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AGRICULTURAL INFORMATION IN LATIN AMERICA AND THE CARIBBEAN PRESENT SITUATION AND POSSIBILITIES

Rodrigue ARITIDE, Documentalist^{1/}

INTRODUCTION

When I informed the Organization Committee of this 18th CFCS annual meeting about my proposition of delivering a communication on agricultural information, I had just come back from the 13th AGRINTER Round Table in Colombia (June 21-25, 1982).

The objective of this meeting is to evaluate the advances of the Interamerican Information System for Agricultural Sciences but also to think about the general evolution of agricultural information not only in Latin America and the Caribbean but also to exchange about external documentary activities which can help to improve our agricultural information.

This mental enlargement made me modify the content of this paper which will be broader than the AGRINTER system and will try to be a bringing up to date information and a reflection about our various responsibilities towards agricultural information.

1 - SOME GENERALITIES ABOUT AGRICULTURAL INFORMATION

Agricultural information is not a finality by itself. Its objective is to give administrations, research (researchers and research administrators), extension and productions means of decision, investigation and technology transfer. All these activities finally work to increase agricultural production. There is therefore a collective solidarity and responsibility towards agricultural information between these workers and information managers (documentalists and librarians).

Let us see some characteristics and paradoxes of agricultural information in our regions:

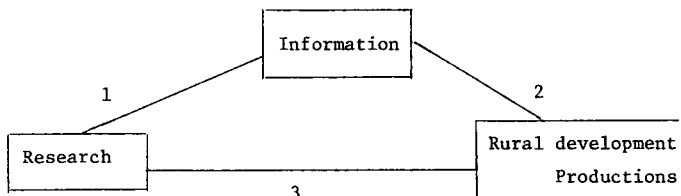
- There are many documents and informations but few ones are known and accessible,
- the users of agricultural information (who are also information producers) have not care of giving information about their documents and of making them processed,

^{1/}Unité Régionale de Documentation, Centre INRA Antilles-Guyane, 97170 Petit-Bourg, Guadeloupe.

- Getting documents is expensive (and hazardous) but these resources are badly managed and shared;

- These workers need agricultural information but do not feel the necessity of organizing it. We often speak about planning, research, extension, but the importance of information in agricultural development is forgotten.

The agricultural information flow has three aspects:



Channel 1 gives priority to scientific and technical information; Channel 2 gives priority to socio-economic and technical information; Channel 3 gives priority to extension.

The types of agricultural information:

1. Bibliographic or documentary information
2. Statistical information
3. Technical information
4. Current research information

Types 1 and 3 are the most classic ones but the importance of types 2 and 4 needs to be considered more carefully.

The types of users:

- a. Administration
- b. Research: Administration + Researchers
- c. Development, extension, production

2 - INFORMATION SERVICES OR CENTRES, SYSTEMS AND NETWORKS

The traditional libraries which give access to the documents they have can no longer satisfy the increase of documentary production and the more and more accurate information needs of the users. In the same way, a Documentation Service or Centre can no longer satisfy all the needs of its users.

The idea of information systems and networks has asserted itself at the level of countries, regions and even the world. The need of an accurate and already analyzed and specialized information has originated the Specialized Centres and Territorial Networks of Specialized Information. This evolution has been made possible by the development of computerizing and on-line communications, by the cost decrease of these equipments and services.

2.1 - The National Agricultural Information Systems

Because of the importance of agricultural information, countries established National Agricultural Information Systems (NAIS), as a subsystem of their national scientific and technical information system. These NAIS permit not only to know, to check off agricultural information (catalogs, bibliographies, retrievals) but also to give access to the documents (loans, photocopies, micro-documents).

2.2 - The Regional and International Information Systems

The needs and difficulties of agricultural documentation, the advantages (but there are also obligations !) of documentary cooperation have originated regional and international agricultural information systems as AGRINTER, AGRIS and CARIS.

2.2.1 - AGRINTER: the Interamerican Information System for Agricultural Sciences

AGRINTER was established in 1972 by a group of national agricultural institutions and the Inter-american Institute of Agricultural Sciences* (IICA). The system was created as a result of studies and discussions held during the Round Tables, meetings of the Interamerican Program for the Development of Agricultural Libraries (IICA/PIDBA), to strengthen and systematize mechanisms of cooperation between Latin American and Caribbean countries. The main objective of the system is to satisfy the needs for information and documentation of different types of users (decision makers, planners, researchers, communicators, educators, producers, etc.). AGRINTER in its first phase of implementation had as priority the creation and consolidation of the National Agricultural Information Systems that function as the main components of the System.

*Now called Interamerican Institute for Cooperation on Agriculture.

2.2.1.1 - The AGRINTER Index

The first service has been the Agricultural Index of Latin America and the Caribbean (Indice Agrícola de América Latina y el Caribe). It has been designed to facilitate access to the literature in agriculture and related sciences produced in the region.

The Index is published quarterly and it contains documentary information about periodical articles, technical reports, plans, thesis, maps, statistical tables, standards, papers of conferences and meetings in Mexico, Central America, the Caribbean and South America.

The data input to the Index is contributed by national centers and the Interamerican Centre for Agricultural Documentation, Information and Communication (CIDIA), the Coordinating Center for AGRINTER. It is expected that increased participation by the national components of the System will make the Index a progressively more current and complete information service.

The organization of the information and the bibliographical description of the documents is done according to the norms of AGRIS, the international information system, which have been translated into Spanish and adapted according to the requirements of the national components and the necessities of AGRINTER users.

In order to provide maximum access to the content of registered literature, each issue of the Index is divided in four sections: one section categorized according the scheme of the table of contents; a key-word-in-context index (KWIC); an Author index and a Corporate Entry Index.

2.2.1.2 - The AGRINTER Magnetic Tape Service

The data of the records included in the Bibliographical Section of the Index are computer processed and stored on magnetic tape. The information may be retrieved by documentation centres to provide services such as selective dissemination of information (SDI), retrospective searches, etc., to its users. The tapes are recorded in a format which is an implementation of the ISO 2709-1973 standard "Documentation - format for bibliographic description interchange on magnetic tape".

2.2.1.3 - AGRINTER Services Network

The final purpose of documentation is access to the primary document. Everyone of us experienced the eventual difficulty to get a document overall when it is non-commercial, non-conventional ("grey" literature).

AGRINTER has therefore looked for facilitating access to primary documents. At the end of the bibliographical data of non-conventional document, its location is given.

The AGRINTER Services Network established coupons to pay, between other documentary services, the purchase of documents. For instance, the total cost of a photocopy is 0.20 US dollar.

The Central Library of the Agronomy Faculty in Buenos Aires, Argentina, collected data which permitted the publication of the provisional edition of the "Regional Directory of Reprographic Services" in 1982.

2.2.2 - AGRIS: the International Information System for Agricultural Sciences and Technology

It formally began operation in 1975. The system has been created through the cooperation of the Food and Agriculture Organization of the United Nations (FAO), governments and institutions to provide a data base which provides references to current literature collected from worldwide sources, relevant to research and development in the food and agriculture sector and related fields. AGRIS has been developed within the general conceptual framework of UNISIST, the UNESCO Programme of International Cooperation in Scientific and Technical Information.

Input is provided by cooperating centres which identify scientific and technical literature within the scope of the System and produced in their own country or region. The input is submitted to AGRIS Coordinating Centre of the FAO. Computer data processing performed at the International Atomic Energy Agency (IAEA), which, by agreement with the FAO, is providing facilities to enable AGRIS to work in parallel with the International Nuclear Information System (INIS).

The input received from participating centres is merged into a magnetic tape data base form which is derived:

- AGRINDEX, a printed and categorized bibliography which is published monthly;

- a magnetic tape service in which all references contained in the bibliography are available in machine readable form (available on to participating governments and organizations).

- On-line access to AGRIS is presently possible.

AGRIS and AGRINTER use similar methodologies.

CIDIA is also an input center participating in AGRIS to which it sends the bibliographical data of Latin America and Caribbean

countries and international centres as CIAT (International Centre of Tropical Agriculture), CIMMYT (International Maize and Wheat Improvement Centre) and CIP (International Potato Centre).

2.2.3 - CARIS: the Current Agricultural Research Information System (FAO)

Its objective is to collect and broadcast information about current agricultural research, to improve communication between research institutions and researchers and to save time, financial and technical resources of agricultural research.

After the adoption of the FAO resolution 9/71 (November 1971), a pilot project was undertaken in 14 West African countries by the CGIAR (Consultative Group for International Agricultural Research) between 1972 and 1974. Then CARIS was established by FAO.

Presently CARIS is being organized regionally and CIDIA is the CARIS Coordinating Center for Latin America and the Caribbean.

2.2.4 - The Centres and Groups for Specialized Agricultural Information

The task of collecting bibliographical data (which has been the first purpose of information systems as AGRIS and AGRINTER) needs to be completed by the acquisition of the primary documents and complementary works (more accurate indexing, summaries) which give users services of better quality.

It is the mission of these Centres or Groups but they must be very specialized as for instance these ones created by CIAT for field bean, cassava and tropical forages or these ones of PLANALZUCAR (in Brazil) and CENICAÑA (in Colombia) for sugarcane.

The more accurate indexing which must be done by these specialized Centres and Groups can be undertaken with thesauri such as AGROVOC (FAO, 1981) which has a controlled vocabulary.

3 - SOME NEW DOCUMENTARY TOOLS: AGROVOC AND MINISIS

There have been big progresses in the possibilities of documentation with computerizing but big computers are very expensive and the lack of controlled vocabularies hinders efficient input and retrieval of bibliographic data.

AGROVOC and MINISIS are two examples of new documentary tools which are efficient and accessible to countries and regions as ours.

3.1 - AGROVOC (FAO), an Agricultural Thesaurus

For efficient and economic indexing, input and retrieving, it is necessary to use a controlled vocabulary.

In the AGROVOC thesaurus, there are three types of relationships between the descriptors:

- | | | |
|---------------------------|---------------|-----|
| - Preferential relations: | Use | USE |
| | Used for | UF |
| - Hierarchical relations: | Broader Term | BT |
| | Narrower Term | NT |
| - Associative relations: | Related Term | RT |

AGROVOC is a listing of detailed terminology of useful animals and plants, of less specific terminology of all other subject areas within the scope of AGRIS. It is presented as an alphabetical index. With such a presentation it should not be difficult to locate one's starting point when searching the thesaurus.

AGROVOC is and will be a very useful tool for indexing and computerized retrieval which can be more accessible through computerized system like MINISIS.

3.2 - MINISIS, an Integrated Set of Information Systems

It is more and more difficult to manage manually a documentary stock, in the material aspect as in its intellectual process (memory input, retrieval, bibliographies, indexes, etc.). It is by computer using that documentation can have its present technical possibilities.

Traditional big-sized computers are expensive but the arrival of mini-computers has revolutionized the access to computer use. MINISIS gets its name from ISIS - the Integrated Set of Information Systems - a software package developed by the International Labour Office (ILO) in Geneva. It performs essentially the same functions as ISIS but does not require a large mainframe computer. It is designed to run on the Hewlett-Packard 3000 series of computers. MINISIS was developed primarily for use in bibliographic information systems but it is flexible to many types of applications. It includes a set of programs to support library management and information retrieval in small-to-medium size libraries.

MINISIS can easily produce annotated bibliographies, library catalogues and different types of indexes. It has a full range of utilities to assist the data-base administrator in maintaining data bases. It facilitates the exchange of data bases by accepting and producing magnetic tapes that conform to ISO standard 2709.

MINISIS was developed by the International Development Research Centre (IDRC) as part of its research program in information sciences. In 1973, the IDRC's Information Science Division implemented ISIS in Ottawa. But IRDC operates ISIS on a service-bureau computer. This was not only expensive but it also left very little control on the functioning of the system. In 1976, IDRC began work on the development of a low-cost minicomputer-based package. MINISIS became operational in 1978.

SNICA (National Information System for Agricultural Sciences) of Colombia uses MINISIS to manage its agricultural information and get data from AGRINTER and AGRIS.

4 - THE URGENT NEED OF A GENERAL INVOLVEMENT TO ORGANIZE AGRICULTURAL INFORMATION

It is no longer necessary to show the importance of Scientific and Technical Information for development and that is yet truer for agriculture. Information has various psychological, sociological, economical (and political) aspects which make it a power ("knowledge is power"), that it is both wanted and badly treated.

All the agents (decision-makers, researchers, extensionists, producers, etc.) need the various types of agricultural information. It is therefore important and urgent that the producers, the users (many ones are both ones), the agricultural information managers be motivated for organizing agricultural information.

Each one of us must brake his documentary egoism or carelessness and ask himself what his country, his institution and himself do, can do to improve agricultural information.

Information systems as AGRINTER, AGRIS, CARIS started and are going on, on the principle of voluntary cooperation and often with provisional financial resources. It becomes more and more necessary to institutionalize these systems, to establish basal structures, to share documentary resources and to share experiences. It becomes urgent to give attention for all aspects of agricultural information (bibliographical documents, statistical data, current research informations, etc.), to give everyone access to them. Our information systems, specialized groups and centers, etc., have also to use the products of the North American, European commercial data bases to retrieve the information useful for our local needs and to improve their use, for instance, through the specialized groups and centers because more and more, technical power passes through the mastership of information.

It is pleasant to observe that several times, the CFCS annual meetings accepted communications about agricultural information (Guadeloupe - 1977, Dominican Republic - 1979). What can do CFCS

for the development of agricultural information in the Caribbean?
The question is put down. Let us look for the answer.

SUMMARY

One of the means (and one of the brakes) of development is Scientific and Technical Information. That is yet truer for agricultural information.

After some generalities about agricultural information, its characteristics and difficulties, its organization in centres, national, regional and international systems and networks is presented through the examples of AGRINTER, AGRIS and CARIS.

Two new documentary tools, AGROVOC and MINISIS, are described. AGROVOC is an agricultural thesaurus established under the care of FAO. MINISIS is a generalized information-management system designed to run on mini-computers.

In conclusion, the author emphasizes on the urgent need to organize our agricultural information.

RESUME

L'INFORMATION AGRICOLE EN AMERIQUE LATINE ET DANS LA CARAIBE: SITUATION ACTUELLE ET POSSIBILITES

Un des moyens (et un des freins) du développement est l'Information Scientifique et Tehnique. Cela est encore plus vrai pour l'agriculture.

Après quelques généralités sur l'information agricole, ses caractéristiques et ses difficultés, son organisation en Centres, Réseaux et Systemes nationaux, régionaux et internationaux est présentée a travers quelques exemples que sont AGRINTER, AGRIS, CARIS, les Centres et Groupes d'Information Agricole Spécialisée.

Deux nouveaux outils documentaires, AGROVOC et MINISIS, sont ensuite décrits. AGROVOC est un thésaurus agricole créé sous l'égide de la FAO. MINISIS est un système généralisé de gestion de l'information conçu pour fonctionner sur mini-ordinateur.

En conclusion, l'auteur souligne la nécessité urgente d'organiser l'information agricole.

RESUMEN

INFORMACION AGRICOLA EN AMERICA LATINA Y EL CARIBE: SITUACION ACTUAL Y POSIBILIDADES

Uno de los medios (y uno de los frenos) del desarrollo es la Información Científica y Técnica. Esto es aún más verdadero para la agricultura.

Después unas generalidades sobre información agrícola, sus características y sus dificultades, su organización en Centros, Sistemas y Redes nacionales, regionales e internacionales es presentada con los ejemplos que son AGRINTER, AGRIS, CARIS, los Centros y Grupos de Información Agrícola Especializada.

Luego, dos nuevas herramientas son descritas. AGROVOC es un tesaurus agrícola establecido sube la egida de la FAO. MINISIS es un sistema generalizado de gestión de la información concebido para funcionar sobre mini-computadoras.

En conclusión, el autor enfatiza la necesidad urgente de organizar la información agrícola.

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Some useful addresses:

AGRIS Coordinating Centre
Food and Agriculture Organization
Via delle Terme di Caracalla
00100 Roma
ITALY

CARIS
(Same address as AGRIS)

IICA-CIDIA
Centro Interamericano de Documentación,
Información y Comunicación Agrícola
Apartado 55
San José
COSTA RICA

MINISIS Support Centre
IDRC
P.O. Box 8500
Ottawa, Ontario
CANADA K1G3H9