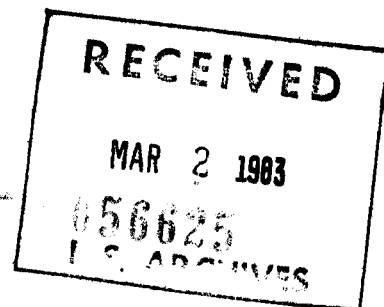51231

DEVELOPMENT DATA BASES: USE IN CANADA

via MINISIS

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INTRODUCTION

The purpose of this paper is to review the experience since 1980 of the International Development Research Centre (IDRC) in making available development data bases in Canada via MINISIS, a software package developed at the Centre. The first part of the paper provides an outline of the purpose of IDRC and its Library as well as an explanation of MINISIS. The second part of the paper focuses on the IDRC-sponsored project to make available to researchers across Canada the three development-oriented data bases of IDRC, as well as data bases from the Food and Agriculture Organization of the United Nations (FAO); the International Labour Office (ILO); the United Nations Educational, Scientific, and Cultural Organization (Unesco); and the United Nations Industrial Development Organization (UNIDO).

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC)

IDRC is a public corporation established by an act of the Canadian Parliament in 1970. Its mandate is "to initiate, encourage, support and conduct research into the problems of the developing regions of the world and into the means for applying and adapting scientific, technical and other knowledge to the economic and social advancement of those regions" (Revised Statutes of Canada, 1970). The Centre is governed by an inter-national board which ensures developing country input at the policy-making and decision-taking levels. English, French, and Spanish are the three working languages of the Centre. The Centre's headquarters is in Ottawa. It maintains regional offices in Singapore (for Asia); in Dakar (for West and Central Africa); in Nairobi (for East and Southern Africa); in Cairo (for the Middle East and North Africa); and in Bogota (for Latin America). From these offices, the staff of IDRC are in contact with the researchers and policy makers of developing countries. Regional staff encourage and assist the development of research proposals and monitor on-going projects within their regions.

IDRC was one of the first organizations to devote its resources primarily to supporting projects which are identified, designed, carried out, and managed by research personnel in developing countries and which meet the needs they, themselves, determine to be priorities (Sly, 1982). During its first eleven years in existence, IDRC funded more than 1,200 projects in 100 countries (International Development Research Centre, **Projects,** 1982). Its present budget is over $54.7 million (International Development Research Centre, **Annual Report,** 1982).

The activities of IDRC are carried out by four program divisions: Agriculture, Food, and Nutrition Sciences; Health Sciences; Social Sciences; and Information Sciences. In conformity with the IDRC statute, the first three divisions are concerned with research and the creation of new knowledge. The fourth, the Information Sciences Division, is unique in that its establishment marked the first (and still the only) instance whereby an aid organization has created a program division with the specific objective of supporting information projects in developing

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countries. The Information Sciences Division is fulfilling another compo-
nent of the IDRC statute, that of bringing existing knowledge to where it
can be used for development (Daneliuk, 1981).

Programs in the Information Sciences Division include socio-economic
fields, scientific fields, computer sciences, micrographics, cartography,
and the Library. The emphasis is on:

a)   support for the development of, and participation in, regional and
     global cooperative information systems that respond to areas of
     development priority;

b)   establishment of specialized information analysis centres with a
     specific subject focus;

c)   assistance for the development of national information infra-
     structure in selected countries;

d)   training relevant to the needs of IDRC-supported programs;   and

e)   improvement of information handling tools, e.g. development of
     computer software and thesauri (Woolston, 1980).

IDRC LIBRARY

The IDRC Library was established in 1971 as an on-going project of the
Information Sciences Division. The objective of the Library is to
facilitate access to information about the social and economic aspects of
Third World development. To meet this objective, the Library:

1.   provides information and library service to the following groups:

a)   IDRC staff in Canada and abroad,

b)   IDRC projects (in cooperation with regional offices where
     appropriate),

c)   the Canadian community (governmental, academic, and voluntary)
     concerned with Third World development, and, as resources permit,

d)   other communities concerned with Third World development
     (institutions in developing countries, international
     organizations, institutions in other developed countries);

2.   acts as a test-bed for technological, methodological, and
     bibliographical developments and standards that may be appropriate for
     adoption by the international community and in IDRC projects; and

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3.   provides advice and training on these developments and standards to:

    a) IDRC projects,

    b) developing country institutions,

    c) international organizations with responsibilities for establishing
        guidelines and standards, and

    d) Canadian institutions engaged in international cooperative
        information programs and/or training of information specialists.

The Library's collection is a current one, supporting the needs and
objectives of the Centre as a whole. It concentrates on the economic and
social development of the Third World, particularly its rural areas, and
includes materials on agriculture, demography, development aid, education,
family planning, health, information systems, migration, nutrition, science
policy, technology transfer, and urbanization. The collection contains
over 37,500 titles, including some 4,000 periodical titles. For highly
technical material, the Library relies on the resources of the Canada
Institute for Scientific and Technical Information (CISTI), and the
libraries of Health and Welfare Canada and Agriculture Canada. A large
part of the collection originates in developing countries and is obtained
through exchange agreements with over 700 institutions throughout the
world. An effort is made to acquire as much of the non-conventional or
"fugitive" literature as possible. The Library also maintains special
collections of country material, annual reports, and current information
about institutions and organizations concerned with Third World develop-
ment. The Library is heavily committed to the use of microfiche and works
closely with the Micrographics Unit of the Information Sciences Division.

To facilitate access to the Library's material, items are catalogued,
classified, and indexed using the UNISIST **Reference Manual for Machine-
Readable Bibliographic Descriptions** (Martin, 1974), the Universal Decimal
Classification (UDC), and the Organisation for Economic Co-operation and
Development (OECD) **Macrothesaurus for Information Processing in the Field
of Economic and Social Development** (Viet, 1978). Access to the collection
is provided through COM (Computer-Output-Microform) fiche indexes for
personal author, corporate author, title, serials title, and serials
corporate author. A corporate name authority listing is also
provided. On-line searching of the Library's data base, BIBLIOL, provides
numerous access points including subject, title keywords, and institution
name.

The Library was established in 1971; the decision to automate was
taken in 1973 with the choice of software being ISIS (Integrated Set of
Information Systems), which was developed for on-line applications in the

Library of the International Labour Office in Geneva. Automation provided
a "means of accessing the Library's very specialized collection of
literature on the subject of development but also created a basis of
experience for establishing computerized bibliographic systems in
developing countries" (Daneliuk and Edwards, 1978). "In 1975, it was
decided to investigate the possibility of acquiring an in-house
minicomputer to run the Library's operations, to maintain a number of
specialized data bases, and to develop an inexpensive and reliable package
of both hardware and software that would be transportable to developing
countries" (Daneliuk and Edwards, 1978). The software package that was
designed by IDRC staff was MINISIS.

MINISIS

The development of MINISIS and its use in the IDRC Library has been
documented in the paper that Faye Daneliuk and Anne Edwards presented at
the 1978 meeting of WESCAN ASIS. This paper will summarize and update
developments, particularly as they affect the remote on-line access to
MINISIS across Canada.

MINISIS is a generalized information management system designed to run
on the Hewlett-Packard 3000 series of minicomputers. The system was
developed primarily for use in bibliographic information systems, but is
flexible enough for many types of applications. It is functionally
compatible with the ISIS family of information systems (Valantin, 1981).

Seven user functions can be performed by MINISIS:

1. entry - put data into machine-readable form;
2. modify - modify existing data;
3. retrieval - extract subsets of data according to selection
    criteria by making use of "fast access paths" (inverted files),
    multilingual thesauri, and Boolean operators;
4. sorting - produce indexes from the whole data base or a subset;
5. printing - according to user-defined specifications, print
    information on paper, at a display terminal, or on tape for photo-
    composition and COM;
6. computation - perform simple arithmetic functions on numeric data;
    and
7. conversion - exchange information in ISO 2709 format
    (International Organization for Standardization, 1973).

MINISIS also includes modules to perform data base management
functions such as:

1. defining or modifing the definition of data bases and auxiliary
    files;

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2. maintaining fast-access (inverted file) linkages between data
   bases and auxiliary files;
3. maintaining files required for thesaurus searches;
4. performing housekeeping functions on data bases and auxiliary
   files; and
5. defining and modifing security profiles to allow or restrict
   access to functions and/or data bases.

Both English and French language versions are currently distributed;
users can have up to sixteen different language versions in one
installation. Alternate character sets are being implemented with Arabic
as the first non-Roman alphabet to be tested (Daneliuk and Lee, 1981).

In the IDRC Library, MINISIS is used for acquisitions, cataloguing and
indexing, and information retrieval. Other users such as the Agricultural
University in Wageningen, the Netherlands, have developed modules for
circulation and serials check-in (Godfrey, 1980). In addition, the
Agricultural University is assisting IDRC in the development of a module
for Selective Dissemination of Information (SDI).

The MINISIS software is used in over fifty installations in eighteen
countries (both developed and developing). Because the focus of IDRC is
towards developing countries, it has neither the mandate nor the resources
to install MINISIS in developed countries. Therefore, IDRC has made
agreements with distributors to deal with developed countries. In North
America, the distributor is Systemhouse Limited. This enables IDRC to deal
directly with licensees from developing countries or licensees having
interests similar to those of IDRC. Each licensee is a member of the
MINISIS User Group which meets once a year to discuss problems and
developments of mutual interest.

MINISIS users include:

1) the Sports Information Resource Centre of the Coaching Association
   of Canada, which uses MINISIS to produce monthly indexes and
   bibliographies of sport. It has a data base of close to 100,000
   records (Chiasson, 1980);

2) the Agricultural University in Wageningen and the Dutch Ministry
   of Agriculture and Fisheries, which have approximately ninety
   libraries and information centres. Their data bases total
   230,000 records with a projected growth of two million records;

3) the Centre national de documentation in Morocco, which uses
   MINISIS as part of a large project to centralize the Moroccan
   national documentation activities;

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4)   the Centre national de documentation agricole in Tunisia, which
     uses MINISIS to index its documents and read AGRIS data;

5)   the Information Systems Unit in the Department of International
     Economic and Social Affairs at the United Nations in New
     York,which uses MINISIS to provide access to unpublished UN
     documents;
     and

6)   the Economic Commission for Africa in Ethiopia, which uses MINISIS
     in the PADIS (Pan-African Documentation and Information System)
     project.

     In addition, there are installations of MINISIS in the People's
Republic of China, Colombia, France, Korea, Malaysia, Romania, Singapore,
Switzerland, the United Kingdom, the USSR, and Zaire, as well as additional
installations in Canada, Ethiopia, Tunisia, and the United States.

DEVELOPMENT DATA BASES PROJECT

Background

     In June 1979, IDRC's Board of Governors approved a two-year project to
make available on-line to Canadian government and not-for-profit
institutions the Centre's data bases, as well as the data bases it receives
from international organizations. IDRC was, and still is, the only
institution in Canada to acquire the bibliographic data bases compiled by
Unesco, FAO, ILO, and UNIDO. These data bases contain a large proportion
of information dealing with development and developing countries. If IDRC
is to support Canadian scholars and scientists in their development
research, then the information in these international bibliographic data
bases stored at the Centre should be available to them. By making the data
bases available to Canadian scholars and scientists, IDRC is furthering its
objective "to foster cooperation in research on development problems
between developed and developing regions for their mutual benefit" (Revised
Statutes of Canada, 1970).

     During the first nine months of the project, IDRC concentrated on
upgrading its hardware and making the necessary systems modifications to
enable it to offer this service. On April 1, 1980, IDRC began to make the
data bases available on-line to selected Canadian institutions and
government departments. The purpose of the project was to test the
technical feasibility and usefulness of the service and to give the
Canadian research community access to development-oriented data bases.

Users

In choosing participants for this project, IDRC required that the institution (1) have some experience in using on-line data bases; (2) have an interest in one or more of the data bases offered; (3) have control over its user groups; and (4) be willing to provide IDRC with feedback on the use of the service. The participants accessed the development data bases using terminals in their institutions linked to IDRC's computer by standard telephone or DATAPAC lines. The MINISIS software was used to interrogate the data bases. Records obtained from a search could be produced immediately on the participants' printers or be generated on the IDRC's high-speed printer and mailed to the researcher or institution.

The service was, in essence, provided free of charge. IDRC agreed to pay the cost of the computer time and printing as well as training. Users were to pay for long distance telephone costs to the nearest DATAPAC outlet, but, in fact, all users had DATAPAC facilities in their cities.

In April 1980, the project began in test mode with six institutions: University of Ottawa, Carleton University, Ontario Institute for Studies in Education (Toronto), Université du Québec à Montréal, Labour Canada, and Agriculture Canada. These institutions represented a variety of the Library's regular users and were able to test external access to IDRC's computer via DATAPAC, the French and English command structure of the MINISIS QUERY processor, and the usefulness of the information for their users. At the end of the project in March 1982, there were close to sixty institutions across Canada accessing the data bases on-line.

Data Bases

The following data bases were made available:

1) BIBLIOL   (approximately 37,500 references) covers literature collected to service the needs and objectives of IDRC as a whole. It contains the holdings of the IDRC Library.

2) DEVSISL   (approximately 6,100 references) covers literature emanating from Canada on the economic and social aspects of Third World development. It also includes selected input from Australia, Bangladesh, India, Indonesia, Morocco, the Netherlands, Pakistan, the Philippines, Sri Lanka, the USSR, and West Germany.

3) SALUS   (approximately 10,000 references) covers literature mainly on low-cost rural health care and health manpower training in developing countries.

4)   FAO   (approximately 35,000 references) covers documents
                prepared by or for the Food and Agriculture
                Organiza-tion of the United Nations (FAO), Rome,
                Italy. Much of the documentation deals with developing
                countries, the enhancement of food production in these
                countries, and questions of trade in agricultural
                products between these countries and the rest of the
                world.

5)   ILO   (approximately 67,000 references) is compiled by the
                International Labour Office (ILO), Geneva, Switzerland.
                This data base contains general information on labour
                (employer-employee relations, industrial safety, etc.)
                but covers also information specific to developing
                countries (employment creation, labour-intensive
                manufacturing methods, role of women in development,
                etc.).

6)   UNESCO   (approximately 33,000 references) covers documents
                prepared by or for Unesco, Paris, France, dealing with
                a broad range of educational, scientific, and cultural
                programs with an increasing emphasis on development
                issues.

7)   UNIDO   (approximately 11,000 references) covers documents
                prepared by or for the United Nations Industrial
                Development Organization (UNIDO), Vienna, Austria,
                concerned with the improvement of industry in
                developing countries.

Additional information on the data bases is included in Appendix A:
Data Base Descriptions. The three IDRC data bases, BIBLIOL, SALUS, and
DEVSISL are updated daily, weekly, and monthly respectively. The FAO and
UNIDO data bases are updated twice a year; the ILO and UNESCO data bases,
quarterly.

Hardware

At the beginning of the project, IDRC's computer equipment was
upgraded to an HP3000 Series III from a Series II. Two 120 megabyte disc
drives, one asynchronous terminal controller (sixteen terminal ports), and
high speed modems were also added. In June 1982, just after the project
terminated, the computer configuration was further enhanced with the
upgrade to an HP 3000 Series 44. There are 900 million characters of disc
storage and thirty terminals within the system.

Results

A user manual and a guide were developed to assist project participants in the use of MINISIS. Half-day training sessions were provided as well. During the project, two users' meetings were held to obtain feedback on the technical aspects of the project, data base use, document delivery, and a general evaluation of the project. The input received was instrumental in IDRC's decision to extend the project and to continue offering the services on a regular basis at the end of the project. A detailed report on the project is in preparation (Balson, 1982).

Technical Aspects

The first users' meeting provided an excellent forum for the discussion of technical problems encountered when using the system. Many of the problems such as unavailability of ports, "hung" terminals, and inconvenient scheduling of system backups could be attributed to growing pains and were easily solved. Direct dial-up access via regular telephone lines was provided for the Ottawa users, which eased the competition for a free port. Print formats were revised to accommodate users' suggestions; mnemonics representing field names were standardized across the data bases. A two-tiered system news messaging system was implemented. Off-line search capabilities, use of saved searches across data bases, and access to the break key (to alleviate the intermittent problem of control characters not functioning via DATAPAC) were provided as the result of users' input.

By the time of the second users' meeting, however, at the end of the project in March, 1982, two things became apparent: 1) not all suggestions could be accommodated, and 2) there was no consensus among the external users as to what changes should be made.

Because of IDRC's limitations in human and financial resources, as well as the technical constraints of the system, not all of the suggestions for change could be implemented. Some of the changes requested involved major programming or systems changes for which resources were not available. These requests do go in the queue to be handled at some point in the future. Examples of these requests included internal truncation, access to the other processors, numbered references, "LIFO" (last references in, first references out of the data base) instead of "FIFO" (first in, first out), and further field inversions. This last request for more inversions could not be considered until August 1982 when more disc space became available. The Library is in the process of re-examining its current field inversions to determine which new ones would yield maximum

benefits, always keeping in mind that more inversions could detrimentally affect overall system performance.

The lack of consensus among the external users as to which changes should be made proved very interesting for IDRC. In general, the regular users wanted changes that would streamline use, while infrequent users required changes that would provide them with more help. As well, many of the changes were the result of comparisons with the larger commercial systems with which IDRC is not in competition. MINISIS is a "mini" system, probably the only minicomputer-based system in North America offering this type of remote on-line access to so many users.

Data Base Use

At the end of the two-year project, there were fifty-six partici-pants. Of these participants, forty-one were academic institutions; twelve, government; and three, not-for-profit organizations. During the two-year period, there were more than four thousand searches (a search being defined as the accessing or opening of a data base). Over thirteen hundred off-line listings were printed.

The frequency of searching each data base is shown in Table 1. As was anticipated, BIBLIOL proved to be the most popular data base (31% of the searches) followed by, in decending order, ILO (18%), FAO (14%), Unesco (14%), UNIDO (10%), DEVSISL (7%), and SALUS (6%). The UNIDO, DEVSISL and SALUS data bases are highly specialized and very small; hence, their limited use.

Of the fifty-six external users, six accounted for 52% of all searches. Two universities, Carleton and the University of Ottawa (UO) accounted for over 35% of the usage. At UO, for example, MINISIS was the second most frequently used system, the first being BRS (Janke and Wong, 1981). Both Carleton and UO have major programs in international affairs and have always been regular users of the IDRC Library.

Further analysis of the statistics showed that eleven institutions accounted for 68% of all usage. There are several possible reasons for the heavy use by some institutions and limited use by others. First and most important of all is the development-related aspect of all seven data bases. Unless an institution has a major interest in the field, it will not be a major user. Furthermore, infrequent users tend to lose familiarity with the system and the contents of the data bases and are thus less likely to use MINISIS. During the next year, the Library will be addressing the problem of the occasional user by offering refresher courses across the country and making users more aware of the contents of the data bases.

Document Delivery

One of the difficulties in making on-line services attractive to users
is the problem of document delivery. Users' expectations quickly fall
if many of the relevant items on a printout are unavailable. This was
a concern of IDRC from the beginning of the project. A different approach
for supplying documents was used for each data base. The items listed in
the BIBLIOL data base are in the IDRC Library and can be supplied as a
photocopy (if less than thirty-five pages), as a microform, or via
inter-library loan (ILL). IDRC can supply microform copies of the Canadian
material in DEVSISL and almost all of the items in SALUS. For the material
in FAO, users are asked to check one of the seven depository libraries in
Canada. Similarly for ILO, there are four depository libraries in Canada;
for Unesco, seven; and for UNIDO, five, including IDRC which has the UNIDO
documents on microfiche.

Participants in the project did not, in general, have difficulty
locating the material from the references. The ILL statistics at IDRC for
the two-year period did increase, a portion of which could be attributed to
the project. Since the time period also coincided with a major change in
policy, that of requiring local non-IDRC users to borrow via ILL instead of
on a personal basis, it was not possible to attribute all of the increase
to the project.

Participants did express interest in on-line ordering but this is not
an enhancement which can be made easily. On an experimental basis,
participants were invited to test an electronic mail system during the last
three months of the project. This proved very popular, both for
troubleshooting and inter-library loan. However, since this was a
commerical package which was constantly changing and not part of the
MINISIS system, IDRC did not feel that it could make a long term commitment
to offer it. The Library is looking at other commercial systems offering
electronic mail and has been particularly interested in the experiments at
CISTI with ENVOY 100.

General Aspects

From the user's point of view, one of the very attractive aspects of
the project was the fact that it was (and still is) free! The exchange
agreements with FAO, ILO, Unesco, and UNIDO allow IDRC to make their data
bases available without charge to not-for-profit institutions. IDRC would
be permitted to charge a cost-recovery fee, but at the moment, the cost of
doing so outweighs the benefits. Because service to the Canadian research
community interested in Third World development is part of the mandate of
the IDRC Library, access to the data bases can continue to be provided
free-of-charge. This policy will be reviewed regularly with the
possibility that at some point, as usage increases, a charging mechanism
could be introduced.

The manual and the guide were revised throughout the project, based on
users' experience and comments. In response to participants' need for
current system information, a printed news bulletin, **COMMUNIQUE,** was
started to alert participants to system and data base changes.

POST-PROJECT DEVELOPMENTS

As of April 1, 1982, the project terminated and the service became
part of the IDRC Library's regular Public Services program. The Reference
Specialist (External Services) became responsible for monitoring the
service, providing trouble-shooting assistance, and user training.
Requests for access still continue to come in, most recently from
specialized institutions in Quebec and from Ontario government libraries.

The conditions for obtaining access to the system have not changed
dramatically since the project became a service. They are still informal.
A prospective institutional user contacts the Reference Specialist
(External Services) and requests access. If the user meets and agrees to
the conditions (has an interest in one or more of the data bases, is an
experienced on-line user, has a controlled user group, and will provide
IDRC with feedback on a regular basis), user documentation is sent, a user
name assigned, and a training session organized at a mutually convenient
time in the official language preferred by the user.

One of the concerns of the project was to help the small non-govern-
mental organizations (NGOs) specializing in Third World Development to gain
access to the data bases. The problem here, of course, is that most of
them have neither access to a terminal nor staff trained to use on-line
systems. NGOs in Ottawa can and do access the data bases by contacting the
IDRC Library, but this is still not done regularly. Because the
Metropolitan Toronto Central Library is a user, Toronto-based NGOs can
get access to the data bases. In addition, the Cross Cultural Learner
Centre in London, Ontario has access and attempts to assist other NGOs in
using the service. As well, many universities allow outside users under
certain conditions. However, ways of increasing usage by NGOs will be
examined further in the coming year.

On-line search specialists are always concerned about the many systems
with which they must become familiar. Each system has its own commands and
peculiarities. Because of this, IDRC has begun to work with other users of
the MINISIS software who are planning to offer remote on-line access to
their data bases or to data bases which they receive. The group includes
the Canadian Centre for Occupational Health and Safety; the National
Geoscan Centre of Energy, Mines and Resources, Canada; the Sports
Information Resource Centre; Health and Welfare Canada; and IDRC. This new
informal group is working on common documentation and examining other
issues such as common training, protocols, demonstrations, and publicity.

During 1982, two additional data bases will be offered to external
users. The first data base is PINS (Project INformation System), which
contains information relating to the projects funded by IDRC as well as
information pertaining to the recipients of these grants. The other data
base, ACRONYM, contains expansions of acronyms relating to international
development. It is a more complete and regularly updated version of the
information contained in the latest edition of **Acronyms Relating to
International Development** (International Development Research Centre, in
preparation).

CONCLUSION

The project, Development Data Bases: Use in Canada, was very
successful. It demonstrated that it was technically feasible to provide
remote on-line access via MINISIS to the development data bases maintained
at IDRC. More significantly, it illustrated and met the need of Canadian
Third World specialists for access to this information. Because of the
success of the project, IDRC is continuing to provide the service on an
on-going basis.

Table 1: Data Base Usage (April 1980 - March 1982)

Data Base	MINISIS External Users Number of Searches*	Percentage of Total Searches
BIBLIOL	1255	31%
ILO	729	18%
FAO	586	14%
UNESCO	567	14%
UNIDO	419	10%
DEVSISL	296	7%
SALUS	251	6%
TOTAL	4103	100%

* A search is defined as the opening of a data base.

APPENDIX A:

DATA BASE DESCRIPTIONS

BIBLIOL   (IDRC Library Data Base)

Supplier:	International Development Research Centre (IDRC), Ottawa, Canada.

Content: This data base covers literature collected to service the needs and objectives of the International Development Research Centre as a whole. The literature relates primarily to the economic and social development of the Third World, particularly its rural areas. Topics covered include: agriculture, demography, development aid, education, family planning, health, information systems, migration, nutrition, science policy, technology transfer, and urbanization.

Period of Coverage: 1970 to date

Updating Frequency: Daily

Size: 37,500 references as of September 1982

Indexing Languages: English, French, Spanish

Thesaurus Used: **Macrothesaurus for Information Processing in the Field of Economic and Social Development** (Paris, OECD, 1978)

Macrothesaurus pour le Traitement de l'Information Relative au Développement Economique et Social (Paris, OCDE, 1979)

Macrothesaurus para el Tratamiento de la Informacion Relativa al Desarrollo Economico y Social (Paris, OCDE, 1979)

Document Location: IDRC Library

DEVSISL   (Development Sciences Information System)

Supplier: International Development Research Centre
                                   (IDRC), Ottawa, Canada.

Content: This data base covers literature emanating from
                                   Canada on the economic and social aspects of
                                   Third World development. It includes selected
                                   input from Australia, Bangladesh, India,
                                   Indonesia, Morocco, the Netherlands, Pakistan,
                                   the Philippines, Sri Lanka, the USSR, and West
                                   Germany.

Period of Coverage: 1975 to date

Updating Frequency: Monthly

Size: 6,100 references as of September 1982

Indexing Languages: English, French

Thesaurus Used: **Macrothesaurus for Information
                                   Processing in the Field of Economic
                                   and Social Development** (Paris, OECD, 1978)

                                   **Macrothesaurus pour le Traitement de
                                   l'Information Relative au
                                   Développement Economique et Social**
                                   (Paris, OCDE, 1979)

                                   **Macrothesaurus para el Tratamiento de
                                   la Informacion Relativa al Desarrollo
                                   Economico y Social** (Paris, OCDE, 1979)

Printed Source: **DEVINDEX,** 1976 - (annual)

Document Location: IDRC Library (Canadian documents only)

SALUS

Supplier: International Development Research Centre
                                 (IDRC), Ottawa, Canada.

Content: This data base covers literature mainly on low
                                 cost rural health care and health manpower
                                 training in developing countries.

Period of Coverage: 1970 to date

Updating Frequency: Weekly

Size: 10,000 references as of September 1982

Indexing Languages: English

Thesaurus Used: Controlled vocabulary, keyword dictionary

Printed Source: **SALUS: Low-Cost Rural Health Care and Health
                                 Manpower Training: an Annotated Bibliography
                                 with Special Emphasis on Developing Countries
                                 1976 - (irregular)**

Document Location: IDRC Library

FAO   (FAO Library Documentation Data)

Supplier: Food and Agriculture Organization of the United
                             Nations (FAO), Rome, Italy

Content: Worldwide coverage is of documents written by or
                             for FAO on such topics as: agricultural chemicals
                             technology; agriculture; agronomy; animal
                             biology; animal husbandry; botany; conservation;
                             crops and soil; ecology; economics; farming;
                             fishing and fisheries; food and nutrition; human
                             geography; industry and trade; livestock farming;
                             natural resources; physical geography; rock, soil
                             and mineral sciences; and zoology. Much of the
                             the documentation deals with developing
                             countries, the enhancement of food production
                             in these countries, and questions of trade in
                             agricultural products between these countries and
                             the rest of the world.

Period of Coverage: 1968 to date

Updating Frequency: Semi-annually

Size: 35,000 references as of September 1982

Indexing Languages: English

Thesaurus Used: **FAO Index Terms** (Rome, FAO Documentation Centre,
                             1980)

Document Location: Depository collections at: Cameron Library,
                             University of Alberta; Elizabeth Dafoe Library,
                             University of Manitoba; MacDonald Science
                             Library, Dalhousie University; Library,
                             Agriculture Canada; Library of Parliament;
                             University of Toronto Library; McLennan Library,
                             McGill University.

ILO

Supplier:	International Labour Office (ILO), Geneva, Switzerland

Content:
Worldwide coverage is of journal and monographic literature in the field of economic and social development and industrial relations, including such topics as: agriculture, demography, economic conditions and policies, education, environment and earth sciences, international relations, and management. Much of the information is specific to developing countries, for example: employment creation, labour-intensive manufacturing methods, and the role of women in development.

Period of Coverage: 1971 to date

Updating Frequency: Quarterly

Size: 67,000 references as of September 1982

Indexing Languages: English

Thesaurus Used: **ILO Thesaurus/Thesaurus BIT/Tesauro OIT** (Geneva, ILO, 1978)

Document Location: Depository collections at: Library of Parliament; McLennan Library, McGill University; Bibliothèque général, Université Laval; Library, Labour Canada; Cameron Library, University of Alberta.

UNESCO (Computerized Documentation System)

Supplier: United Nations Educational, Scientific, and
                                Cultural Organization (Unesco), Paris, France

Content: Worldwide coverage is of literature consisting
                                of monographs, serials, reports, proceedings and
                                unpublished documents written by or for Unesco.
                                These deal with a broad range of educational,
                                scientific, and cultural programs with an
                                increasing emphasis on development issues.
                                Topics covered include: area studies; arts;
                                communication science and technology; economics,
                                industry, and trade; education; environment and
                                nature conservation; geography; information
                                sciences and documentation; international law;
                                language, linguistics, and literature; legal
                                organizations and procedure; music and the
                                performing arts; political science and politics;
                                psychology; religion and atheism; social
                                sciences; social welfare and relief services;
                                work and leisure.

Period of Coverage: 1970 to date

Updating Frequency: Quarterly

Size: 33,000 references as of September 1982

Indexing Languages: English

Thesaurus Used: **Unesco Thesaurus** (Paris, Unesco, 1977). 2 vol.

Document Location: Depository collections at: Cameron Library,
                                University of Alberta; Library, University of
                                British Columbia; MacDonald Science Library,
                                Dalhousie University; University of Toronto
                                Library; McLennan Library, McGill University;
                                National Library; External Affairs Library.

UNIDO (Industrial Development Abstracts)

Supplier: United Nations Industrial Development
                                 Organization (UNIDO), Vienna, Austria

Content: This data base covers documents, prepared by or
                                 for UNIDO, concerned with the improvement of
                                 industry in developing countries. The
                                 literature covers macro- and micro-economic
                                 aspects of industrial development such as:
                                 infrastructure; institutional services;
                                 management; marketing; planning; policies;
                                 pre-feasibility and feasibility of industry or
                                 plant; product development and design;
                                 production and productivity; quality control;
                                 research; surveys; technology and techniques.

Period of Coverage: 1968 to date

Updating Frequency: Semi-annually

Size: 11,200 references as of September 1982

Indexing Languages: English

Thesaurus Used: **Thesaurus of Industrial Development Terms** (New
                                 York, UN, 1976)

Document Location: Depository collections at: Library, University
                                 of British Columbia; McLennan Library, McGill
                                 University; Morisset Library, University of
                                 Ottawa; External Affairs Library; IDRC Library.

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