering process. This included the problem posed by floating exchange rates which, in some instances, have doubled the price of the document. This was because the price was paid in dollars at the rate of exchange at time of delivery, not ordering, and often several months intervene.

Specific recommendations stemming from the above are: a) that the staff of the distribution centers (whose time is currently spent processing orders), may be employed promoting NTIS services and documents, and that a system be designed which permits end-users to order the publications directly from NTIS. (This system could be patterned after the one successfully employed in Latin America by the British Lending Library. UNESCO coupons, which are already accepted by NTIS, could be used to effect payment); and b) that the NTIS-designed distribution centers be significantly increased in number to cover more cities in a given country and more locations within large cities.

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ANNEX C

MAJOR DONORS TO NTIS SYSTEM

Though not exhaustive, the following list indicates some of the major donors to the NTIS collection:

Massachusetts Institute of Technology, Allied Chemical, Harvard University, Standard Oil of Indiana, Yale University, Aluminum Company of America, University of Pennsylvania, Combustion Engineering, Stanford University, Deere and Company, Cornell University, IBM, Texas A&M University, General Electric, University of Rochester, General Motors, Johns Hopkins University, Rockwell International, University of California, Eastman Kodak, University of Illinois, Rand Corporation, University of Wisconsin, Tennessee Valley Authority, University of Michigan, International Telephone and Telegraph, Columbia University, Honeywell, University of Minnesota, Fairchild, University of Washington, Ford Motor Co., Shell Oil, Union Carbide, Crown Zellerbach, Swift and Company, Monsanto, Gulf Oil, Carborundum, Kaiser Aluminum and Chemical, Control Data, RCA, Westinghouse Electric Corporation, International Nuclear Information System, Engineering Index, Inc., Lockheed Information Systems, National Library of Medicine, and The Urban Institute

One is reminded that most government research is conducted by U.S. corporations, federal laboratories, and universities under contract to government Agencies.