



AGRICULTURE RESEARCH AND INFORMATION CENTER (AGRIS)

Prof. Ranjeet Kumar Choudhary

Professor & Head
University librarian I/C
Department of Library & Information Science
Mahatma Gandhi Central University
Motihari-845401 (Bihar) India

Mobile no. +91-9935787978, E-mail: rkchoudhary@mgcub.ac.in

INTRODUCTION

- AGRIS (International System for Agricultural Science and Technology) is a global public domain database with more than 8 million structured bibliographical records on agricultural science and technology.
- The database is maintained by FAO (Food and agriculture organization) and its content is provided by more than 150 participating institutions from 65 countries.
- It became operational in 1975 and since then AGRIS has accumulated a database of 8,420,558 million bibliographic references.

- It is the world's leading public information service that provides open access to a wealth of publications and information about agriculture.
- It is the world's only multilingual bibliographic database for agricultural science.
- It offers more than 8 million links to information produced by research centres, development programs, international and national organizations.
- Each month, some of 4,00,000 agricultural and research professionals worldwide access AGRIS resources
- Through AGRIS references on search engines and Google Scholar.

- AGRIS is unique for its collection of rich bibliographic records.
- Indexed by Multilingual agricultural thesaurus AGROVOC and The FAO multilingual agricultural thesaurus.
- Most AGRIS resources are full text (accessed through Google)

SUBJECT COVERAGE

- Agriculture
- Forestry
- Animal husbandry
- Aquatic sciences
- Fisheries
- Human nutrition
- Extension

PUBLICATION COVERAGE

- Journal articles
- Monographs
- Book chapters
- grey literature
- science and technical reports
- Theses and dissertations
- conference papers

GENESIS

- In the 1970s, the AGRIS metadata corpus was developed to allow its users to have free access to knowledge available in agricultural science and technology.
- AGRIS was developed to be an international cooperative system to serve both developed and developing countries.S

- With the advent of the Internet, along with the promises offered by open access publishing, there was growing awareness that the management of agricultural science and technology information, would have various facets: standards and methodologies for interoperability and facilitation of knowledge exchange; tools to enable information management specialists to process data; information and knowledge exchange across countries

OBJECTIVES

- Development of Decision Support Systems (DSS) on Production Practices and Systems. The DSS proposed under AGRIS will facilitate farmers in adopting appropriate agricultural production practices.
- Creation of Metadata to become the Country's initiative of National Spatial Data Infrastructure (NSDI) on Agriculture
- Preparation of Guidelines on standardized methodology/best practices to be used for building Agricultural Resource Information System in similar districts of the Country

AGRIS DATABASE ON-LINE

- On-line access to the global AGRIS database is provided by:
 - ❖ AGRIS DATABASE ON-LINE (FAO/WAICENT, FAO Web server) DIALOG (Palo Alto, USA): non-USA portion only
 - ❖ DIMDI (Cologne, Germany)
 - ❖ AGROVOC Thesaurus (FAO/WAICENT, FAO Web Server)

INFORMATION SERVICES

- **AGRIS** provides data on request basis in printed form or on magnetic media:
- ❖ **Retrospective searches** through the entire data base.
- ❖ **Selective dissemination of information (SDI)** service, by which users can request the AGRIS Processing Unit, to keep them informed of any new AGRIS entries on specific subjects of concern to them.

- National bibliographies, containing all entries generated in a country and those concerning this country and published outside.
- Master copies can be prepared on a high resolution laser printer in Grinder format, ready for reproduction by offset or photocopy.
- Subject bibliographies, can also be prepared upon request from specialized cooperating centers such as the CGIAR IARC's, or FAO divisions.

OTHER SERVICES

- Developing and distribution of the AGROVOC Thesaurus
- Distribution of the UNESCO? CDS/ISIS database software for PCs
- Developing and distribution of software for AGRIS input data preparation (AGRIN/AGCHK).
- Training material and courses.
- Other products on Web Server (APU Vienna): AGRIS Reference Series

AGRIS REPOSITORY

- AGRIS covers the wide range of subjects and Its content includes unique grey literature such as unpublished scientific and technical reports, theses, conference papers, government publications, and more developed countries.
- A growing number (around 20%) of bibliographical records have a corresponding full text document on the web which can easily be retrieved by Google.
- Access to the AGRIS Repository is provided through the AGRIS Search Engine. As such, it:
- Enables retrieval of bibliographic records contained in the AGRIS Repository

- Allows users to perform either full-text or fielded, parametric and assisted queries.
- The AGRIS repository exploits the advantages of both open source search platform (Solr), and structured XML. It facilitates the exchange of information among developing countries and between developing and developed countries.
- The AGRIS partners contributing to the AGRIS Database use several formats for exchanging data, including simple DC, from OAI- PMH systems.

NEW DEVELOPMENTS

- New developments are under work for the AGRIS System, which will take advantage of the latest improvements of Information Technologies (Internet, etc.).
- These developments have in view to decentralize data processing and to priorities national capacity building enhancing autonomous management of national agricultural information

AGRIS -INDIA

- The ministry of agriculture , Government of India ,took a decision in 1974 for participating in AGRIS through a national input center under the Indian council for agriculture research (ICAR),New Delhi.
- 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.

- AGRIS is “A Needed Domestic Strategy for Sustainable Agricultural Production and Sustainable Rural Livelihoods in India”.
- It is a e-Government Programme for fostering agricultural growth, poverty reduction and sustainable resource use in India at grassroots level and also “A Step towards establishing a location- specific e-Government model for the Poor”.
- The implementation of component AGRIS will facilitate development of typology specific agriculture development plan in the country.
- This Project is being executed by Agricultural Informatics Division of National Informatics Centre.
 - Agricultural Inputs Recommendations
 - Farming Systems Analysis and Development
 - Environmental Impact Assessment
 - Monitoring of Land Resources Development.

FUTURE PLANS OF AGRIS

- Decision Support Systems (DSSs) on Production Practices and Systems.
- Creation of Metadata to become the Country's initiative of "National Spatial Data Infrastructure (NSDI)" on Agriculture.

AGRIS IS ABLE TO EXTRACT INFORMATION FROM FOLLOWING RESOURCES AND ENRICH THE AGRIS DATA.

- DBPedia (Databasepedia)
- World Bank
- Google Custom Search API
- Nature Open Search
- FAO Geopolitical Ontology – Country profiles
- Global Biodiversity Information Facility
- International Food Policy Research Institute (IFPRI)
- FAO Fisheries and Aquaculture fact sheets API
- Diversity International
- CGRIS germplasm database

DBPedia: A community effort to extract structured information from Wikipedia and to make this information available on the web. **AGRIS** extracts from DBPedia the definitions of concepts. It also provides you with the possibility to directly modify the information in Wikipedia.

World Bank: An international financial institution that provides loans to developing countries for capital programs. The World Bank Indicators APIs let you programmatically access more than 3,000 indicators and query the data in several ways, using parameters to specify your request. The Indicators give a lot of details about countries: name, region, coordinates, capital, income level, lending type, total population, etc.

Google Custom Search API:

- It enables you to search a website or a collection of websites, create a search engine tailored to specific needs and interests, and present the results in your website. AGRIS queries Google Custom Search APIs to retrieve the full texts of the AGRIS records

Nature Open Search:

It provides an open, bibliographic search service for content hosted on nature.com, comprising around half a million news and research articles and citations. The API is accessible both through a Sparq endpoint as a REST Web service (AGRIS's choice). AGRIS queries Nature's API to retrieve articles and publications.

FAO Geopolitical Ontology – Country profiles

An ontology that contains country statistics, official country names and codes. AGRIS extracts from this ontology information about countries

Global Biodiversity Information Facility

It works to mobilize data and to improve search mechanisms, data and metadata standards, web services, and the other components of an Internet-based information infrastructure for biodiversity . AGRIS queries the GBIF repository to obtain the KML of the Distribution Map for Species

International Food Policy Research Institute (IFPRI)

An international agricultural research centre that aims to improve the understanding of national agricultural and food policies to promote the adoption of innovations in agricultural technology. AGRIS queries the IFPRI Sparkle endpoint to retrieve the Global Hunger Indicator and Children Mortality Rate by country

FAO Fisheries and Aquaculture fact sheets API

allows you to download statistical graphs about fish species. AGRIS queries the APIs to obtain the Aquatic species capture and aquaculture production graphs

- **Diversity International:**

contains 3200 unique original field report documents, recording information about more than 200,000 landrace and crop wild relative samples collected all over the world for almost forty years. AGRIS extracts information from the Crop Collecting Missions.

Chinese Agricultural Sic-tech Documents Database (CASDD):

A bibliographic database covering literature from more than 1,000 titles of Chinese agricultural academic journals, proceedings, and other materials. A dedicated Web service was set up only to allow AGRIS to access this repository, relying on the alignment between AGROVOC and CAT

➤ **CGRIS germplasm database:**

a repository for all type of plant genetic resources information in China. It contains over 4000 MB of data about 200 kinds of crops. 410,000 germplasm resources are stored in the CGRIS database. The access to this database is provided by a Web service that accepts scientific names or AGROVOC URIs

AGRIS 2.0

On 5th December 2013 AGRIS 2.0 was released. A collaborative network of more than 150 institutions from 65 countries, maintained by FAO of the UN, promoting free access to agricultural information. A multilingual bibliographic database for agricultural science, fuelled by the AGRIS network, containing more than 8 million records largely enhanced with AGROVOC, FAO's multilingual thesaurus covering all areas of interest to FAO, including food, nutrition, agriculture, fisheries, forestry, environment etc.

- A mash-up web application that links the bibliographic AGRIS knowledge to related resources on the web using the Linked Open Data methodology. An AGRIS mash up page (e.g. <http://agris.fao.org/agrissearch/search.do?recordID=QM2008000025>) is a web page where an AGRIS resource is displayed together with relevant knowledge extracted from external data sources (as the World Bank, DBPedia, and Nature). The availability of external data sources is not under AGRIS control. Thus, if an external data source is temporary unreachable, it won't be displayed in AGRIS mash up pages.
- AGRIS data was converted to Resources Description Framework (RDF) and the resulting linked dataset created some 200 million triples. AGRIS is also registered in the Data Hub at <http://thedatahub.org/dataset/agris>

THANK YOU

