

# Unit 5: International Information Systems and Services

By

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# United Nations Educational Scientific and Cultural Organization (UNESCO)

- UNESCO was established in 1946. It is a specialized agency of the United Nations Systems concerned with information matters.
- The objectives of UNESCO at the time of its inception were:
  - Encouraging international intellectual cooperation,
  - Speeding up development through operational assistance of Member States, and
  - Promoting peace, human rights and international understanding.

- Article I of its constitution stipulated that the organization shall
- “maintain, increase and diffuse knowledge by encouraging cooperation among the nations in all branches of intellectual activity, the exchange of publications and other materials of information, and by initiating methods of international cooperation calculated to give the people of all countries access to the printed and published materials by any of them.”
- UNESCO’s earliest activities include mainly to help Member States rebuild their libraries destroyed during World War II. A careful analysis of UNESCO’s efforts to assist its Member States in the development of their documentation, library and archival services initially indicated five trends:

# 1. Principles and Structure of Documentation, Library and Archives Services

- The UNESCO Public Library Manifesto (A written statement by experts or an organization saying what they believe in and what they intend to do) gave a new image and wide scope to public libraries.
- UNESCO influenced the development of public libraries in many Member States and underdeveloped countries and recognized the role of libraries in educating the communities.

- UNESCO's contribution to the development of scientific and technical documentation centres helped Member Countries to overcome problems of information explosion and paved the way for the increase of S & T research.
- UNESCO also recommended Member Countries the setting up of a National Information System (NATIS) which helped to lay the foundation of national, regional and international cooperation in information services.

## 2. Internationalization of Documentation, Library and Archives Services

- Its periodic associations with international non-governmental organizations like FID, IFLA and ICA have enabled it to extend its programme of activities.
- Many international seminars, workshops, conferences, courses, have been organized throughout the world. UNESCO sponsored and funded many publication programmes.

### **3. Professional Training**

- UNESCO gave high priority to this problem and as a result several specialized courses, meeting of experts, courses for teachers in schools of librarianship were organized, scholarships were arranged and regional training centres were set up.

### **4. Book Promotion**

- UNESCO organized a number of regional meetings to study this problem and as a result regional book promotion centres have come up with the help of Member States.



## 5. The Future

- The activities aim at improving national and regional programmes.
- This includes sending consultants to advise on development of training programmes and to participate in launching seminars and refresher courses, in-service training to managers and training programmes for users.
- Numerous publications have been published and widely distributed and utilized on a variety of subjects like policy on education, curriculum development, use of AV materials and education of users.

## UNESCO's Current Library Activities

- The changing role of libraries and information centres and the development of modern information technologies, especially the Internet, has created a new environment which has stressed the need to provide new dimensions to the role of traditional libraries.
- With this in view, UNESCO established the Communication and Information Sector (CIS) in 1990.



The chief objectives of the CI Sector's programme are:

- Promoting the free flow of ideas and universal access to information.
- Promoting the expression of pluralism and cultural diversity in the media and world information networks.
- Promoting access for all to Information and Communication Technology.

# UNESCO's Activities by Theme

The various themes under which UNESCO carries out its various activities include:

- Archives
- Community Multimedia Centres
- E-governance
- Ethical Issues Related to Information Society
- Information Literacy
- Information Processing Tools
- Media Development
- Preservation of Documentary Heritage
- People with Disabilities and ICT
- Recycling IT Equipment
- Youth and Information Literacy

# Networks of UNESCO

- APIN - Asian and Pacific Information Network
- JOURNET - Global Network for Education in Journalism
- INFOYOUTH - International Information and Data Exchange Network on Youth
- ORBICOM - International Network that Links Communications Leaders

# General Information Programme (PGI)

- The General Information Programme (PGI) was created in 1976 by merging UNISIST (United Nations Information System for Science and Technology) with a programme concerned with the development of documentation, libraries and archives.
- An Intergovernmental Council having 30 Member States replaced the former UNISIST Steering Committee and guided the planning and implementation of PGI.

The following are the types of activities undertaken under each of the five sub-programmes that made up PGI:

### **1. Tool for Processing and Transfer of Information**

- ISO Standards Handbook I: information Transfer, 2<sup>nd</sup> ed. 1982.
- Reference Manual for Machine-Readable Bibliographic Descriptions, 2<sup>nd</sup> ed. 1981.
- Reference Manual for Machine-Readable Descriptions of Research Projects and Institutions, 1982.
- Common Communication Format, CCF, 3<sup>rd</sup>, 1993.



## 2. Development of Databases

- Useful inventories and studies like the International Inventory of Software Packages in the Information Field and the Application of Microcomputers to Information Handling have been published.
- A mini / micro version of Computerized Documentation Service / Integrated Set of Information Systems (CDS/ISIS) Software has been developed by UNESCO and is provided free of charge to non-profit organizations of developing countries.
- Within the PGI framework about 50 projects on creation of databases have also been taken up for with assistance regarding software, consultation, equipment, and training has been provided.

### 3. Regional and International Cooperative Schemes

- In the area of cooperation and resource sharing PGI aims at strengthening the national capitals for information exchange and creating necessary mechanisms for sharing experience and resources and for viewing coordinating regional activities.
- Examples of such regional are ASTINFO – Regional Network for the Exchange of Information and Experience in S & T in Asia and Pacific and APINESS – Asia Pacific Network in Social Sciences.

## 4. National Information Policies and Infrastructure

- UNESCO has advocated that information infrastructure should be developed in each country within the framework of a National Information Policy.
- One attempt in this regard was in 1974, when the document “Information Policy Objectives: UNISIST Proposals” was brought out.
- This publication provided 113 possible policy objectives in the field of S & T. Revised guidelines were also provided in “Guidelines on National Information Policy: Scope, Formulation and Implementation”.

## 5. Developing an Information Workforce

- Under the PGI programme priority has been given for training of both information specialist and information users.
- The objective is to improve national and regional training programs, preparing teaching materials and providing training for teachers and refresher courses for specialists.

**AGRIS**

# International Information System for the Agricultural Sciences and Technology (AGRIS)

- AGRIS, the International Information System for the Agricultural Sciences and Technology, was started in 1974 by the Food and Agriculture Organization (FAO) of the United Nations.
- AGRIS became fully operational in 1975 with the first issue of AGRIINDEX and was modeled on the INIS pattern to facilitate information exchange and to bring together the world literature dealing with all aspects of agriculture.

- Presently, FAO's another programme, Current Agricultural Research Information System (CARIS) and AGRIS are functioning collectively.
- To date, 190 national, international and intergovernmental centres are participating in the AGRIS / CARIS programme.
- AGRIS uses computer configuration and software packages located at the Vienna, the INIS centre.

# Objectives of AGRIS

- “Creation of a single comprehensive, current inventory of world-wide agricultural literature reflecting agricultural research results, food production, rural development and to help users to identify problems concerning all aspects of world food supply.”
- Meeting the information requirements of users requiring agricultural information by offering specialized subject retrieval services, providing documents on request, current awareness and selective dissemination of information services, and
- Collaborating with new and existing specialized secondary information services so as to increase efficiency and eliminate unnecessary duplication.”



# Background and Development of the AGRIS Network

- AGRIS has been operational since 1975. Its main aim is 'to build an information system in the field of agriculture science and technology and related subjects'.
- It is a system of collaborative network of agricultural institutions of the world.
- The basic principles on which AGRIS was established as an agricultural network are given below:

# Reasons for Establishing

AGRIS is an international / global system that is:

- Entirely international in scope as all United Nations Member Countries are participating in the programme;
- Multilingual with English as a carrier language;
- A centralized collection of bibliographic details of publications, outputs and activities of agricultural research programmes of various United Nations Member States;

- Special emphasis is on non-conventional (grey) literature in Member States;
- A global system which is participatory as it is based on a designated national AGRIS Input Centre in each United Nations Member State and other related agricultural international organizations;
- An information system supported by Food and Agricultural Organizations (FAO) which has complete coordination with regard to application of tools and methodologies, data processing, training and other technical back-up activities;

# Subject Coverage

- The subject areas of the AGRIS include various aspects of agriculture, including forestry, food, environment, animal sciences, aquatic sciences and fisheries, human nutrition and all other aspects related to agricultural sciences from participating countries all over the world.
- AGRIS centres input information from periodical literature, monographs, reports, patents, standards, etc. on standardized data input formats.
- The covered literature also includes unique material such as unpublished scientific and technical reports, theses, conference papers, government publications, and more.

- Approximately, 1,30,000 records are added each year with keywords in English, French and Spanish.
- The centralized processing is then done at the AGRIS Coordinating Centre in Rome.
- Each AGRIS National Centre acts as a focal point in the concerned country or region which makes available information to the user community thereby acting as a decentralized system.

In the last three decades, AGRIS has been quite successful in achieving its initially stated goals, but there have been some problems faced by the participating centres which at times hamper overall progress of the network. Some of these problems are:

### **Access to the original documents**

- All AGRIS records comprise bibliographic reference. The abstract is usually available for only about 30 % of AGRIS records.
- The access to the full-text of the documents, however, is only possible through document delivery (for example, by post or fax).
- Therefore, most developing countries have not been able to offer this service properly and this leads to a lot of problems.

# Incomplete Coverage

- In the last few years, a review of the input statistics of literature received from Asia / Pacific region, Africa and Latin American / Caribbean regions to the central AGRIS database shows slight decline in the number of records input to the database.

## **Agriculture related systems other than AGRIS**

- As per a chief objective of AGRIS, its database receives all inputs from the United Nations Member States only.
- But many national bibliographic databases, and even collections of electronic full-text documents pertinent to the scope of AGRIS, exist outside the framework of AGRIS, and thus have no involvement with FAO.

# Lack of structural and institutional linkages

- The overall setup lacks network linkages due to structural and institutional barriers.
- Thus the existing AGRIS system lacks proper coverage due to its centres not being linked in any significant way to the wider community of organizations and programmes working in food security or rural development.



# AGRIS Network and AGRIS Resource Centres

- Efforts are on to improve the activities of AGRIS Resource Centres and thus improve the capabilities of the AGRIS Network.
- With this in view, a high level committee was set up in June 2000, which recommended that AGRIS Input Centres be renamed as AGRIS Resource Centres in order to reflect their revised role.
- The Resource Centres are expected to play a key role in capacity building with focus on national and regional partnership.

## Some of the functions that are essential for the AGRIS Resource Centres are:

- Adoption and implementation of standards for cataloguing and indexing agricultural information, especially the categorizations schemes, thesauri and the development of standard exchange formats;
- Collection, recording and organization of non-conventional and conventional scientific and technical literature relevant to AGRIS which is produced in the region;
- Creation of digital repositories for literature and other types of related scientific and technical information produced in their area, in consultation with FAO, and
- Maximum use of Internet-based tools for data processing and dissemination.

## Information Activities

- The information collected from various input centres from all over the world is processed by AGRIS and is available to users in the form of various current and ongoing agricultural information projects in both AGRIS and CARIS.

## WebAGRIS

- It covers the current and ongoing agricultural information projects in AGRIS and CARIS and is considered as networking for AGRIS in the future.
- The target users are those that require information related to all areas of agricultural and rural development.

## Electronic Discussion Forum

- This is discussion group workspace for the exchange of ideas on using the AGRIS AP, WebAGRIS.
- The ideal target audience consists of coordinators and facilitators of established or incipient communities, as well as groups of individuals with shared interests in agricultural and rural development.

## AGROVOC

- AGROVOC is the multilingual international agricultural thesaurus. The terms are in English, French and Spanish.
- \Each key term included in the AGROVOC is either a descriptor or a non-descriptor. AGROVOC is also available online referred to as AGROVOC online.

# AGRIS Information Products

Various products of AGRIS available from the AGRIS Secretariat are:

- AGRIS and CARIS on CD – This includes the bibliographic references, CARIS Project Data, the AGROVOC Thesaurus and the FAO Catalogue.
- AGRIS Manuals – Several manual of AGRIS are available for immediate downloading for use by the resource centres.
- AGRIS and CARIS – FTP site makes available AGRIS and CARIS data.
- FAO Documentation – Food and Agricultural Organization documents starting from 1980 to till date are available with complete text from the document repository of AGRIS.

# India's Participation in AGRIS

- **India's participation in AGRIS:** The Agricultural Resources Information System (AgRIS) is the Central Sector Scheme for Strengthening / Promoting Agricultural Information System in the Department of Agriculture & Cooperation (DAC), Ministry of Agriculture, Government of India.
- On an average India passes on about 4000 bibliographic entries to AGRIS every year.
- Previously the input was sent on Optical Character Recognition (OCR) sheets but now for economy and speed the input is being sent on Worksheet only.
- In return, India receives every month updated AGRIS Magnetic Tape, and AGRINDEX- a printed monthly service.

# International Information Systems: INIS

# International Nuclear information System (INIS)

- The acronym INIS stands for international Nuclear Information System. INIS is sponsored by the International Atomic Energy Agency (IAEA), Vienna started functioning in 1970.
- It is a cooperative, decentralized computerized abstracting and indexing system providing worldwide coverage of the literature on the peaceful uses of nuclear energy.
- It processes and merges input provided by its members and redistributes the information in machine-readable form as well as in print form.



- INIS is an international cooperative information system, operated by the International Atomic Energy Agency (IAEA) in collaboration with 132 members that include 114 Member States and 19 International Organizations.
- INIS processes most of the world's scientific and technical literature that falls within its subject scope.

- INIS maintains a bibliographic database which presently covers over 2.5 million abstracted and indexed records and a comprehensive collection of over 6,00,000 of full-texts of INIS scope publications which are not easily available through the commercial channels.
- Thus making it the world's most comprehensive and leading information source on the peaceful applications of nuclear science and technology.

# Subject Scope

- INIS subject coverage has been developed keeping in view the information needs of the international user community for whom the interests and activities of International Atomic Energy Agency (IAEA) are relevant especially with regard to peaceful applications of nuclear science and technology.
- The chief subject areas are: nuclear reactors, reactor safety, nuclear fusion, applications of radiation and radioisotopes in medicine, agriculture, industry and pest control.
- Besides the above, some related fields are nuclear chemistry, nuclear physics and materials science.

# Input Processing

- Literature in each INIS member state collected by a designated national inputting centre that submits input to the INIS Secretariat in pre-prepared machine-readable form usually through e-mail or on diskette or magnetic media.
- The standardized format in which inputs are to be submitted conforms to the guidelines as provided by the INIS Reference Series.
- Almost all the inputting centres send data through the 'FIBRE' (Friendly Inputting of Bibliographic Records), which is a PC based input preparation package especially designed for the purpose by INIS.

- FIBRE is a tool that not only helps the INIS centres to streamline their input preparation but also ensures data of higher quality and consistency thereby reducing the costs through lower correction efforts and results in improving processing time.
- After the input reaches the INIS Secretariat, bibliographic description of records are processed thoroughly by checking programs in order to identify the errors and omissions which are corrected by specialists employed by the INIS Secretariat.
- The input is then converted with the help of computer programs into an internal working format and is made ready for final processing.

- An important activity carried out at the INIS Secretariat is the processing of Non-Conventional Literature (NCL) submitted by the INIS members.
- Here, the full-text of such literature is received in electronic form or hard copy and is then processed for distribution in the form of microfiche, CD-ROMs or electronic mail.

# INIS Products and Services

## INIS Database

- The INIS database is one of the leading information sources for worldwide published scientific literature on the peaceful applications of nuclear science and technology and other related fields. It is available from the year 1970 to till date.
- In the database, over 2.5 million scientific and technical bibliographic references have been indexed and abstracted in English as the carrier language and all this is according to agreed rules and standards.
- The INIS Database also includes the economic and environmental aspects of all non-nuclear energy sources published since 1992.
- The database not only contains validated and high quality references but also has comprehensive international coverage.

# INIS Non-Conventional Literature (NCL)

- Easy access to the full-text of the non-conventional literature has remained one of the key features of INIS all these years.
- The conventional literature is commercially available through normal distribution channels, such as books and journals.
- On the other hand, the non-conventional literature includes the scientific and technical reports, patent documents, conference papers and theses, which are usually not readily available through commercial channels.



# References Series

- INIS Reference Series tells us the rules, standards, formats, codes and authority lists on which the International Nuclear Information System is based.
- The various reference series are in the form of manuals which are being published since 1969 and are an essential tool for users of the system, which includes cataloguers, indexers, abstractors or searchers.

# INIS Web Services

- The INIS web services includes maintaining of links to websites on the Internet in various fields of interest to nuclear science and technology subject and to any other work related to the IAEA.
- Besides these, INIS also offers subject access to the contents of the IAEA website and the sites of various related international and multinational organizations in the field of nuclear science and technology.

# Marketing and Promotion

- INIS is carrying out extensive marketing and promotion of its products and services, which is handled by the INIS Secretariat in Vienna and the individual member states in the respective countries.
- At the IAEA Secretariat, the INIS marketing and promotion activities are carried out with the help of online / CD-ROM demonstrations, by advertisements, by publishing articles in professional journals and by distribution of material, demo CDs, video films and other promotional tools.

# Training

- A range of training activities provided by INIS meet a number of objectives that include:
- establishment and improvement of a national information infrastructure, transfer of modern information technology, enabling exchange of scientific and technical information, ensure high quality and coverage of the INIS Database,
- facilitate maximum utilization of INIS output products and are responsiveness to a country needs.

# Alert Services

- Based on the INIS products, alert services are provided usually in the form of SDI services to the users requiring current information in field of nuclear science and technology.
- These services are mostly available through the National INIS Liaison Officer of the individual INIS member states.
- Here the alert services are in the form of individual searches which are performed against individual subject interest profiles of the users.

# Document Delivery Service

- For providing the document delivery services, INIS has made arrangements with several INIS national centres which make available full-texts of INIS non-conventional literature to users in the individual INIS member state.
- This service, however, is limited only to the users of the particular INIS member state.

# Services in India

- From the very beginning India has been actively associated with INIS. In India Library and Information Services Division of BARC is the National centre for INIS activities.
- The INIS database can be accessed online through Internet and CDs which are distributed by IAEA. The non-conventional literature of INIS is available in the form of CDs, microforms.

# Information Service for Physics, Electronics and Computing (INSPEC)



- INSPEC, started in the year 1967, by the Institution of Electrical Engineers (IEE), United Kingdom.
- It provides access to the world's scientific and technical literature in physics, electrical engineering, electronics, communications, control engineering, computers and information technology.
- INSPEC is based on the Science Abstracts Service which has been available from the IEE science 1898 up to 1968.
- INSPEC is useful to engineers, scientists and others in their research for locating relevant journal articles, conference papers and other documents.

- The database is updated every year after scanning over 3400 scientific and technical journals, about 2000 conference proceedings, books, reports and dissertations.
- Currently the database contains over 10 million bibliographic records and is growing at the rate of 4,00,000 records every year.
- INSPEC has comprehensive subject coverage. It is a comprehensive index to the literature in physics, electrical / electronic engineering, control engineering and information technology.
- Besides this, it also covers areas like materials science, oceanography, nuclear engineering, geophysics, biomedical engineering and biophysics.
- The full scope of subject coverage by INSPEC is given in INSPEC Classification.

- The IEE is internationally well known for its wide range of print and electronic publications that include books, journals, magazines, conference proceedings concerning various areas of electrical and electronic engineering, including telecommunications, computing, power, control, radar, circuits, materials and more.

# Products of INSPEC

## 1. Electronic Format

This includes:

- Online database for remote access to information from INSPEC
- Inspec on disc (CD-ROM)
- Inspec Archive – Electronic Access to Science Abstracts 1898 to 1968
- Inspec Web
- INSPEC Specialized Databases – These are three subject oriented databases in the areas of photonics, biomedical technology, and information and communication technology.

## **2. Abstracting Journals**

- Physics Abstracts, Electrical and Electronics Abstracts and Computer Control Abstracts together from the Science Abstracts Series of journals from IEE.
- These journals together contain almost all of the 6 lakh or more short summaries of published articles which also appear annually in the INSPEC database.

## **3. Current Awareness**

- INSPEC offers a range of current awareness services including some online products, which offer specialized areas to meet the needs of specific individuals and research groups.

## 4. User Aids

- The following user aids offered by INSPEC are available in print and CD format as INSPEC Search Aids CD-ROM on a single CD.
- INSPEC Thesaurus
- INSPEC Classification
- INSPEC List of Journals

## 5. INSPEC Services

- Document Delivery Service – Publications indexed by INSPEC are warehoused for this service.
- IEL - IEEE / IEE Electronic Library full-text of IEEE and IEE publications with INSPEC index.
- Electronic Materials Information Service (EMIS) giving data and background text on the properties and technology of semiconductors.

# Development Science Information System (DEVISIS)



# Genesis of DEVSIS

- The recognition of the need for global, inter sectoral, interdisciplinary development information systems and programmes is quite old.
- The Lester Pearson Report 1969 placed general emphasis on information and technology transfer to the developing countries.
- The Graham Jones Report of 1971 stressed the need for technical information services especially information on technological, social and economic feasibility studies, investment project studies, pre project planning etc.

- Sir Robert Jackson's study of the capacity of the United Nation's identified the need for the establishment of an information system for UN's own development activities as a priority need.
- But a significant beginning was made by a proposal for a development information system contained in a paper entitled "DEVSIIS: A development science information system" circulated in January 1974 by International Development Research Centre (IDRC), Canada.

- Six months later, IDRC, Organization for Economic Cooperation and Development (OECD) and UNESCO sponsored a meeting in Ottawa to discuss the need for a system like DEVSIS and if so, to define its subject scope, organization financing and to recommend further action towards the detailed design of the system.
- The meeting made general recommendations about various aspects of the system and about the formation of a Steering Committee and a Feasibility Study Team.

- The study team was created under the auspicious of six international organizations, namely International Labour Organization (ILO), International Development Research Centre (IDRC), Organization for Economic Cooperation and Development (OECD), United Nations Development Programme (UNDP), United Nations Education, Scientific and Cultural Organization (UNESCO) and the UN Department of Economic and Social Affairs to work under the guidance of the Steering Committee.

# Objectives

- To improve to economic and social development information to individuals and institutions, particularly in developing countries, and especially to those involved in the formulation and implementation of development activities in governments and inter-governmental organizations.
- To foster and the building and utilization of national and international resources needed to meet his goal.

- To improve coordination between the existing development information, including library facilities.
- Provide information services to users working in the development field at the national and international governmental and non-governmental levels (including the academic community) in developing and developed countries.

- DEVSIS should cover both published literature and unpublished documents and data.
  - The system should be based on the concept of decentralized input, centralized merging and decentralized output services.
  - It should thereby help contribute to the development of adequate information infrastructure and resources at the national level.
- DEVSIS should be open to the participation of interested member states, as well as inter governmental and non-governmental bodies concerned with problems of development.

# Potential Users

- Development policy makers;
- Development planning groups;
- Personnel engaged in socio-economic development project and programmes, forecasting, and pre-investment studies, scanning of socio-economic and socio-political environment, determining socio-economic indicators, etc. for a country or region or product;
- Techno-economic and social survey teams;
- Research workers in socio-economic development;



- Planners and managers of research in socio-economic development;
- Financers and agencies providing funds, other resources, technical cooperation and other assistance for socio-economic development projects and programmes;
- Consultants on socio-economic development projects and programmes
- Information analysts, communication and other staff serving and / or providing information support functions by conveying information about development policies.

# Types of Sources include

- Textbooks and monographs
- Periodicals / Journals
- Newspapers
- Theses and Dissertations
- Research and Technical Reports
- Working papers and discussion papers
- Conference proceedings

- Reports of research in progress
- Government papers
- Staff papers, memoranda
- Internal files, correspondence
- Feasibility studies
- Pre-investment studies
- Data sheets
- Audio-visual material, etc.

# Process involved in DEVSIS

- The national participating centre has to identify and collect nationally produced publications, reports and other documents which fall within the scope of DEVSIS.
- It has to record information about development literature in the required form and regularly transmit the records to the Central Unit.
- It has to receive the printed output from the Central Unit which represents the global file and may receive the whole file itself or a requested subset of it, on magnetic tape and make DEVSIS outputs available to national users.

- The Central Unit can provide guidelines to aid the national government in making the selection of the national centre.
- In turn the choice is a national responsibility to be made by national governments.
- The national units, with some minor exceptions, would be required to submit copies of the full texts of those items that they identify as ‘non conventional’ to the central unit.

# Central Unit

- The Central Unit has to be located within an existing organization of the United Nations family.
- The central unit has to produce the outputs of DEVSIS, such as Devindex and computer tape of Devindex regularly.
- The Central Unit should also produced cumulative versions of the DEVSIS file for the particular benefit of new participating centres.
- The Central Unit may also offer a full text service on microfiche form of non-conventional documents input by the national units.

# Training Programmes and Advisory Services

Training and advisory services to the national nits are the responsibilities of the Central Unit. In particular the DEVSIS Central Unit has a direct responsibility for ensuring that training is provided to national participating centers on:

- Bibliographic description;
- Abstracting and indexing;
- Reprographic techniques, particularly relating to microfiche;
- The manipulation of DEVSIS outputs to meet user needs; and
- The application of various levels of computer technology to bibliographic work.

# Sectoral Classification Codes for DEVSIS

- 010 Agriculture, Forestry, Fisheries: Rural Development
- 020 Communications
- 030 Education and Training
- 040 Energy
- 050 Handicrafts and Cottage industries
- 060 Industry
- 070 Labour, Management and Employment



080	Laws and Regulations
090	Minerals and Mining
100	Population
110	Public Health
120	Public Administration, Social Welfare
130	Science and Technology
140	Tourism
150	Transport
160	Urban Development

# MEDLARS

# Medical Literature analysis and Retrieval System (MEDLARS)

- The United States National Library of medicine (NLM), a component of the National Institutes of Health (NIH) is located in the campus of NIH in Bethesda, Maryland.
- NLM is one of the largest medical libraries of the world.
- It collects materials in all major areas of the health sciences and related areas which include chemistry and physics.

- The goal of the library is to collect material and provide information and research services in all areas of biomedicine and health care.
- The NLM is presently having more than 7 million items that include books, journals, technical reports, manuscripts, microfilms, photographs and images.
- This library is equipped with one of the world's finest medical history collections of old and rare medical works.
- The collections of the library can be consulted either in the reading room or through inter library loan.

- NLM is a national resource for all U.S. Health Science libraries which is a national network of libraries of medicine.
- Medical Literature Analysis and Retrieval System (MEDLARS) was established in 1964 as a computerized storage and retrieval system at the NLM.
- It provides bibliographic access to the NLM's large biomedical literature collection.
- It became functional with the first computer produced issue of Index Medicus.

- The NLM has been publishing the Index Medicus, a monthly subject / author index guide to articles in 4000 journals for over 125 years.
- All the information available in Index Medicus is also available in the database MEDLINE, the major component of PubMed which is freely accessible via the World Wide Web.

- Other databases of MEDLARS provide information on monographs (books), audio-visual materials, and on various specialized subjects such as toxicology, environmental health, and molecular biology.
- MEDLINE is the National Library of Medicine's bibliographic database, covers the fields of medicine, nursing, dentistry, veterinary medicine, the health care system, and the preclinical sciences.

- MEDLINE can be accessed through PubMed and the NLM Gateway.
- PubMed, a service of the National library of Medicine, contains over 15 million citations for biomedical articles back to the 1950s.
- These citations are from MEDLINE and additional life science journals. PubMed has links to many sites providing full text articles and other related resources.



- NLM also has a large number of databases and other electronic resources which can be accessed online.
- These include TOXLINE, NLM catalog, MedlinePlus, Clinical Trails, DIRLINE etc.

# Indian MEDLARS Centre (IMC)

- NIC and ICMR have jointly set up Indian MEDLARS Centre to cater to the information needs of medical community of India.
- Indian contribution in the areas of biomedical research and healthcare has been significant and conforming to international standards.

- The ICMR-NIC Centre for Biomedical Information (Indian MEDLARS Centre or IMC) has developed a bibliographic database of peer reviewed Indian biomedical Literature.
- This database covers prominent Indian journals, which have been selected from more than 200 journals.

# IndMed

- This database is covering prominent peer reviewed Indian biomedical journals.
- It is basically designed to provide medical professionals / researchers / students and the medical library professionals a quick and an easy access to Indian Literature covering biomedical field.

# UNESCO Science and Technology Policy Programme (SPINES)

- The Division of Science and Technology Policies of UNESCO had established SPINES Pilot Programme which was superseded by the Science and Technology Policies Information Exchange Programme (PIPS) in 1984.
- The PIPS programme contributed to development of compatible information services dealing with science and technology in UNESCO Member Countries.
- This programme is now referred to as UNESCO Science and Technology Policy Programme and is part of UNESCO's Thematic Area-Natural Sciences and under this is Science Policy.

- As per the requirement of UNESCO Member States, and the recommendations of the World Conference on Science held in Budapest in 1999, UNESCO's Division of Science Analysis and Policies (SC/AP) was assigned the responsibility to:
- Contribute to the advancement of Science;
- Promote a new contract between science and society; and
- Provide assistance in the formulation and implementation of science and technology policies at the national, regional and worldwide levels.

- UNESCO also provides guidance with regard to science policy in its member states.
- Guidance is available with regard to provide technical advise on formulation, implementation, monitoring, and review of policies and plans concerning national S & T activities and encouragement and effective utilization of scientific and technological potential.



## Role of UNESCO

- UNESCO plays a major role as a promoter of international cooperation by carrying out Science and Technology Policy activities in member states leading to reforms and innovations in scientific pursuits.
- For this, UNESCO carries out programmes at regional and international levels, develops analytical work in cooperation with other international organizations, supports regional S & T policy networks and also serves as a clearing house.

## **UNESCO's role thus covers the following domains:**

- Governance of S & T and its implications in UNESCO Member States,
- Evolving Policy Guidance
- Encouraging capacity building in its Member States, and
- Prospective thinking and developing scientific temper amongst individuals.

# International Council for Science (ICSU)

- ICSU – International Council for Science is a non-governmental organization.
- It was started in 1931 as International Council of Scientific Union for the benefit of mankind.
- Another main aim of ICSU was to “encourage international scientific activity for the benefit of mankind.



In order to strengthen international science for the benefit of society, ICSU:

- Mobilizes the knowledge and resources of the international scientific community to identify and address major issues of importance to science and society;
- Facilitates interaction between scientists of all disciplines across the world;
- Encourages participation of scientists in various scientific endeavours; and
- Provides advice to encourage scientific community for benefit of the society.

- ICSU has a global membership with 146 members which includes 116 members as national scientific bodies and 30 members as international scientific unions.
- ICSU provides a forum for discussion of issues relevant to policy for international science and then importance of international science for policy issues.



It undertakes the following major activities to fulfill its goal.

- To coordinate interdisciplinary research in issues related to both science and society.
- To act as a focal for exchange of ideas, communication of scientific information and development of scientific standards.
- To actively advocate for freedom in the conduct of science, promoting equitable access to scientific data and information.

- To facilitate science education and capacity building.
- To help create international and regional networks of scientists having similar scientific interests.
- To support scientific conferences, congresses and symposia every year all around the world.
- To ensure production of a wide range of scientific newsletters, handbooks, learned journal and conference proceedings.



- To achieve its goal of encouraging links between science and society, ICSU maintains working partnerships with various international organizations, especially the United Nations Organizations.
- ICSU also awards annual grants to support projects proposed by its members with the financial support received from UNESCO.
- ICSU also publishes ICSU Yearbook and a quarterly ICSU Bulletin.