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	B. SECONDARY Science and Technology

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Science and Technology for International Development: A Selected List of Information Sources in the United States and Bibliography of Selected Materials

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**Cornell University
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 Ithaca, New York 14850**

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9. ABSTRACT

This report is presented in two sections. The first identifies a number of U.S. based libraries and organizations with major holdings in fields related to science and technology in developing countries. It also includes some of the smaller more specialized collections which are of particular significance. The report updates a previous publication with the same title, issued in March 1972 by the Office of Science and Technology of the Agency for International Development. Many of the sources noted in the original edition are included here with updated information on current collections and services. In addition, several new sources have been identified and described with pertinent information for their use.

The second section of this report is a bibliography of selected references relevant to the use of science and technology for development. While these references cover a wide variety of topics, three in particular have been emphasized: the transfer of technology; industrialization; and small-scale industries. It should be noted that the topics emphasized in this edition differ from those addressed in the first edition. Although the previous list of libraries and organizations is superseded by the current list, the two bibliographies are complementary. The bibliography is not exhaustive, but is intended to give the reader a broad overview of the key works on these topics.

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SCIENCE AND TECHNOLOGY
FOR INTERNATIONAL DEVELOPMENT:
A SELECTED LIST OF INFORMATION
SOURCES IN THE UNITED STATES
AND BIBLIOGRAPHY OF
SELECTED MATERIALS
(Second Edition)

Program on Policies
for Science and Technology
in Developing Nations
180 Uris Hall
Cornell University
Ithaca, New York 14853

February 1975

PREFACE

There exists in the United States, a substantial body of literature on the subject of science and technology policy. Only a small fraction of it, however, is relevant to the corresponding issues in developing countries. Furthermore, this material, which is relevant, is widely dispersed in many libraries and institutions and in U.S. Government agency files. As a result, it is often difficult to locate. This Report is part of a continuing effort to identify and document the services of relevant information sources (in the United States) which might be of use to scholars and practitioners working on policies for science and technology in developing nations.

This Report is presented in two sections. The first identifies a number of U.S. based libraries and organizations with major holdings in fields related to science and technology in developing countries. It also includes some of the smaller, more specialized collections which are of particular significance. The Report updates a previous publication with the same title, issued in March 1972 by the Office of Science and Technology of the Agency for International Development. Many of the sources noted in the original edition are included here with updated information on current collections and services. In addition, several new sources have been identified and described with pertinent information for their use.

The second section of this Report is a bibliography of selected references relevant to the use of science and technology for development. While these references cover a wide variety of topics, three in particular have been emphasized: the transfer of technology; industrialization; and small-scale industries. It should be noted that the topics emphasized in this edition differ from those addressed in the first edition. Although the previous list of libraries and organizations is superseded by the current list, the two bibliographies are complementary. The bibliography is not exhaustive, but is intended to give the reader a broad overview of the key works on these topics.

Ms. Mary Acton, a graduate student in the Field of City and Regional Planning at Cornell, was instrumental in gathering and compiling the information presented in this Report.

We gratefully acknowledge the cooperation and support of the Office of Science and Technology of the Agency for International Development and the respondents from the sources listed herein.

Table of Contents

Preface	i
A. List of Information Sources	
Scope of Applications of Science and Technology Considered in this Report	1
List of Information Sources by Application	3
Description of Information Sources	
General Purpose Sources	6
Specialized Sources	
Infrastructure for Science and Techno- logy	21
Industrial Technology	24
Natural Resources Planning and Manage- ment	37
Medical Technology	51
B. Bibliography.	53
Acronyms Used in the Bibliography.	54
I. Bibliographies	56
II. Over-All Views of Science, Technology and Development.	57
III. Policies and Planning for Science and Technology	62
IV. Infrastructure, Research and Promotion	64
V. Channels for Technological Information Flow	
a. Information Systems (International).	67
b. Patents and Licensing.	68
VI. Industrialization.	70
VII. Appropriate Technology/Intermediate Technology/Employment.	72
VIII. Technology Transfer.	77
IX. Technical Assistance and Cooperation	83
X. Small-Scale Industry	85
XI. Education and Manpower	88
XII. Agriculture.	89
XIII. Natural Resources.	91
XIV. Health	92
XV. Industry/Technical Studies and Reports	
a. Agriculture.	93
b. Natural Resources.	93
c. Food Processing.	94
d. Power.	94
e. Low-Cost Housing and Construction.	94
f. Transportation and Automobile Industry	96
g. Metallurgy and Chemical Industries	96
h. Machine Tools.	97
i. Computers.	97
j. Remote Sensing	98

XVI.	Country Studies/Regional Studies.	99
XVII.	Analysis and Methodology.103
	Author Index.105
	Organization Index.113
	Country and Region Index.116

LIST OF INFORMATION SOURCES

A. LIST OF INFORMATION SOURCES

Scope of Applications of Science and Technology Considered in this Report

The scope of subject matter for which the information sources were selected includes:

Infrastructure for effective use of science and technology in developing countries:

- developing national level science and technology policies, priorities, and organizational responsibilities, and strengthening institutional mechanisms for implementing national decisions in this field;
- developing improved operational interaction among science and technology programs in government, industry and universities and focusing those programs on national needs and priorities;
- building institutional capabilities and communication networks for acquisition, processing, analysis, distribution and utilization of scientific and technological information; and
- developing and strengthening of appropriate scientific and engineering training and research capabilities, with particular emphasis on the role of university research in economic development.

Industrialization in developing countries:

- upgrading national and regional capabilities in standards, and quality control and industrial research, and improving the capability of indigenous industry to recognize the value of and to use such services;
- supporting development of skills and techniques for assessing the impact at national, regional and enterprise levels of alternative technological solutions to development problems;
- stimulating the development and introduction of industrial technologies appropriate to the labor, capital, and natural resource endowments of developing countries, including adaptation of suitable modern technologies and technical support of small-scale industry; and
- increasing the contribution of technology in improving the quality and performance of economic infrastructure activities supported by national budgets, such as public works and transportation, and quasi-public corporations concerned with areas such as the application of remote sensing.

Natural Resources planning and management in developing countries:

- improving techniques for managing and conserving resources, including land use planning, technical basis for awarding concessions, and monitoring resource development;
- improving exploration and mapping techniques, and upgrading the ability to identify and appraise resources while reducing the time and cost involved;
- managing resources (including protection and rehabilitation), monitoring pollution and abatement, natural disaster investigations, land reclamation, and water and waste management; and
- identifying technological possibilities for increasing value added locally to resources, and developing underutilized resources.

Medical Technology for developing countries:

- adapting and using available technologies in medicine, particularly in the field of rehabilitating the disabled.

List of Information Sources by Application

Infrastructure for Effective Use of Science and Technology
in Developing Countries:

- National Referral Center, Library of Congress (p. 6)
- Science and Technology Division, Library of Congress
(p. 7)
- Reference Center, Agency for International Development
(p. 9)
- Columbus Memorial Library, Organization of American
States (p. 10)
- Joint Library, International Bank for Reconstruction
and Development (p. 11)
- Library, Inter-American Development Bank (p. 12)
- Library, Department of State (p. 13)
- Reference and Documents Section, Bureau of Interna-
tional Organization Affairs (p. 14)
- Library System, Cornell University (p. 21)
- Littauer Library, Harvard University (p. 22)
- Library, National Science Foundation (p. 23)
- Society for International Development (p. 15)

Industrial Technology:

- Innovation Information and Analysis Project, George
Washington University (p. 24)
- National Referral Center, Library of Congress (p. 6)
- Science and Technology Division, Library of Congress
(p. 7)
- Library, National Academy of Sciences/National Academy
of Engineering (p. 8)
- Reference Center, Agency for International Development
(p. 9)
- Columbus Memorial Library, Organization of American
States (p. 10)
- Joint Library, International Bank for Reconstruction
and Development (p. 11)
- Library, Inter-American Development Bank (p. 12)
- National Technical Information Service, Department of
Commerce (p. 25)
- Volunteers in Technical Assistance, Inc. (p. 27)

Library, National Bureau of Standards (p. 28)
Technical Information Center, U.S. Atomic Energy
Commission (p. 29)
Library, Massachusetts Institute of Technology (p. 31)
International Development Data Center, Georgia
Institute of Technology (p. 32)
Institute for Scientific Information (p. 16)
Associated Technical Services, Inc. (p. 19)
The Institute of Paper Chemistry (p. 33)
Chemical Abstracts Service, American Chemical Society
(p. 34)
Institute of Transportation and Traffic Engineering,
University of California (p. 36)

Natural Resources Planning and Management:

National Referral Center, Library of Congress (p. 6)
Science and Technology Division, Library of Congress
(p. 7)
Library, National Academy of Sciences/National Academy
of Engineering (p. 8)
Reference Center, Agency for International Development
(p. 9)
Columbus Memorial Library, Organization of American
States (p. 10)
Library, Inter-American Development Bank (p. 12)
Volunteers in Technical Assistance, Inc. (p. 27)
National Agricultural Library, U.S. Department of
Agriculture (p. 37)
Library, U.S. Geological Survey (p. 38)
Water Resources Division, U.S. Geological Survey (p. 39)
Engineer Agency for Resources Inventories (p. 40)
Geology Library, University of Illinois (p. 41)
Library, Water Resources Research Institute, Auburn
University (p. 42)
Environmental Science Information Center, National
Oceanic and Atmospheric Administration (p. 43)
Library, U.S. Forest Service (p. 44)
Agricultural Experiment Station, Purdue University
(p. 45)
F. Franklin Moon Library, SUNY, Syracuse (p. 46)

Library, University of Washington (p. 47)

Document Library, Woods Hole Oceanographic Institution (p. 48)

Library, Department of Fisheries and Marine Technology, University of Rhode Island (p. 49)

Technical Library, Tennessee Valley Authority (p. 50)

Medical Technology:

Rehabilitation International (p. 51)

DESCRIPTION OF INFORMATION SOURCES

General Purpose Sources

1. National Referral Center

Library of Congress
Washington, D.C. 20540

Contact Point

Referral Specialist
202-426-5670

Collection Strength

A subject-indexed data base, continuously updated by a professional staff of analysts, that contains descriptions of some 10,000 organizations (called "information resources" by the Center) having specialized knowledge in some area of science or technology. These organizations range from professional societies, university research bureaus and institutes, federal and state agencies and units within them, industrial laboratories, museum specimen collections, testing stations, and individual experts to more traditional sources of information such as technical libraries, information and document centers, and abstracting and indexing services.

Publications

A series of directories, based on broad selections from its data base, has been published by the Center under the general title, A Directory of Information Resources in the United States. These volumes are subtitled as follows: Federal Government, Revised Edition (1974); Social Sciences, Revised Edition (1973); Biological Sciences (1972); Physical Sciences, Engineering (1971); General Toxicology (1969); and Water (1966). The directories are sold by the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

Information Services

In response to requests for assistance, the Center's referral specialists provide names, addresses and telephone numbers of appropriate information resources and give a brief description of what to expect from each. This referral service is available without charge, by telephone, correspondence or through personal visits.

2. Science and Technology Division

Library of Congress
Washington, D.C. 20540

Contact Point

Miss Constance Carter
Head, Reference Section
202-426-5580

Collection Strength

The subject fields of science and technology are represented in the Library of Congress by 3 million books, nearly 20,000 journal titles, and about 2 million technical reports. Available in the Division's Science Reading Room are all major abstracting and indexing journals in the physical, earth, biomedical, and engineering sciences. The Division has immediate custody of an extensive collection of reports (some 1.2 million titles), most of them in microfilm, including those issued by the Atomic Energy Commission, National Aeronautics and Space Administration, Department of Defense, and other Government Agencies.

Publications

LC Science Tracer Bullet, an informal series of reference guides on various topics (e.g., acupuncture, noise pollution, geothermal energy, science in 18th century America) distributed free on request; Antarctic Bibliography (annual).

Information Services

The Division has primary responsibility for providing reference and bibliographic services on the Library's overall science and technology collections. Brief technical inquiries entailing a bibliographic response are answered without charge. Extensive literature searching and bibliographic services are provided on a fee basis. Individuals performing their own literature searches may use the Science Reading Room, where microform readers are available for use with the technical report collection.

3. Library

National Academy of Sciences/National
Academy of Engineering
2101 Constitution Avenue, N.W.
Washington, D.C. 20418

Contact Point

Mr. James L. Olsen, Jr.
Librarian
202-389-6272

Collection Strength

A virtually complete archival collection of the publications of the National Academy of Sciences (1863), its National Research Council (1916), the National Academy of Engineering (1964), and the Institute of Medicine (1970); biographical publications, scientific dictionaries and encyclopedias; major indexing and abstracting services; and 500 periodical titles. National Academy of Sciences reports relating to many developing countries are available in the Library.

Publications

None

Information Services

Library services are mainly for Academy personnel. However, inquiries requiring reference services based on the collections are accepted, and the collections are accessible for on-site use and by interlibrary loan by the scientific and academic community, Government officials, industrial and commercial organizations, and students. Those unfamiliar with the institution and its library are advised to contact the librarian or assistant librarian prior to their first visit.

4. Agency for International Development

Department of State
Washington, D.C. 20523

Contact Point

Miss Edna Falbo
Chief, Reference Center
202-632-9345

Collection Strength

Science and technology for application in the less developed countries, including agriculture, rural development, industrialization, natural resources, science policy, engineering, food assistance, food from the sea, public health, housing and urban development, nutrition and child feeding, and population; background information in investment opportunities in less developed countries. Technical reports, surveys, studies, etc. prepared in support of specific technical and capital assistance projects.

Publications

Occasional bibliographies; accession lists.

Information Services

Answers inquiries; makes referrals.

5. Columbus Memorial Library

Organization of American States
Seventeenth and Constitution Avenue, N.W.
Washington, D.C. 20006

Contact Point

Information
Mr. Jorge Grossman
Associate Librarian for Reference
202-381-8408

Exchanges
Mr. Marv Broadbent
Head Acquisitions Librarian
202-381-8208

Collection Strength

1) books, reports, periodicals, bibliographies, pamphlets, and publication lists related to social sciences and humanities in Latin American countries; 2) OAS documents; and 3) International organizations documents.

Publications

Ciencia Interamericana (journal, 5 issues/year, in Spanish); Scientific Monographs (10-15 issues/year, in Spanish and Portuguese) on physics, biology, chemistry and mathematics; Reports and Proceedings.

Information Services

Permits on-site use of collection; exchanges publications.

6. Joint Library

International Bank for Reconstruction and
Development
19th and H Streets, N.W.
Washington, D.C. 20431

Contact Point

Librarian
202-477-3167

Collection Strength

Particularly strong in publications on developing countries, including country development plans, pre-feasibility and feasibility studies for country development projects, and World Bank study reports related to capital loans. The Bank also has available extensive data on population, socio-economic indicators, economic growth, international capital flow and external debt, and international trade.

Publications

Accession lists and occasional bibliographies.

Information Services

On-site reference with permission.

7. Library

Inter-American Development Bank
808 17th Street, N.W.
Washington, D.C. 20577

Contact Point

Dr. Julio Broide
Chief of Library
202-382-3972

Collection Strength

The Library has about 26,000 items, mainly on economic and social development in Latin America, and around 1,000 periodicals. It also has a Cultural Library on Latin America with approximately 7,000 books. The special emphasis of this sector is literature, history, sociology, philosophy, and political subjects on each of the member countries of Latin America and the Caribbean.

Publications

Occasional bibliographies and accession lists.

Information Services

Answers inquiries; makes referrals.

8. Library

Department of State
Washington, D.C. 20520

Contact Point

Librarian
202-632-0486

Collection Strength

The State Department Library has a particularly strong collection in diplomatic history, international political and economic development, and socio-cultural trends in developing countries. The library contains information on all areas of the world and their peoples in more than 800,000 volumes.

Publications

Accession lists and occasional bibliographies.

Information Services

The library is not open to the public except in regard to items not available elsewhere.

9. Reference and Documents Section

Bureau of International Organization Affairs
Department of State
Washington, D.C. 20520

Contact Point

Chief of Section
Mrs. Dorothy B. Thomas
202-632-7992

Collection Strength

The Section maintains a complete file of
all United Nations documents.

Publications

None

Information Services

The Section provides research and reference
services on UN documents for the Department
and other Government agencies. On-site
reference can be arranged with special
permission.

10. Society for International Development

1346 Connecticut Avenue, N.W.
Washington, D.C. 20036

Contact Point

Donaldine S. Finegold
Coordinator
Reference Service on Development Information
202-296-3810

Collection Strength

Working library is essentially for references (directories, bibliographies, handbooks, periodicals, statistical reports, etc...) pertaining to international economic and social development. These total around 400 documents at any given time.

Publications

International Development Review: a quarterly journal of opinion and comment by scholars and practitioners of development.

Survey of International Development: a bimonthly newsletter of the major events of international development and aid. Also available in French and Spanish.

FOCUS: Technical Cooperation: a quarterly journal dealing with the concepts, issues and experiences relating to international technical cooperation activities. Also included in the International Development Review.

Information Services

Reference Service handles inquiries on development problems primarily from members. These may range from questions on substantive material to inquiries for referral.

11. Institute for Scientific Information

325 Chestnut Street
Philadelphia, Pa. 19106

Contact Point

Mr. Richard Harris
Vice President, Marketing
215-WA3-3300, Ext. 340

Collection Strength

Type of materials: scientific and professional journals.
Subjects: every scientific discipline including the social and behavioral sciences.
Backfiles: up to 5 years by September 1975.
Receive approximately 4,500 journals.
Collection is not open to the public, but tear sheets of individual articles may be requested through OATS (Original Article Tear Sheet) service.

Publications

Science Citation Index (SCI): citation index to the complete range of scientific and technical literature. Has ability to search forward in time from previously published articles. Issued quarterly, cumulated annually. Annual issues available from 1961 to present. Also available in five-year cumulation that covers 1965-69.

Permuterm Subject Index (PSI): subject index of journal articles that uses a permuted title-word indexing system. Provided as part of the Science Citation Index system and the Social Sciences Citation Index.

Social Sciences Citation Index (SSCI): applies citation and Permuterm indexing to the journal literature of the social sciences. Starts with the literature of 1970.

Current Contents (CC): Weekly, multidisciplinary, current awareness publications which are reproductions of the tables of contents of important journals published world-wide. Available in six editions that cover up to 1,000 journals in each of the following classifications:

Agriculture, Biology and Environmental Sciences;
Social and Behavioral Sciences;
Clinical Practice;
Engineering, Technology and Applied Science;
Life Sciences;
Physical and Chemical Sciences.

Index to Scientific Reviews (ISR): index to help researchers locate over 20,000 review articles and state-of-the-art surveys published in over 100 science disciplines each year. Issued semi-annually, cumulated annually; starts with review literature of 1974.

Current Abstracts of Chemistry and Index Chemicus (CAC&IC): weekly abstract service that tells what is published in organic chemistry within a month after it appears. Special emphasis on new chemical compounds, reactions, and analytical methods. Covers over 150,000 new compounds per year with almost 2 million compounds recorded from 1960 to present.

ISI's Who is Publishing in Science (WIPIS): comprehensive annual directory of publishing scientists. Provides names and addresses of nearly a quarter million scientists each year, indexed by name, geographic area and organization.

Information Services

ASCA (Automatic Subject Citation Alert): individualized, computer-produced, weekly alerting service designed to inform scientists about current articles specifically relevant to their personal areas of interest. Covers 3,800 important journals.

ASCATOPICS: a computer-produced, weekly alerting service. Covers 470 selected research areas of broad interest.

ISI Search Service: personal, custom-tailored service in which information specialists search out the answers to almost any type of question on science or the social sciences.

Original Article Tear Sheet Service (OATS): international library service which provides the original tear sheets of journal articles reported, abstracted or indexed by any ISI service. Articles can be ordered by Telex as well as by mail and phone. Special 24-hour response service available.

ISI Magnetic Tapes: weekly magnetic tape service which provides the Science Citation Index (400,000 items a year) and the Social Sciences Citation Index (70,000 items a year) in computer searchable form. Software available.

Index Chemicus Registry Service (ICRS): monthly magnetic tapes that provide all the new-compound information reported in Current Abstracts of Chemistry and Index Chemicus. Tapes can be searched by compound family, substructure, biological activity, application, method of analysis, researcher, journal, and subject indexing term. Software provided.

Scisearch: an on-line interactive, computer search system for the file on the life sciences journal literature. Initial coverage includes over 400,000 items from the recent literature. Updated monthly.

Social Scisearch: on-line, interactive system covering same journals as Social Sciences Citation Index. Covers literature of last five years; adds over 80,000 new items each year, updated monthly.

ISI Special Projects: ISI's resources and know-how are available for special projects.

All ISI publications and information services are on sale to the public.

12. Associated Technical Services, Inc.

855 Bloomfield Avenue
Glen Ridge, N.J. 07028

Contact Point

Leon Jacolev, Technical Director
201-748-5673

Collection Strength

Areas of interest: all major physical and life sciences, technology and engineering.

Activity: retrieval, translation and dissemination of foreign scientific information in 42 languages, with particular emphasis on Russian and Japanese. Consulting in Russian scientific documentation, publications and patents. Advisory and translation services for business and technical specialists concerned with technology and research in areas of petroleum refining, oil and gas production, petroleum geology, chemical engineering and technology, chemistry, geophysics, and many other branches of science and engineering. Company also provides worldwide photocopy service covering scientific and engineering publications of ALL countries, including the Eastern bloc. Patents and patent applications a specialty. Dictionary and Book Division provides the most extensive dictionary selection in the world, well over 2,000 dictionary titles are available for sale. Coverage of practically all branches of science and technology, as well as general purpose dictionaries.

Library: specially assembled and continuously expanded to serve translation and foreign literature research needs. Bound volumes, excluding dictionaries, 5,300: dictionaries, 2,700: technical translations, 14,400: 15 vertical files: 120 Russian and English scientific periodicals.

Publications

Russian Oil and Gas Bulletin: bimonthly reportage of scientific papers published in the Soviet Union in the fields of petroleum geology, engineering, geophysics, micro paleontology, geochemistry, pipelining, corrosion and related areas. Special plan provides subscribers with English translations of reported papers.

Lists of Technical Translations: report translations generated in all fields of science and technology by ATS.

Dictionary Catalog and Bibliography: bibliographic data covering 2,000+ dictionary titles in some 40+ languages; general, science and technology, abbreviations and acronyms, translation aids and tools; librarianship; etc....

Information Services

Translations in all fields of science and technology; literature research with emphasis on Russian, Japanese, German, French; worldwide photocopy service covering scientific publications and patents; sale of technical and general dictionaries with over 2,000 titles in stock; consulting services covering foreign science and technology, especially Russian and Japanese; consultants in documentation and translation problems. Available publications: Lists of Technical Translations, Dictionary Catalog, Russian Oil and Gas Bulletin.

Library is NOT open to the public, but is intended for staff use. Visits by interested parties subject to special arrangement.

Specialized Sources

Infrastructure for Science and Technology

1. Library System

Cornell University
Ithaca, New York 14850

Contact Point

Mr. David Kaser
Director
607-273-4321

or

Dr. F.J. Ahimaz
Assistant Director
Program on Policies for Science and Technology
in Developing Nations
180 Uris Hall
607-256-6484

Collection Strength

Extensive collection on science and technology,
including material directly relevant to
developing countries.

Publications

Occasional bibliographies and accession lists.

Information Services

Answers inquiries, makes referrals.

2. Littauer Library

John F. Kennedy School of Government
Harvard University
Cambridge, Massachusetts 02138

Contact Point

Natalie Schatz
Reference Librarian
617-495-2106

Collection Strength

The Littauer Center is designed as a center for the School and other activities of the University relating to public policy and government service. A large part of the library resources (present count near 280,000 volumes and pamphlets) is made up of selected Federal and State government documents.

Publications

None.

Information Services

Answers inquiries; makes referrals.

3. Library

National Science Foundation
1800 G Street, N.W.
Room 219
Washington, D.C. 20550

Contact Point

Mrs. Frances M. Pentecost
Librarian
202-632-4070

Collection Strength

The National Science Foundation Library contains about 16,000 volumes and receives about 800 periodicals. The collection includes general works and recent research developments in the fields of the physical, biological and social sciences, science policy, research applied to national needs, energy, and the environmental sciences. Emphasis is placed on developing the collection in the fields of history and philosophy of science, administration of scientific research, education and teaching in the sciences, national and international science policy, research applied to national needs, energy, and the environmental sciences.

Publications

Journals received by the Library;
National Science Foundation (annual:
June 1974 is current edition); Library
Guide; Library Reading List (bimonthly).

Information Services

Open to the public.

Industrial Technology

1. Innovation Information and Analysis Project

Program of Policy Studies in Science and
Technology
The George Washington University
2130 H Street, N.W. - Suite 714
Washington, D.C. 20006

Contact Point

Mrs. Natalie Hawley
Chief Information Specialist
202-676-6450

Collection Strength

The collection includes some 7000 documents, mostly articles from periodicals, some government papers and reports, and books. The primary concentration is on innovation in technology, transfer of technology and includes some international references and case studies.

Publications

Accessions lists, book lists, indexes and bibliographies, some of which are annotated.

Information Services

Although the Project mainly serves the National Science Foundation, its services are available to other specialized libraries and individuals. Analytical services and bibliographic searches are provided at cost.

2. National Technical Information Service

Department of Commerce
5285 Port Royal Road
Springfield, Virginia 22151

Contact Point

703-321-8500

Collection Strength

NTIS is a central source for the public sale of Government-sponsored research, development and engineering reports, translations and other analyses by Federal agencies, their contractors or grantees, and it is a central source for Federally-generated machine processable data files and programs. The NTIS collection exceeds 800,000 titles and grows at a rate of approximately 60,000 reports per year.

Publications

- (1) Government Reports Announcements (GRA) and its companion, Government Reports Index (GRI), issued every two weeks containing abstracts and index to reports and translations offered for sale by NTIS;
- (2) Weekly Government Abstracts (WGA) are weekly newsletters containing current abstracts in various selected categories of interest;
- (3) the magnetic tapes from which the journals are prepared are available as are other magnetic tapes in a wide variety of fields;
- (4) a quarterly abstract journal, Application of Modern Technologies to International Development (AMTID) is published as part of a joint U.S. Agency for International Development and NTIS program to bring certain U.S. technical publications to the attention of interested individuals and organizations in developing countries.

Information Services

NTIS provides scientists, engineers, businessmen, industrial and academic organizations, the Federal community, and the general public with unclassified information resulting from Government-sponsored research and development. Sale of Reports: Items listed in GRA are made available for the cost of reproduction and handling in one of two forms--as printed pages

or as microfiche (4 x 6 inch microphotography sheets, covering up to 96 pages per sheet). An on-line computer-based custom bibliographic search service, (NTISearch) can locate abstracts of interest among the 400,000 Federally-sponsored research documents published since 1964 and among 100,000 ongoing projects. A microfiche service, Selected Research in Microfiche (SRIM), with a custom profile option, automatically provides subscribers with the full texts of reports in categories of interest they select. In addition, NTIS is the marketing coordinator for various Information Analysis Centers in the U.S., for their publications and technical inquiries.

3. Volunteers in Technical Assistance, Inc. (VITA)

3706 Rhode Island Avenue
Mt. Ranier, Maryland 20822

Contact Point

Brij Mathur
Librarian
301-277-7000

Collection Strength

The VITA Library contains an extensive collection of reports on intermediate technology relevant to developing countries, including more than 200 manuals and sets of plans on complex technology, simplified and oriented to rural and agricultural use in developing countries. The plans, designed for labor-intensive economies, are available in ten categories: agriculture; insect and pest control; water resources; home improvement; surveying; construction; transport; rural industry equipment; education and communications; village power sources. Also included in the library are business service bulletins, plant requirement reports, industry profiles, technical digest summaries, and approximately 1,600 reports and studies covering economics and social conditions, industry and marketing status, and feasibility and investment studies in 120 countries.

Publications

Handbooks and manuals. List available on request.

Information Services

Reference services and advice on intermediate technology for development by phone, correspondence, or on-site visit.

4. Library

National Bureau of Standards
Gaithersburg, Maryland 20234

Contact Point

Librarian
301-921-3451

Collection Strength

Mathematics; physics; metrology; mechanics; acoustics; optics; spectroscopy; nuclear physics; electricity and magnetism; chemistry (analytical, inorganic, organic, physical); crystallography; engineering; metallurgy; polymers; electronics; computer technology; standards and specifications; fire research; environmental pollution. Over 100,000 books, bound volumes of periodicals, and publications of scientific and technical institutions throughout the world. About 2700 periodicals are received currently.

Publications

Occasional bibliographies and accession lists.

Information Services

To those outside the National Bureau of Standards, the library answers inquiries, makes interlibrary loans, and permits on-site reference.

5. Technical Information Center

(formerly Division of Technical Information
Extension)

U.S. Atomic Energy Commission

P.O. Box 62

Oak Ridge, Tennessee 37830

Contact Point

Manager

615-483-8611 (ext. 3-4352)

Collection Strength

Nuclear science and technology, including the body of knowledge related to production properties, principles, and phenomena of atomic nuclei, subatomic particles, gamma-rays and X-rays, and the application of the principles and phenomena of nuclear science to other sciences and engineering, and, conversely, the application of other sciences and engineering to the problems of nuclear science. The AEC's master collection of atomic energy literature, including AEC and AEC-contractor technical reports, journal articles, conference papers and proceedings, patents, dissertations, books, monographs, and critical reviews, pertinent reports of other U.S. agencies and their contractors, reports of other countries having atomic energy programs, English translation of foreign atomic energy literature, and engineering drawings, specifications and related materials.

Publications

Nuclear Science Abstracts (semi-monthly, with personal author, corporate author, report number, and subject indexes), providing worldwide coverage of unclassified atomic energy literature;

A Technical Progress Review "Nuclear Safety" (bi-monthly), summarizing and evaluating recent developments in nuclear safety;

"Title Listing of Power Reactor Docket Information" (monthly) containing citations and subject indexing to the documentation associated with U.S. civilian nuclear power plants;

"Regulatory Adjudication Issuances and Issuances of the Board of Contract Appeals" (monthly) providing the full text of issuances from the U.S. Atomic Energy Commission, the Atomic Safety and Licensing Appeal Boards, the Atomic Safety and Licensing Boards, and the Board of Contract Appeals.

TIC will, upon request, provide the following free publications:

Science Information Available from the Atomic Energy Commission (TID 4550), a guide to AEC's science-information programs and services;

Books and Monographs sponsored by the United States Atomic Energy Commission, a catalog giving titles, scope, price and availability of items listed.

Information Services

The TIC provides reference and literature searching services to qualified requesters. The majority of AEC's unclassified reports, critical reviews, symposia proceedings, translations, etc. may be purchased in paper copy or in microfiche from the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22151.

6. Library

Massachusetts Institute of Technology
Cambridge, Massachusetts 03139

Contact Point

Ms. Frances Stefan
Program for Technology Adaptation for
Developing Countries
617-253-7981

Collection Strength

Reference catalog of material relating to
technology adaptation with particular
reference to developing countries.

Publications

Occasional bibliographies; accession lists.

Information Services

Answers inquiries; makes referrals.

7. International Development Data Center

Industrial Development Division
Georgia Institute of Technology
Atlanta, Georgia 30332

Contact Point

Richard Johnston, Research Specialist
Kay Ellen Auciello, Assistant Research Scientist
404-894-3875

Collection Strength

IDDC exists to support an U.S. Agency for International Development 211(d) contract project "Employment Generation Through Stimulation of Small Industries" of the International Branch of the Industrial Development Division, Georgia Institute of Technology. The scope of the collection is international with emphasis on LDC's. Subject strengths are small scale industry, industrial development, technical assistance, technology transfer, technology selection, economic development. The collection is comprised of 2000 pamphlets, books and directories, 275 serial titles, and vertical files of maps and tourist and travel information.

Publications

IDDC contributes to Small Industry Development Network, a newsletter published by the Industrial Development Division.

Information Services

IDDC performs research related to 211(d) project for Industrial Development staff and counterpart country personnel, gives information assistance to Engineering Experiment Station staff, Georgia Tech faculty and students and provides such assistance to others as time and resources allow. IDDC does bibliography compilation, literature searches and indexing selected serials held by IDDC.

8. The Institute of Paper Chemistry

P.O. Box 1048
Appleton, Wisconsin 54911

Contact Point

W. S. McClenahan
Director, Division of Information Services
414-734-9251

Collection Strength

Subjects covered include pulp and paper technology and related subjects. Special collection is the Dard Hunter collection on the history of papermaking (1,200 books and 2,800 special documents). The library currently receives 750-800 journals. The overall collection now includes: 17,350 bound periodical volumes; 16,000 books and pamphlets; 110,000 patents (U.S., Canadian, British, French, German, USSR); 3,900 technical translations; 101 reels of 16 mm film-periodicals; 1,200 other microforms (government documents, fiche, 35 mm. dissertations); 1,500 3-ring binders containing vertical file material (equals 100 drawers). The Library collection and the Abstract Bulletin cover pertinent literature from all over the world.

Publications

Abstract Bulletin of the Institute of Paper Chemistry
(including microforms);
Keyword Supplement to the Abstract Bulletin;
Words-in-Title-Topical-Index to the Abstract Bulletin
("WITTI");
Bibliographic Series; translations; books.

Information Services

All services available to the public, including the Library; however, the Library does not lend any of its holdings except doctoral dissertations. Photocopying service, translation service. Literature search service, manual and computerized, current awareness and retrospective, on subjects pertaining to pulp, paper, and related areas of science and technology. Computer data bases include the Abstract Bulletin of the Institute of Paper Chemistry and Chemical Abstracts Condensates. Price quotations for manual searches are provided without obligation. Magnetic tapes of the Abstract Bulletin, Keyword Supplement and Bibliographic Series. Computer searching programs for IPC tapes or company internal files and for reformatting Chemical Abstracts Condensates tapes.

9. Chemical Abstracts Service

Division of the American Chemical Society
The Ohio State University
Columbus, Ohio 43210

Contact Point

Marketing Department
614-421-6940

Collection Strength

The collection covers chemistry and chemical engineering. Contains 15,000 books; 12,000 periodicals; and 4,000-6,000 reports. All have been monitored for coverage in Chemical Abstracts.

Publications

Chemical Abstracts: weekly issues contain bibliographic citations for and abstracts of publications whose content is, at least in part, related to chemistry or chemical engineering.

CA Volume Indexes: published separately after each semi-annual Volume of CA has been completed. While the Volume Numerical Patent Index and Patent Concordance are essentially cumulations of the corresponding issue patent indexes and concordances, the other volume indexes are completely new creations derived usually from a searching examination of the original documents, not the abstracts.

CA Section Groupings: the total abstract content of CA is available in five individually packaged subject groupings, each grouping consisting of a set of CA sections related by subject matter:
Biochemistry Sections (CABS)
Organic Chemistry Sections (CAOS)
Macromolecular Sections (CAMS)
Applied Chemistry and Chemical Engineering Section (CAAS)
Physical and Analytical Chemistry Sections (CAPS).

Collective Indexes to Chemical Abstracts: comprehensive indexes which combine the content of individual CA Volume Indexes.

Registry Handbook - Number Section: 13,000 page listing of the nearly two million unique chemical substances registered in the Chemical Abstracts Service (CAS) Chemical Registry System from 1965 through 1971.

Chemical Abstracts Service Source Index: (CASSI), 1907-1974 Cumulative is a compilation of bibliographic data and library holding information for the full range of scientific and technical primary source literature relevant to the chemical sciences. Includes approximately 40,000 entries.

Chemical Titles: a biweekly current-awareness service which reports the titles of those papers of chemical interest which have been recently published in selected journals.

Chemical Industry Notes: a weekly compilation of brief and informative extracts of articles published in key trade and industry periodicals.

Information Services

Information services available through CAS-licensed Information Centers. These use CAS computer-readable data files to fulfill the information needs of individuals or organizations within the scientific and technical community. Generally provide a range of services based on computer-readable data files available from CAS and from other information processors. A listing of CAS-licensed Information Centers is available on request, by writing to the Chemical Abstracts Service, Marketing Department.

10. Institute of Transportation and Traffic Engineering
Library

University of California
412 McLaughlin Hall
Berkeley, Calif. 94720

Contact Point

Beverley Hickok, Head Librarian
Ann Patterson, Public Services Librarian
415-642-3604

Collection Strength

Subjects covered include highway engineering (including roads and freeways); mass transit; rapid transit; aviation; regional transportation studies; urban planning and transportation; railroads; traffic safety and crash research; environmental impacts; pedestrians; bikeways; transportation economics; technology transfer and technology forecasting. Collection contains approximately 150 entries on transportation in developing areas, 175 on developing areas in general, 100 on roads in developing areas and another 100 under the names of particular developing areas. Collection contains 11,626 books; 686 periodical titles; 1033 annuals titles; 2740 proceedings; 29,174 reports in a series; 12,276 catalogued pamphlets; 4594 reprints; 1059 microfiches; 656 maps. All major articles from journals are analyzed.

Publications

Selected List of Recent Acquisitions (quarterly); Library References (bibliographies on specific subjects compiled as time permits); the Institute also publishes Staff Papers, Graduate Reports, Dissertation Series, and Special Reports.

Information Services

The Library exists primarily for the Institute's staff and for the University of California Berkeley graduate Transportation Engineering Division faculty and graduate students. The Library is open to the public for library use only. Some materials circulate to other libraries in accord with the ALA interlibrary loan rules. Specific questions received by phone or mail are answered. When time permits, a copy of cards from the subject catalog is made resulting in a bibliography on a very specific topic of interest.

Natural Resources Planning and Management

1. National Agricultural Library

U.S. Department of Agriculture
Beltsville, Maryland 20705

Contact Point

Mr. Charles Bebee
Chief, Reference Division
301-344-3836

Collection Strength

1.5 million volumes, including books and bound journals, current periodicals, reports, maps, charts, posters, and microfilms. The literature is in more than 50 languages and includes material from over 100 foreign countries.

Publications

Special bibliographies published in "Library List" series. Dissemination of agricultural information is provided in NAL-oriented publications:

The Bibliography of Agriculture is published by and available from MacMillan Information (Riverside, N.J.);

The Dictionary Catalog of the National Agricultural Library, 1862-1965;

the quinquennial National Agricultural Library Catalog, 1966-1970;

and the monthly National Agricultural Catalog 1971 - are published by and available from Rowman and Littlefield, Inc., Totowa, N.J.

Further current awareness is provided by our CAIN (CATaloging-INdexing) data tapes and CAIN on-line search service.

Information Services

Answers reference questions and makes brief literature searches without charge. Photocopying is done at cost. The buildings are open to the public for on-site reference, and material may be borrowed through interlibrary loan.

2. Library

U.S. Geological Survey
National Center - MAIL STOP 950
12201 Sunrise Valley Drive
Reston, Virginia 22092

Contact Point

Mr. George H. Goodwin, Jr.
Chief Librarian
703-860-6619

Collection Strength

The holdings of the Main Library consist of books (almost 475,000), journals (about 8,000 serial publications are received regularly), data, and topographic and geologic maps (about 250,000). The Branch Libraries have less extensive holdings. All four libraries are supplied with copies of all major Geological Survey publications. In addition, the Denver Library has a field record and photographic collection for geological expeditions from 1869 to the present, and a special collection of well logs. The Library contains over 1,000 reports on developing countries worldwide.

Publications

Dictionary Catalogue of the United States Geological Survey Library, 25 vols., 1st suppl. 11 vols. (Published by G.K. Hall, Boston, Mass.) 2nd suppl. in progress.

Information Services

The Main Library and its branches are open to the public for reference. The Denver Library's collection of well logs is available only to Survey and Atomic Energy Commission personnel, and its collection of field records is available to persons outside the Survey only by permission of the Director. A publications exchange program is maintained with approximately 800 foreign institutions and 200 in the United States. Interlibrary loan services are provided to other Government agencies, educational institutions, and industry. Materials are made available for duplication through commercial firms. Survey still photographs may be purchased from the Denver Library.

3. Water Resources Division

U.S. Geological Survey
12201 Sunrise Valley Drive
Reston, Virginia 22092

Contact Point

Water Information Group
703-860-6867

Collection Strength

About 25,000 books, reports, journals, maps, and charts pertaining to water resources; about 250 million items of water data, 2,000 data compilations, 100,000 water-well core samples, 50 analog models of surface-or ground-water occurrences, 40 magnetic tapes of data on streamflow and quality of water, and 100 computer programs on water resources studies. A small percentage of this material relates to developing countries.

Publications

Of the established series of publications of the Geological Survey, information on water resources appears principally in Professional Papers, Bulletins, Water-Supply Papers, Circulars, Hydrologic Atlases, Journal of Research of the U.S. Geological Survey and Techniques of Water Resources Investigations of the United States Geological Survey. Nontechnical reports include primers on water, ground water, and water quality.

Information Services

Requests for general information in the field of water resources are answered by the Water Resources Division.

4. Engineer Agency for Resources Inventories

4701 Sangamore Road, N.W.
Washington, D.C. 20016

Contact Point

Chief, Reference Branch
202-227-2519

Collection Strength

4,000 books and technical reports;
300 files of data; 800 special subject
maps; 100 journal titles. Some of this
material relates to developing countries,
principally those in Southeast Asia and
Latin America.

Publications

Selected accessions (weekly, available
on written request); resource atlases
(not generally available for public
distribution); special studies, reports,
papers, and manuals (some available on
request); bibliographies.

Information Services

Answers inquiries; provides advisory,
reference, and limited bibliographic
services; makes limited interlibrary
loans.

5. Geology Library

223 National History Building
University of Illinois at Urbana-Champaign
Urbana, Illinois 61801

Contact Point

Mrs. Harriet W. Smith
Librarian
217-333-1266

Collection Strength

64,000 volumes; 2,300 serials, including Government reports; 44,500 geological maps with worldwide coverage; 245 films; 8 vertical file drawers of reprints, translations and pamphlets; extensive collection of old and rare books on geology (available for on-site use). Most foreign languages are represented, with emphasis on Russian, German, French, Spanish and Italian sources. About an equal number of volumes of geological literature are housed in the stacks of the main library because of lack of space.

Publications

Monthly acquisition list.

Information Services

Provides library services to University students and staff members, and to others by special permission; makes interlibrary loans; provides duplication services for fee.

6. Library

Water Resources Research Institute
205 Samford Hall
Auburn University
Auburn, Alabama 36830

Contact Point

Librarian
205-826-5075

Collection Strength

Water resources planning, publications and research; water reuse; public and private water supply; rural, recreational, municipal, industrial and agricultural water use; waterways; wells; detergents in water; hydraulics; hydrogeology; fluid mechanics; pesticides in water; control, abatement, sources, and effects of water pollution; municipal and industrial wastes; waste treatment; waste water; water analysis; water chemistry; water conservation; water cycle; water microbiology; water purification; water quality; water reclamation; soil-water relations; salt water intrusion; reservoirs; rivers and streams; water runoff; irrigation; lakes; limnology; fish diseases; eutrophication; aquifers; aquatic biology; aquatic ecology; aqueous solutions; ground water. Books, maps, project records; reports; journals, newsletters, bibliographies, pamphlets.

Publications

Bulletin (research reports), pamphlets and annual report.

Information Services

Answers inquiries; makes referrals; permits on-site use of collection.

7. Environmental Science Information Center

National Oceanic and Atmospheric Administration
3300 Whitehaven Street, N.W.
Room 186
Washington, D.C. 20235

Contact Point

Director
202-343-7636

Collection Strength

Oceanography; hydrography; seismology;
geomagnetism; aeronomy; hydrology; clima-
tology; atmospheric sciences; cartography;
solar physics; geodesy; marine fisheries;
marine biology.

Publications

NOAA Professional Papers; NOAA Technical
Reports; NOAA Technical Memoranda; Science
and Engineering News from NOAA; Library
Accessions list; NOAA Publications Announce-
ment; books, abstracts, and indexes, biblio-
ographies, research-in-progress reports.

Information Services

Responds to requests for scientific and
technical information produced by NOAA and
arranges for exchanges of such information
with other Government agencies; provides
reference, literature-searching, abstracting
and indexing; disseminates publications.
Services are free except where a major analy-
sis effort or costly publication is involved.

8. Library

Forest Products Laboratory
U.S. Forest Service
North Walnut Street
P.O. Box 5130
Madison, Wisconsin 53705

Contact Point

Reference Librarian
608-257-2211 (ext. 289)

Collection Strength

Forest products utilization; wood quality;
solid wood products; wood engineering;
wood chemistry; wood fiber products.
Books, journals, reports, photos, films.
Collection includes reports on forestry
development in most developing countries.

Publications

Technical and survey reports, handbooks,
monographs, bibliographies, literature
reviews, bulletins.

Information Services

Answers inquiries; provides consulting,
reference, and document services; permits
on-site use of literature collection.

9. Editor

Agricultural Experiment Station
Purdue University
Lafayette, Indiana 47907

Contact Point

Editor
317-749-2416

Collection Strength

Agricultural and home economics research, including agricultural engineering, agronomy (crops, soils), animal and poultry sciences, botany and plant pathology, entomology, forestry and conservation, horticulture, veterinary science, biochemistry, and intermediary metabolism. Holdings include reports on development in many developing countries.

Publications

Research Bulletin (15 a year); Station Bulletin (50-60 a year); Purdue Agriculture Reports (quarterly); journal articles (350 a year).

Information Services

Provides reference services.

10. F. Franklin Moon Library

State University of New York
College of Environmental Science and Forestry
Syracuse, New York 13210

Contact Point

Librarian
315-473-8696

Collection Strength

Cellulose and wood chemistry; paper science and engineering; polymer chemistry; biochemistry; wood anatomy and ultrastructure; forests and forestry; botany and plant pathology; zoology including entomology; dissertations and theses; U.N. Food and Agriculture Organization reports. Reports of the Office of International Forestry, including reports on Philippines and Venezuela.

Publications

Library Notes, accession lists, and bibliographies.

Information Services

Answers inquiries.

11. Library

University of Washington
Seattle, Washington 98105

Contact Point

Librarian
206-543-1760

Collection Strength

Science and technology, including astronomy, atmospheric sciences, chemistry, engineering, physics, mathematics, fisheries, oceanography, forest resources, medicine, dentistry, nursing, pharmacy, zoology, geology, botany and biology. 1,690,000 volumes of monographs and serials; numerous Government publications (federal, state, international, foreign); over 352,000 research reports; 37,000 reels of microfilm; 548,000 microfiches, microprints and microcards. Forestry reports on several developing countries including Chile and Costa Rica.

Publications

Library Leaflet series (irregular); Library Guide series (irregular); Washington Library Newsletter (bi-weekly); acquisition lists.

Information Services

Provides reference services, primarily to students and faculty; makes interlibrary loans; provides duplication services for fee; permits on-site reference.

12. Document Library

Woods Hole Oceanographic Institution
Woods Hole, Massachusetts 02543

Contact Point

Librarian
617-548-1400 (ext. 269)

Collection Strength

All aspects of oceanography, including instrumentation, marine meteorology, geology and geophysics. 15,000 technical reports.

Publications

None.

Information Services

Answers telephone inquiries; lends unclassified technical reports to the scientific and educational community; permits on-site use of collection by persons introduced by staff members or affiliated with the Federal Government; makes interlibrary loans.

13. Library

Department of Fisheries and Marine Technology
University of Rhode Island
35 Steamboat Avenue
Wickford, Rhode Island 02852

Contact Point

Librarian
401-295-8893

Collection Strength

Technical aspects of commercial fisheries, including aquaculture, fishing vessels, nets and gear, engineering, fish handling and processing, and navigation and vessel operations; commercial fisheries extension activities. Small reference collection of books, periodicals, and reports, including some concerning developing countries.

Publications

Commercial fisheries newsletter (bimonthly); technical reports, extension bulletins.

Information Services

Answers inquiries; provides consulting services, usually on contract basis.

14. Technical Library

Tennessee Valley Authority
National Fertilizer Development Center
Muscle Shoals, Al. 35660

Contact Point

Shirley Nichols, Librarian
205-383-4631 (722)

Collection Strength

Subjects: agriculture; chemistry; chemical engineering; fertilizers; economics; environmental sciences; and developing countries.
Holdings: books and bound periodicals - 20,700; subscriptions - 890 periodicals and other serials; vertical file - 306 drawers (pamphlets, documents, translations); microfilm reels - 1,500.

Publications

TVA Fertilizer Publications which include Chemical Engineering Reports, Chemical Engineering Bulletins, Miscellaneous Publications, Agricultural Development Reports, International Studies, Reprints from Technical and Scientific Journals, and Proceedings Published by Others.
Bibliography Listing.

Information Services

Interlibrary loans, photocopying, bibliographies, reference service, and the library is open to the public.

Medical Technology

1. Rehabilitation International

122 East 23rd Street
New York, New York 10010

Contact Point

Mr. Norman Acton
Secretary General
212-674-4340

Collection Strength

Rehabilitation International maintains a small reference library at its international Secretariat, and a more extensive collection in cooperation with the Rehabilitation International Information Service, Stiftung Rehabilitation Heidelberg, Federal Republic of Germany (see below).

Publications

International Rehabilitation REVIEW, published quarterly in English with French and Spanish language summaries. A Japanese language edition is also published quarterly. Subscription: US \$5.00 per year.

Rehabilitation Guidelines for the Future, in the Medical, Vocational, Education and Social Fields.

The Development of Rehabilitation Services in Relation to Available Resources (Killarney, Ireland) - Report of a Meeting of Experts held on September 21-24, 1969.

Information Services

Rehabilitation International maintains an Information Service in the facilities of the Stiftung Rehabilitation Heidelberg. The Stiftung Rehabilitation Heidelberg is a complex of vocational, medical and research facilities for physically handicapped children and adults in the Federal Republic of Germany. It collects, catalogues and stores rehabilitation related publications from all parts of the world for reference use. Selected publications are also stocked for distribution to interested individuals and international organizations.

Information Service materials are available in English, French and German. A limited number of publications are available in Spanish.

Plans are being developed for computer storage and retrieval of abstracts from selected publications and periodicals for future dissemination in subject bibliographies.

BIBLIOGRAPHY

B. BIBLIOGRAPHY

The following bibliography contains reports, papers, and publications selected to cover a broad range of topics relevant to science, technology and development. It also contains additional material in three areas of emphasis: industrialization, small-scale industries, and the transfer of technology to developing countries. The bibliography is not exhaustive, but in conjunction with the List of Sources detailed in Section A of this Report, it is intended to give the reader an overview of the information resources available.

To facilitate the use of the bibliography, it has been organized as follows. Entries are arranged alphabetically by author within each subject category. When the author is an institution or organization, the entry is catalogued with the organization name as author. Each item has been assigned a reference number which consists of a Roman numeral and an Arabic number. The Roman numeral indicates the subject section and the Arabic numeral indicates the position of the entry within the section. In some cases the major subject category is broken down into sub-categories. The reference numbers reflect this sub-division in the use of lower-case letters between the Roman and Arabic numerals to indicate the sub-categories.

Many entries could have been legitimately placed under several subject headings, but each item is listed only once to conserve space. In order to ensure that the reader is aware of all possible sources in this bibliography, a cross-referencing system has been used. At the end of most subject categories will be found a list of reference numbers which refer to entries in other subject groups. These entries also pertain to the category immediately preceding the list. In addition, the entries are indexed at the end of the bibliography by author, sponsoring organization, and by country (if applicable).

For further ease of use and conservation of space, standard acronyms for organization names have been used throughout the bibliography. A list of these acronyms appears on the next page.

To aid the user in obtaining copies of references in the bibliography, reference numbers of the various organizations have been included when available. These will be found at the end of the citation in brackets. The numbers starting with PB, PN, or P refer to the National Technical Information Service, Springfield, Virginia. The bracketed numbers following UN system references are the UN document numbers, not the sales numbers.

ACRONYMS USED IN THE BIBLIOGRAPHY

- ACAST - Advisory Committee on the Application of Science and Technology to Development (UN)
- AID - Agency for International Development (US)
- CENTO - Central Treaty Organization
- ECAFE - Economic Commission for Asia and the Far East (UN)
- ECLA - Economic Commission for Latin America (UN)
- HUD - Department of Housing and Urban Development (US)
- ILO - International Labor Organization
- KIST - Korean Institute of Science and Technology
- MIT - Massachusetts Institute of Technology
- NAS/NAE - National Academy of Sciences/National Academy of Engineering
- NBS - National Bureau of Standards
- OAS - Organization of American States
- OECD - Organization for Economic Cooperation and Development
- ODC - Overseas Development Council
- OST - Office of Science and Technology
- SPRU - Science Policy Research Unit (University of Sussex, England)
- SEADAG - Southeast Asia Development Advisory Group (Asia Society)
- UN - United Nations
- UNCTAD - UN Conference on Trade and Development
- UNDP - UN Development Program
- UNESCO - UN Educational, Scientific and Cultural Organization
- UNIDO - UN Industrial Development Organization
- UNITAR - UN Institute for Training and Research
- UNRISD - UN Research Institute for Social Development
- WAITRO - World Association of Industrial and Technological Research Organizations (UNIDO)
- WHO - World Health Organization

I. BIBLIOGRAPHIES

- I-1 Academy for Educational Development - Sources of Information and Assistance on Educational Technology for Development: A Directory. Information Center on Instructional Technology, Academy for Educational Development, Washington, D.C.
- I-2 AID - Application of Modern Technologies to International Development. AID, National Technical Information Service, Springfield, Va. Quarterly series of publications.
- I-3 Baranson, Jack - Technology for Underdeveloped Areas: An Annotated Bibliography. International Series of Monographs in Library and Information Science, Vol. 6, Pergamon Press, N.Y., 1967. 81 pp.
- I-4 East African Academy - Science and Technology in East Africa. Nairobi, Kenya.
- I-5 OECD - Transfer of Technology and Appropriate Techniques: A Bibliography. Development Center, OECD, Paris, 1972. 86 pp.
- I-6 Slate, Floyd O.; Mary Ann Acton; & Thandiwe Chinamora - Low-Cost Housing for Developing Countries: An Annotated Bibliography 1950-1972. Program on Policies for Science and Technology in Developing Nations, Cornell University, Ithaca, N.Y., 1974. 214 pp.
- I-7 WAITRO - Handbook of Technical Information Sources. WAITRO, Vancouver, 1974.

II. OVER-ALL VIEWS OF SCIENCE, TECHNOLOGY AND DEVELOPMENT

- II-1 Adelman, I.; & C. T. Morris - "Factor Analysis of the Interrelationship between Social and Political Variables and Per Capita Gross National Product," Quarterly Journal of Economics, Vol. LXXIX (Nov. 1965).
- II-2 _____ . - "Performance Criteria for Evaluating Economic Development Potential," Quarterly Journal of Economics, Vol. LXXII (May 1968).
- II-3 _____ . "Comments and Reply," Quarterly Journal of Economics, Vol. LXXXIV (Nov. 1970).
- II-4 AID - Technology and Economics in International Development: Report of a Seminar, May 23, 1972. Office of Science and Technology, Office of Policy Development and Analysis, AID, Washington, D.C., May 1972. 84 pp. TA/OST 72-9.
- II-5 Balassa, B. (ed) - The Structure of Protection in Developing Countries. Johns Hopkins Press, Baltimore, 1971.
- II-6 Baranson, Jack - "The Role of Science and Technology in Advanced Development of Newly Industrializing States," Socio-Economic Planning Sciences, Vol. 3 (1969).
- II-7 Barnett, R.; & R. Muller - "A Reporter at Large," New Yorker (Dec. 2, 1974), pp. 53-128.
- II-8 Blackett, P.M.S. - Reflexions of Science and Technology in Developing Countries. Gandhi Memorial Lectures No. 1, East African Publishing House, Nairobi, Jan. 1969.
- II-9 _____ . - "The Ever-Widening Gap," Science and Culture, Vol. 33 (1967), pp. 303-311.
- II-10 _____ . - "Science and Technology in an Unequal World," Science and Culture, Vol. 34 (1968), pp. 16-24.
- II-11 Chenery, Hollis B.; & L. Taylor - "Development Patterns: Among Countries and Over Time," Review of Economics and Statistics, Vol. 50 (Nov. 1965), pp. 391-416.
- II-12 Chenery, Hollis B.; Montek S. Ahluwalia; C.L.G. Bell; John H. Duloy; & Richard Jolly - Redistribution with Growth. Oxford University Press, N.Y., 1974.

- II-13 Clarke, Robin - The Great Experiment; Science and Technology in the Second United Nations Development Decade. UN, Centre for Economic and Social Information, N.Y., 1971. 54 pp.
- II-14 Cooper, Charles - "Science, Technology and Production in the Underdeveloped Countries: An Introduction," The Journal of Development Studies, Vol. 9, No. 1 (Oct. 1972), pp. 1-18.
- II-15 _____ . (ed.) - Science, Technology and Development: The Political Economy of Technical Advance in Underdeveloped Countries. Frank Cass & Co., London, 1973. 199 pp.
- II-16 Foster, George M. - Traditional Societies and Technological Change. 2nd Edition, Harper and Row Publishers, N.Y., 1973. 286 pp.
- II-17 Goulet, Denis - "Exporting Technology to the Third World: A Guide to Terms and Issues," Perspectives on Development and Social Change, II, No. 1 (1973), 14 pp. Center for the Study of Development and Social Change, Cambridge, Mass.
- II-18 _____ ; & Michael Hudson - The Myth of Aid. Orbis Books, 1971.
- II-19 Hetzler, Stanley A. - Technological Growth and Social Change: Achieving Modernization. Frederick A. Praeger, N.Y., 1969. 302 pp.
- II-20 _____ . - Applied Measures for Promoting Technological Growth. Routledge and Kegan Paul, Boston, 1973. 337 pp.
- II-21 Hodges, Wayne; & Matthew A. Kelly (eds.) - Technological Change and Human Development: An International Conference. Jerusalem, April 14-18, 1969. Published by the New York State School of Industrial and Labor Relations, Cornell University, Ithaca, N.Y., for the American Foundation on Automation and Employment, 1970. 388 pp.
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XVa: XII-13

XVb: VIII-26, XIII-1, XIII-2, XIII-4

XVe: I-6, II-13, VIII-28, X-17

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XVg: Vb-1, VII-50, VIII-4, VIII-31, VIII-42, VIII-47, VIII-60, X-10

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II-50, II-53, II-55, III-3, III-6, III-8, III-10, III-11, III-12, IV-2, IV-6, IV-9, IV-10, IV-11, IV-12, IV-20, IV-21, Va-1, Vb-10, VI-1, VI-4, VII-2, VII-16, VII-17, VII-18, VII-27, VII-28, VII-41, VII-48, VIII-3, VIII-5, VIII-8, VIII-9, VIII-21, VIII-22, VIII-27, VIII-30, VIII-32, VIII-34, VIII-35, VIII-36, VIII-37, VIII-38, VIII-48, VIII-49, VIII-51, VIII-57, IX-5, X-1, X-2, X-4, X-7, X-8, X-9, X-12, X-13, X-14, X-18, X-20, X-25, X-26, X-28, XI-1, XI-2, XI-3, XI-6, XII-4, XII-5, XII-6, XII-10, XIII-2, XVa-1, XVa-3, XVa-5, XVe-1, XVe-14, XVe-15, XVe-19, XVg-1, XVh-1, XVh-3, XVj-4

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For further references on this topic, see items:

II-26, II-31, III-16, IV-4, VI-1, VIII-11, X-16, XII-4,
XVa-3, XVb-1

AUTHOR INDEX

- Abbas, S.A. (I. BRECHER) XVI-4
- Aburatani, S. X-1
- Adelman, I. (C.T. Morris) II-1,
II-2, II-3
- Aggarwal, P.C. VII-2
- Ahluwalia, M.S. (H. CHENERY;
C.L.G. Bell; J.H. Duloy; &
R. Jolly) II-12
- Alhaique, C. IV-1
- Allen, T.J. (S. Cooney)
VIII-1, VIII-2, VIII-3
- Altekar, V.A. VIII-4
- Aluko, S.A. X-2
- Araoz, A. (C.A.M. Vidal)
XVI-1
- Ascroft, J.R. (E.M. ROGERS;
N.G. Roling) XVI-27
- Aurora, G.S. (M.V.K. Sivamohan)
IV-2
- Azami, B.A. X-3
- Balassa, B. II-5
- Balasubramanyam, V.N. VIII-5
- Balderose, G. (A. Fitzgerald)
XVI-2
- Banerji, R. (M. YUDELMAN;
G. Butler) XII-15
- Bar-Zakay, S.N. VIII-6,
VIII-7
- Baranson, J. I-3, II-6, XVf-1
- Bard, B.J.A. IV-3
- Barnett, R. (R. Muller) II-7
- Barnett, V.M. VII-3
- Behrman, J.N. XVI-3
- Bell, C.L.G. XII-1
- Bell, C.L.G. (H. CHENERY;
M.S. Ahluwalia; J.H. Duloy;
R. Jolly) II-12
- Berry, A. X-4
- Bhagwati, J.N. VII-4, IX-4
- Bhalla, A.S. VII-4
- Bhargava, R.N. (A. RAHMAN;
M.A. Qureshi; S. Pruthi)
XVI-24
- Bhattasali, B.N. VII-5
- Biggs, S. XII-2
- Blackett, P.M.S. II-8, II-9,
II-10
- Bliss, C. (R.M. NADKARNI;
C.L. Kusik) VIII-31
- Boon, G.K. VII-16
- Bossel, H. XVd-1
- Brecher, I. (S.A. Abbas)
XVI-4
- Brown, J.A. (C.T. Stewart)
XI-1
- Brown, M. (M. USUI) VII-43
- Bruton, H.J. VII-7
- Buchele, R.B. X-5
- Butler, G. (M. YUDELMAN;
R. Banerji) XII-15
- Bykov, A.N. (A.V. Letenko,
M.P. Strepetova) VIII-8

- Carnoy, M. VI-1
- Chakrabarti, A.K. (A.H. RUBEN-
STEIN, T.W. Schlie)
VIII-41
- Chalmers, D.A. VIII-30
- Chao, Kang XVe-1
- Chapdelaine, M. XVI-5
- Chapman, G. XVII-1
- Cheaney, E.S. (R.D. Leis;
D.M. Landreman) XVf-2,
XVf-3
- Chenery, H.B. II-11, II-12
- Chenery, H.B. (M.S. Ahluwalia;
C.L.G. Bell; J.H. Duloy;
R. Jolly) II-12
- Chenery, H.B. (L. Taylor)
II-11
- Cheng, C.Y. XVI-6
- Child, F.C. (H. Kaneda)
XVI-7
- Chowdhury, P.N. IV-4
- Christensen, P.N. XVe-2
- Chudson, W.A. VIII-9
- Clarke, R. II-13
- Cockburn, C. XVe-3
- Cockroft, J. VII-8
- Colby, J.G. XVe-4
- Contrucci, M. de A. XVg-1
- Cooney, S. (T.J. ALLEN)
VIII-1, VIII-2, VIII-3
- Cooper, C. II-14, II-15,
III-4, VIII-11, VIII-12
- Cooper, C. (F. Sercovitch)
VIII-10
- Cooper, C. (A.K. Sen)
VIII-13
- Crespin, G. VIII-14
- Cresson, L. (K.L. NANJAPPA)
X-13
- Cukor, G. VI-2, VI-3
- Dalrymple, D.G. XII-3
- Dasgupta, P. XVII-2
- Dasgupta, P. (A.K. Sen;
S. Marglin) XVII-3
- Davis, R.G. XI-2
- Dean, G. XVI-8, XVI-9
- Dedijier, S. III-5
- Desai, P. IX-5
- Domergue, M. IX-6
- Dore, R. VI-4
- Dreiblatt, D. XVe-5
- Duff, B. (A.U. KHAN) XII-6
- Duloy, J.H. (H. CHENERY:
M.S. Ahluwalia; C.L.G. Bell;
R. Jolly) II-12
- Eckaus, R.S. VII-9, VII-10
- Edwards, E.O. VII-11, VII-12
- Edwards, E.O. (M. Todaro)
XI-4
- El-Halfawy, M. Vb-1
- Esman, M.J. (J. Montgomery)
III-6
- Falcon, W.P. (G.F. Papanek)
XII-4

Falcon, W.P. (C.H. Gotsch)
XII-4

Felix, D. XVI-12

Fitzgerald, A. (G. BALDEROSE)
XVI-2

Forsyth, D.J.C. (J. PICKETT;
N.S. McBain) VII-24

Foster, G.M. II-16

Froment, D. (M. USUI) VIII-61

Gabay, M. Va-1

Galenson, W. VII-22

Giedroyc, M.J.H. VIII-16

Gillon, P. & H. XI-5

Giral, J.B. XVg-2

Glaser, P.E. XVj-2

Goodman, L.J. (H.P. HO;
E. Tabujara) XVe-6

Gotsch, C.H. VII-14, XII-15,
XVa-1

Gotsch, C.H. (W.P. FALCON)
XII-4

Goulet, D. II-17

Goulet, D. (M. Hudson) II-18

Gowon, Y. XVI-13

Green, D.A.G. XVI-14

Gruber, W.H. (D.G. Marquis)
VIII-17

Halty-Carrere, M. III-7

Hamm, H.W. XVd-2

Hawbaker, G.D. X-7

Hawthorne, E.P. VIII-18

Hayami, Y. (V.W. RUTTAN)
XII-12

Herrera, A. III-8

Hetzler, S.A. II-19, II-20

Ho, H.P. (L.J. Goodman;
E. Tabujara) XVe-6

Hodges, W.L. (M.A. Kelly)
II-21

Hudson, M. (D. GOULET) II-18

Huilcarema, H.N. XVh-1

Hunter, G. IV-5

Ilchman, W.F. (N.T. Uphoff)
III-9

India (Government) X-8, X-9

Ishikawa, S. VII-18

Jackson, S. VII-19, VII-20

Jantsch, E. XVII-4

Jaquier, N. III-11

Jen, C.K. XVI-15

Johnson, B. (H. Singer;
B. Mackay) IX-7

Joklik, O.F. X-10

Jolly, R. (H. CHENERY: M.S.
Ahluwalia; C.L.G. Bell;
J.H. Duloy) II-12

Joy, L. (D. SEERS) VIII-25

Jurado, G.H. VII-21

Kalachek, E.K. (R.R. NELSON:
M.J. Peck) II-29

Kamman, A.B. XVI-1

Kanapathy, V. IV-6

- Kaplinsky, R. VIII-19,
VIII-20
- Kaneda, H. (F.C. CHILD)
XVI-7
- Kaynor, R.S. (K.F. Schultz)
VI-6
- Kelly, M.A. (W.L. HODGES)
II-21
- Khan, A.U. VII-22
- Khan, A.U. (B. Duff) XII-6
- Kilby, P. II-22, II-23
- Krishna, R. XII-7
- Kusik, C.L. (R.M. NADKARNI;
C. Bliss) VIII-31
- Lachmann, K.E. VIII-23
- Lal, D. XVa-3
- Landreman, D.M. (E.S. CHEANEY;
R.D. Leis) XVf-2, XVf-3
- Lange, J.H. X-11
- Laporte, T.R. VIII-24
- Lawrence, M.M. XIII-5
- Lee, E. (J. Wilkie) IV-12
- Lee, R.W. XVI-16
- Leis, R.D. (E.S. CHEANEY;
D.M. Landreman) XVf-2,
XVf-3
- Lele, U.J. (J. Mellor) XII-8
- Letenko, A.V. (A.N. BYKOV;
M.P. Strepetova) VIII-8
- Lewis, G.P. XVe-9
- Lewis, S.R. III-12
- Lipton, M. VIII-25
- Little, I.M.D. (J.A. Mirrlees)
XVII-5, XVII-6, XVII-7
- Loman, D. Va-2
- Mackay, B. (B. JOHNSON;
S. Singer) IX-7
- Mackey, R. (C. MITCHAM) II-25
- Maestre, C. (K. Pavitt)
XVII-8
- Malgavkar, P.D. X-12
- Marglin, S. (P. DASGUPTA;
A.K. Sen) XVII-3
- Marquis, D.G. (W.H. GRUBER)
VIII-17
- Marsden, K. VII-23
- McBain, N.S. (J. PICKETT;
D.J.C. Forsyth) VII-24
- McConnaughey, J.S. (W.P.
STRASSMAN) XVe-16
- McTaggart, W.D. XVI-18
- Mehmet, O. XVII-9
- Meier, G.M. VII-10
- Mellor, J.W. XII-9
- Mellor, J.W. (U.J. LELE)
XII-8
- Merhav, M. II-24
- Merriam, M.F. XVd-3
- Meyer, K. R. VIII-26
- Mintzes, J. VIII-27
- Mirrlees, J.A. (I.M.D. LITTLE)
XVII-5, XVII-6, XVII-7
- Mitcham, C. (R. Mackey) II-25
- Moavenzadeh, F. VIII-28,
XVe-10

Montgomery, J.D. III-13,
VIII-29

Montgomery, J.D. (M.J. ESMAN)
III-6

Morehouse, W. II-26

Morgan, R.P. VIII-30

Morris, C.T. (I. ADELMAN)
II-1, II-2, II-3

Morse, R. Va-3

Morse, R. (E. STALEY) X-16

Muller, R. (R. Barnett)
II-7

Nader, C. (A.B. Zahlan) II-27

Nadkarni, R.M. (C.L. Kusik;
C. Bliss) VIII-31

Nagi, M.H. III-14

Nanjappa, K.L. (L. Cresson)
X-13

Nayudamma, Y. IV-13

Nelson, R.R. VIII-33

Nelson, R.R. (M.J. Peck;
E.K. Kalachek) II-29

Norris, K. IV-14

Nulty, XII-10

O'Donnell, G. (J.F. Sabato)
IV-15

O'Herlihy, C. St. J. XVII-10

Old, B.S. IV-16

Ozawa, T. VIII-37, VIII-38

Pack, H. (M. Todaro) VIII-39

Palmer, I. XII-11

Papanek, G.F. II-31

Papanek, G.F. (W.P. FALCON)
XII-4

Pavitt, K. (C. MAESTRE) XVII-8

Peck, M.J. (R.R. NELSON;
E.K. Kalachek) II-29

Picard, F.L. XVf-4

Pickett, J. (D.J.C. Forsyth;
N.S. McBain) VII-24

Poats, R.M. IX-9

Pruthi, S. (A. RAHMAN;
R.N. Bhargava; M.A. Qureshi)
XVI-24

Qureshi, M.A. (A. RAHMAN;
R.N. Bhargava; S. Pruthi)
XVI-24

Quinn, J.B. VIII-40

Rahman, A. (R.N. Bhargava;
M.A. Qureshi; S. Pruthi)
XVI-24

Rahnema, M. XVI-25

Ranis, G. VII-25

Reid, P.S. VII-26

Reuber, G.L. II-32

Reyes, F.G. XVI-26

Richter, L. XVc-1

Rivkin, S. II-33

Rogers, E.M. (R.S. Solo) II-42

Rogers, E.M. (J.R. Ascroft;
N.G. Roling) XVI-27

Rolfe, W.E. II-34

Roling, N.G. (E.M. ROGERS;
J.R. Ascroft) XVI-27

Rosen, M.E. VI-7

Rosenburg, N. II-35

- Rubenstein, A.H. (T.W. Schlie;
A.K. Chakrabarti) VIII-41
- Ruttan, V.W. (Y. Hayami)
XII-12
- Rweyemamu, J. XVI-28
- Sabato, J.A. (G. O'Donnell)
IV-15
- Sabato, J.A. (O. WORTHAN)
XVII-11
- Sachs, I. VII-27
- Sadii, M. VII-28
- Sagasti, F.R. II-36, III-15,
III-16
- Schlie, T.W. (A.H. RUBENSTEIN;
A.K. Chakrabarti) VIII-41
- Schultz, K.F. (R.S. Kaynor)
VI-6
- Schumacher, E.F. VII-17,
VII-29
- Schwartz, W.H. VIII-42
- Seers, D. (L. Joy) VIII-25
- Seidel, R.N. XVI-29
- Segre, V.D. IX-10
- Selwyn, P. IX-11
- Sen, A.K. VII-30
- Sen, A.K. (C. COOPER) VIII-13
- Sen, A.K. (P. DASGUPTA;
S. Marglin) XVII-3
- Sercovitch, F. (C. COOPER)
VIII-10
- Sharpston, M. VI-8
- Shils, E. III-17
- Simmons, R.A. XVI-2
- Singer, H.W. II-39
- Singer, H.W. (B. JOHNSON;
B. Mackay) IX-7
- Singh, R.K.D.N. Vb-2, Vb-3
- Sivamohan, M.V.K. (G.S. AURORA)
IV-2
- Skolnikoff, E.B. II-40, II-41
- Slate, F.O. (M.A. Acton;
T. Chinamora) I-6
- Sola Pool, I. de (P. Stone;
A. Szalai) XVI-3
- Solo, R.A. (E.M. Rogers)
II-42
- Solow, R.M. VII-31
- Spaey, J. II-43
- Spencer, D.L. (A. Weroniak)
VIII-46
- Staley, E. (R. Morse) X-16
- Starr, J.M. (C.A. THRALL)
II-46
- Stewart, C.T. (J.A. BROWN)
XI-1
- Stewart, F. VII-32, VII-33,
VII-34, XVII-11
- Stewart, F. (P. Streeten)
VII-35
- Stobaugh, R.B. VIII-47
- Stone, C.A. (S. J. Uccetta)
VIII-48
- Stone, P. (I. de SOLA POOL;
A. Szalai) XVI-3
- Strasser, G. III-18
- Strassman, W.P. II-44, VII-36,
XVe-13, XVe-14, XVe-15

- Strassman, W.P. (J.S. McConnaughey) XVe-16
- Streeten, P. (F. STEWART) VII-35
- Strepetova, M.P. (A.N. BYKOV; A.V. Letenko) VIII-8
- Sunkel, O. VIII-49
- Suttmeier, R.P. XVI-30, XVI-31
- Szalai, A. (I. de SOLA POOL; P. Stone) XVI-3
- Tabujara, E. (H.P. Ho; L.J. Goodman) XVe-6
- Taylor, L. (H.B. CHENERY) II-11
- Terner, I.D. (J.F.C. Turner) XVe-17
- Thomas, D.W. X-17
- Thompson, K.W. XI-7
- Thorman, P.H. XVa-4
- Thrall, C.A. (J.M. Starr) II-46
- Tinbergen, J. VII-37, XVe-18
- Todaro, M. (H. PACK) VIII-39
- Todaro, M. (E.O. EDWARDS) XI-4
- Todd, J.E. X-18
- Trussell, P.C. Va-6
- Tsu, R. XVI-32
- Turner, J.F.C. (I.D. TERNER) XVe-15
- Uccetta, S.J. (C.A. STONE) VIII-48
- Uchida, G. XVI-33
- Uphoff, N.T. (W.F. ILCHMAN) III-9
- Urquidi, V.L. IV-20
- Usui, M. VII-42, VII-43
- Usui, M. (D. Froment) VIII-61
- Utterback, J.M. IV-21, VII-44
- Vaitsos, C.V. II-57, Vb-10, Vb-12, Vb-13, VII-45, VII-46
- Vidal, C.A.M. (A. ARAOZ) XVI-1
- Vollrath, T.L. XII-14
- Watanabe, T. VI-10
- Weed, S.J. VII-47
- Wells, L.T. VII-48
- Weroniak, A. (D.L. Spencer) VIII-46
- Wilber, C.K. II-58
- de Wilde, John C. XVe-20
- Wilkes, J.D. XVII-14
- Wilkie, J. (E. LEE) IV-12
- Williams, B.R. II-59, XVII-15
- Wills, J.R. XVa-5
- Wils, F.C.M. XVI-39
- Wilson, G.W. VII-43
- Winston, G.C. VII-49
- Wood, R.H. IX-13
- Work, H.K. IV-23
- Wortman, O. (J.A. SABATO) XVII-11
- Wortzel, L.H. VIII-62

Young, A. XVI-40

Yudelman, M. (G. Butler;
R. Banerji) XII-15

Zahlan, A.B. XVI-41, XVI-42

Zahlan, A.B. (C. NADER) II-27

Zaludova, A.H. VI-12

ORGANIZATION INDEX

- Academy for Educational Development I-1
- AID I-2, II-4, III-1, III-2, III-3, III-6, Va-3, VII-1, VII-47,
VIII-27, IX-1, IX-2, IX-3, X-7, XIII-1, XIII-2, XIII-3,
XIII-4, XVb-1, XVb-2, XVi-2, XVj-1
- American Foundation on Automation and Employment II-21
- American Institutes of Research III-6
- Asian Productivity Organization VII-5
- Battelle Memorial Institute XVf-2, XVf-3
- Center for the Study of Development and Social Change II-17
- CENTO XIII-5
- Centro de Investigaciones en Administracion Publica, Brazil IV-15
- Council for Scientific and Industrial Research of Ghana IV-9
- Denver Research Institute VIII-15
- East African Academy (Kenya) I-4
- Education and World Affairs IX-13, XI-2
- German Foundation for Development Countries VII-13, X-6
- HUD XVe-15
- Illinois Institute of Technology Research Institute VIII-21
VIII-48
- Indonesian Institute of Science IV-10, IV-11, IV-12
- Institute of Development Studies II-39, II-57, VIII-19, XII-2,
XVI-12
- Intermediate Technology Development Group VII-17, XVa-2
- International Council for Educational Development XI-7
- International Economic Association II-59
- ILO III-10, VI-5, VII-15, VII-16, VII-17, XVe-7, XVe-8, XVe-15
- International Rice Research Institute XII-6
- KIST VIII-21, VIII-22

Liberian Bank for Industrial Development and Investment XVI-17

NAS/NAE II-28, II-41, IV-7, IV-8, IV-9, IV-10, IV-11, IV-12,
Va-4, Va-5, VII-18, XIV-1, XVd-4, XVe-11, XVe-12, XVe-16,
XVg-2, XVI-19, XVI-20

National Aeronautics and Space Administration XVj-2

NBS III-18, XVi-2

National Commission for Scientific and Technological Research
of Chile II-28

National Council of Applied Economic Research VIII-32, X-14

National Oceanographic Data Center XIII-6

National Research Council, Thailand XVI-20

National Science Foundation III-21, VIII-41

OECD I-5, II-30, III-11, III-12, IV-1, VII-42, VII-43, VIII-14,
VIII-18, VIII-61, IX-8, X-15, XII-15, XVa-3, XVII-4, XVII-6,
XVII-8, XVII-12

OAS III-7, III-15, Va-1, VIII-34, VIII-35, VIII-36, XI-6, XVI-1,
XVI-21, XVI-22, XVI-23, XVII-1, XVII-11, XVII-14

ODC VII-18, VII-19

Overseas Development Institute IV-5, VII-8, XVe-3

PPSTDN I-6, XVI-29

Scientific and Technical Research Council of Turkey, IV-17

SEADAG (Asia Society) VII-21, VII-48, VIII-29

Southern Africa Technology Development Group X-11

SPRU (U. of Sussex) II-37, II-38, II-45, VIII-43, VIII-44,
VIII-45

Technology and Development Institute of the East-West Center
X-5, XI-3, XVd-3, XVe-6, XVi-10, XVi-11, XVI-30, XVI-31

UN II-13, II-47, II-48, II-49, II-50, II-51, II-52, IV-18,
VII-15, VII-26, VII-38, VII-39, VII-40, VIII-10, VIII-50,
VIII-51, X-19, XIII-7, XIV-2, XVb-3, XVd-5, XVi-4, XVj-3

UNCTAD Vb-4, Vb-5, Vb-6, VIII-11, VIII-13, VIII-52, VIII-53,
VIII-54, VIII-55, VIII-56, VIII-57, IX-4, X-12, X-13, XI-8,
XVI-34, XVI-35, XVI-36, XVI-37

UNDP II-38

UNESCO II-43, II-53, II-54, II-55, II-56, Va-2, Va-7, VIII-55,
XVI-5, XVI-38, XVII-13, XVII-15

UNIDO III-19, IV-20, IV-3, IV-19, IV-23, Va-6, Va-8, Va-9, Vb-1,
Vb-2, Vb-3, Vb-7, Vb-8, Vb-9, Vb-10, Vb-11, VI-9, VI-12,
VII-41, VIII-4, VIII-16, VIII-31, VIII-42, VIII-58, VIII-59,
VIII-60, IX-12, X-1, X-3, X-10, X-20, X-21, X-22, X-23, X-24,
X-25, X-26, X-27, XIV-3, XVc-1, XVe-2, XVe-19, XVf-4,
XVg-1, XVg-3, XVg-4, XVg-5, XVh-1, XVh-2, XVh-3, XVII-3

UNITAR VIII-8, VIII-9, VIII-26, VIII-38, VIII-47, VIII-62,
IX-7, XVI-3

UNRISD XII-11

U.S. Geological Survey XVj-4

VITA X-17, XVd-1, XVd-2

WAITRO I-7, IV-22, Va-6

World Bank VI-8, VI-11, XVe-20, XVe-21, XVf-1

WHO XIV-3

COUNTRY & REGION INDEX

ASIA general: II-50, II-55, VII-5, VIII-29, VIII-37, X-1, X-25,
XI-3, XII-6, XVj-4, XVI-38

Bangladesh: XII-5

People's Republic of China: III-19, VII-18, XVe-1, XVI-2,
XVI-6, XVI-8, XVI-9, XVI-15, XVI-16, XVI-30,
XVI-31, XVI-32, XVI-33

Republic of China: XVe-11, XVi-2

Hong Kong: II-59

India: II-53, II-54, IV-2, VII-2, VII-41, VIII-5, VIII-8,
VIII-19, VIII-32, X-8, X-9, X-12, X-14, X-15, X-20,
X-27, X-28, XVa-3, XVa-5, XVI-24, XVI-27

Indonesia: III-6, IV-10, IV-11, IV-12, VII-28, VII-48, XVI-5,
XVI-10, XVI-11

Japan: II-53, II-54, III-11, VI-4, VIII-19, VIII-37,
VIII-38

Korea: VIII-21, VIII-22, VIII-27, VIII-48, XVi-2

Malaysia: IV-6, XVI-18

Pakistan: III-12, XII-4, XII-5, XII-10, XVa-1, XVI-4, XVI-7

Philippines: VII-21, X-13, XVI-26

Taiwan: III-6

Thailand: III-3, XVe-11, XVi-2, XVI-20

AFRICA general: I-4, Va-9, VII-17, VIII-55, X-11, XVe-17

Ethiopia: XVe-11, XVi-2, XVI-14, XVI-35

Ghana: III-6, IV-9

Kenya: VII-16, XVII-11

Liberia: XVI-17

Nigeria: VIII-19, X-2, X-7, XVi-2, XVI-13, XVI-27

Tanzania: XVI-28

Uganda: XVi-2

Upper Volta: XII-14

Zambia: XVI-40

LATIN AMERICA general: III-7, III-8, IV-20, IV-21, Va-1, VI-1, VII-27, VIII-30, VIII-34, VIII-35, VIII-36, VIII-49, VIII-51, VIII-57, X-15, X-26, XI-6, XIII-2, XVh-3, XVI-3, XVI-12, XVI-21, XVI-22, XVI-23, XVI-29, XVII-14

Argentina: XVI-1, XVII-11

Bolivia: Xb-10

Brazil: III-6, XI-1, XVg-1, XVi-2, XVI-19, XVI-27

Chile: II-28, Vb-10, XVI-34

Colombia: III-6, Vb-10, X-4, X-18, XVi-2

Ecuador: Vb-10, XVh-1

Mexico: VII-49, XI-2

Peru: Vb-10, XVe-14, XVI-39

EUROPE AND THE MIDDLE EAST - INCLUDING USSR

Arab Countries: XVI-41, XVI-42

Egypt: VIII-8

Hungary: XVI-36

Iran: III-10, VIII-8, IX-3, XVI-25

Ireland: VIII-3

Israel: II-21, XVI-42

Italy: X-15

Spain: XVI-37

Turkey: XVi-2

USSR: II-59, VIII-8, IX-5

SOUTHWEST PACIFIC

New Zealand: XVe-11