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AGRIS Level Two—A Review

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1 Introduction

That information is an international resource and that it should be equally accessible to people everywhere are generally accepted concepts. The proliferation of information produced, diversity of their sources, and limitation of resources at the command of information users, have led to the collaborative efforts by many information institutions, at national, regional and international levels. This cooperative venture in information processing is comparatively a recent phenomenon. Most of the information systems in existence are hardly a decade old.

The UNISIST Programme which was launched by UNESCO in 1971 provided the conceptual framework for the establishment of coordinated networks of information systems and services. Although initially designed for transfer of scientific and technological information, the scope of UNISIST has been expanded to include other fields, particularly those related directly to development. A number of international informamation systems and services, sponsored by the various United Nations Organizations, with the active participation of Member States, have been established eg. International Nuclear Information System (INIS); International Information System for Agricultural Sciences and Technology (AGRIS); Aquatic Sciences and Fisheries Information System (ASFIS); Global Environmental Monitoring System (GEMS); Industrial Information System (INDIS), etc. This review deals with the development of the agricultural information system, with particular emphasis on specialized information centres.

2 AGRIS

The AGRIS System as a whole was conceived in 1969, and a pane) of experts set up by the Director General of FAO, held a meeting in Rome in July 1970, which recommended that:

(1) An International Information System for Agricultural Science and Technology (AGRIS) be established as soon as possible under the activity of the FAO; and
(2) The system should be organized at two levels:

Level One—a comprehensive documentation service providing current awareness in all fields of FAO's responsibility.

Level Two—a network of services grouped by special field or mission, including specialized information services which would provide specific information through abstract service, extensive indexes and other forms of individual and direct services to users across the national border and language barriers.

3 AGRIS Level One

The basic design of AGRIS I comprises a system with national and/or regional centres identifying, collecting, and describing literature within the scope of the system and a coordinating point—FAO—which receives, merges, and disseminates this information to a worldwide audience. There are currently 94 countries and international organizations participating in AGRIS.

The inputs into the AGRIS System are references to current documents (conventional and nonconventional) of interest to agricultural development translated, where necessary, in the carrier language of the System (English). The documents are duly catalogued and indexed according to norms established by the System. This facilitates the coding of the data for computer processing. Although it is expected that the data input of the System should -be done in the form of magnetic tape, the AGRIS System still permits data input in other more simple

forms (punched paper tapes and even type written input sheets) facilitating the immediate integration of data from less developed countries into the System. The output of the AGRIS System are;

— AGRINDEX, a monthly printed bibliography arranged by categories;
— The AGRIS I data base on magnetic tape

The need to make original documents available was also recognized. AGLINET—a worldwide network of agricultural libraries—was conceived in parallel to cope with this problem. A third system to go hand in hand, CARIS (Current Agricultural Research Information System) aims at establishing an international information system which would collect, organize, and disseminate basic data on agricultural research institutions, programmes, and activities carried out in and on behalf of the developing countries.[1]

4 AGRIS Level Two

AGRIS was conceived as having two complementary facets. Level one provides rapid notification but does not attempt critical selection or exhaustive subject description. Level Two was conceived as a network of existing specialized centres, analysis centres and data banks with responsibility in depth for certain subject fields. The needs are complementary: speed and comprehensive current awareness for Level One, informative abstracts and reviews with detailed indexing for Level Two.

Although AGRIS Level One, after over five years of discussion, planning and experiment, became operational in January 1975, AGRIS Level Two conceived at the same time as Level One, has yet to take off. Despite the recommendations put forward in the original AGRIS Study Team report.[2] and subsequent debate on it, there is still a broad spectrum of different opinions as to the most appropriate form for what is known as Level Two.

Schutzsack[3] after a detailed discussion of the main

elements of Level Two, concluded that to get a clear idea of the substance of what is called Level Two (specialized centres), following studies are necessary:

(a) study of the *organizational structure;*
(b) study of the *degree of specialization;*
(c) study on the *specific elements* of *specialized centres* (language, subject, technical problems); and
(d) study of common problems of specialized centres (thesaurus, descriptive cataloguing, data preparation, and data processing).

In the view of many of the people engaged in AGRIS planning, Level Two is essentially the building of services based on the following actions:

1. To select, within the defined subject scope of a given service, that bibliographic material which is of enduring merit.
2. To write, for each selected item, an abstract—so as to enable the user to determine whether he needs to read the full text.

The products of a Level Two service conceived on these lines may involve a computerized data base, and in most cases—also involve the publication of one or more abstract journals appropriately structured and indexed.

The essential differences between Level One and Level Two according to Buntrock[4] are as follows:

Item	Level One	Level Two
1. Scope	Universal	Specific
2. Coverage	Complete	Selective
3. Input, output and search data	Bibliographical data, incl. preclassification or broad subject index	Bibliographical data plus abstracts and/or narrow index terms
4. Service	Current awareness	SDI, retrospective searching
5. Emphasis (concerning output)	Recall	Pertinence

An overall study was made by Catharinet[5] in 1974 of AGRIS Level Two. This study, dealing with principles of design, structure, and organization of information networks, specialized in fields of applied sciences, as well as with general consideration of users' requirements, is a valuable source for the establishment of such networks and can be regarded as a guideline for the initiation of specialized networks within the framework of AGRIS. This overall study is aimed at ensuring a certain compatibility of these networks which; in a later stage of development of Level Two, would be linked together for a transfer of information from one network to the other when relevant, e.g. for interdisciplinary research work, that cannot be provided from a network's own input.

Recognizing the importance of coordinating specialized services as early as possible, the Panel of Experts of AGRIS, in its sixth meeting (Rome, 4-5 October 1973), recommended the establishment of Level Two operations, in, for example, veterinary science, forestry, tropical agriculture, and in any other areas that FAO may consider suitable and practicable. FAO was also invited to arrange meetings between representatives of existing specialized services in the areas selected in order to work out suitable systems of cooperation.

Accordingly FAO constituted a number of teams to conduct pilot studies for exploring the possibilities of Level Two services in the respective areas. The efforts of these teams have been rather uneven. Gray prepared a "Survey of the existing position in veterinary information and the relationships of veterinary information to AGRIS" (Report No. FAO/AGRIS 14. 1974). Besides further developing his ideas, which Gray[6] published, nothing further seems to have been done.

After the publication of the AGRIS forestry study, three Expert Consultations were held to consider the recommendations of this study and to propose further action. The meetings were held on 30-31 May 1974 and 20-24 January 1975 in Rome, and 14-16 June 1976 in Nancy (France). These meetings helped to improve the informal cooperation between forestry information centres, stimulated the work on a multilingual forestry thesaurus, and has led FAO to send questionnaires to construct a catalogue of forestry data bases and information services. In

1978, Molster[8] proposed an organizational structure for a Level Two service in the field of forestry. He proposed a network based on cooperation of subject-related information storage and retrieval centres independent from language and country. Meanwhile, the advent of on-line services and developments in the field of telecommunication has changed the picture considerably, necessitating new and modified ideas on AGRIS. However, as Schrader[9] points out, these on-line services from a variety of data bases of different origin cause another problem with regard to the implementation of information networks aimed at improving cooperation of existing information centres and services from different language areas. The use of data bases compiled in English with on-line access and with methods of free-text search implies a very good knowledge of English, which is generally wanting in scientists with working languages and mother tongues other than English. The development of an indexing and retrieval language by means of a Multilingual Controlled Vocabulary (MCV) becomes, therefore, a matter of utmost priority.

FAO's Panel of Experts on AGRIS, at its meeting in Rome, 17-20 May 19.76, considered the results of a feasibility study on AGRIS Tropical[10]. The Panel had very considerable reservations about building a system as it was proposed, particularly because of the complex structures involved and because of the absence of a built-in formula to give assurance of continued financing. However, the Panel was of the opinion that the momentum generated by the AGRIS Tropical study should be maintained, but redirected in the form of a programme of related activities rather than as the construction of a single complex system.

Woolston[11] has suggested an alternate strategy for AGRIS Tropical, applicable to AGRIS Level Two in general. According to him the products of Level Two service 'may involve a computerized data base, and—in most cases—also involve the publication of one or more abstract journals appropriately structured and indexed.' This he calls Level Two-A. In Level Two-B, the services are more highly focussed in subject content and more diverse in products. In the field of agriculture these will often narrow the focus to a single crop

(e.g. rice, wheat, cassava) or a single aspect of agriculture practice (e.g. irrigation, feed). But equally they may go beyond the purely scientific, and deal with economic questions of supply and demand of agricultural commodities.

These services will be supplied by what are usualy called "Information analysis centres". Ideally such centres are located where there is also a considerable research activity within the same subject scope as the information service, -so that the products can reflect, not only what is found in the literature, but also the very up-to-date information and judgement that can only be obtained by interaction with research scientists. This combination of research activity and an information activity builds a true "Centre of excellence" within the designated subject field.

This idea of Woolston is exemplified by the information services offered by the Cassava Information Centre of CIAT at Cali, Columbia, the Tropical Grain Legumes I formation Centre of IITA at Ibadan. Nigeria, the International Irrigation Information Centre at Bet Dagan, Israel, the International Rice Research Institute, Los Banos, Philippines, the Sorghum and Millets Information Centre of ICRISAT, at Patancheru, India, the Coconut Information . Centre of Coconut Research Board at Lunuwila, Sri Lanka, and International Buffalo Information Centre at Kasetsart University, Bangkok, Thailand.

All these information centres are located in institutes where there is considerable research activity in the respective subject-field. It may also be mentioned here that most of these research centres are supported by the Consultative Group on International Agricultural Research (CGIAR). Established in 1971 under the sponsorship of FAO, UNDP, and the World Bank and comprising in all 45 countries, international and regional organizations, and private foundations, the CGIAR has grown to be the single most important international mechanism for coordinating and funding international agricultural research.[12]

It has been found by experience that the coverage of any one agricultural data base is probably less than two-third of all relevant information of all agricultural data bases together. Hence, no single data base can honestly claim to cover com-

prehensively literature on a particular subject. Specialized information centres can create integrated data bases containing about 75-80% of all known relevant literature in their field of interest. Rest of the literature, mostly unconventional documents, the specialized centres will have to collect on their own initiative. This is somewhat the original AGRIS Level Two concept, which according to Molster[13] should be smaller than "Forestry" or "Veterinary services" as originally proposed.

International Development Research Centre (IDRC), Canada, has been playing a very significant role in the development and establishment of specialized information centres which are functioning, more or less, as AGRIS Level Two centres. Besides all the above mentioned specialized information centres (except the one at IRRI, Philippines), IDRC has also helped in the establishment of regional resource bases in Latin America and Southeast Asia, through which the individual countries can participate in AGRIS and from which they can obtain outputs tailored to their needs.[14]

5 Conclusion

In this brief review, an account has been given of the development of AGRIS Level Two—starting from a few tentative studies to the establishment of a number of specialized information centres in the specific crop/s oriented laboratories, functioning as potential AGRIS Level Two centres. Most of these information centres are gradually developing into special information analysis centres, where information is not only routinely collected, collated, and disseminated—but-also evaluated, analysed, repackaged and synthesized. This authoritive and comprehensive presentation of pertinent information in the form of state-of-the-art reviews provided by these centres are useful, because they bring the knowledge into higher level of insight by aggregating diverse data; quite often these reviews are able to pinpoint gaps in knowledge in specific areas. Success of these centres depend to a great extent upon the symbiotic relationship between the scientists and documentalists—a condition which the location of these centres afford. This development is new, less than a decade old, It would be worthwhile watch

ing how this relationship develops, because the future of special information analysis centres will depend on the strengthening of this special relationship.

REFERENCES

1. BOSE, P.C. : Information systems in the field of agriculture *vis-a-vis* the AGRIS system. Paper presented at the ICAR-PAU Seminar on Agricultural Librarianship and Documentation, 2-5 February, 1977, Ludhiana. (unpublished) Ludhiana, Punjab Agricultural University, (1977).
2. EAST, H. : AGRIS Study Team Report, *FAO-AGRIS-2.* (1971).
3. SCHUTZSACK, U. : A contribution to the Discission of Level 2 of AGRIS. *IAALD Quarterly Bulletin* 18(1): 13-25 (1973).
4. BUNTROCK, H. : Level II Philosophy in Agricultural Documentation. *IAALD Quarterly Bulletin* 19(1): 103-110 (1974).
5. CATHARINET, M.D. : AGRIS: Level Two. Overall study, FAO-AGRIS-11 (1974).
6. GRAY, D.E. : Veterinary information: the current situation and future trends. *Veterinary Record* 14: 271-274 (1976) also published in *IAALD Quarterly Bulletin* 21(3/4): 103-109 (1976).
7. SCHRADER, S. : AGRIS Forestry. A contribution to AGRIS Level Two. Feasibility study FAO/AGRIS-12. Published in *IAALD Quarterly Bulletin* 20(2): 42-77 (1975); Idem, Development and implementation of AGRIS Forestry. *IAALD Quarterly Bulletin* 20(2): 72-85 (1975).
8. MOLSTER, H.C. : A proposal for an AGRIS: Level Two system applied to forestry. *IAALD Quarterly Bulletin* 23(1/2): 5-9 (1978).
9. SCHRADER, S. : Strategy for the development of AGRIS Forestry-comments on a proposal by H.C. Molster. *IAALD Quarterly Bulletin* 24(1): 14-16 (1979).
10. CATHARINET, M.D. : AGRIS Tropical: International information network for agriculture in developing countries, *FAO-AGRIS*-15 (1974).
11. WOOLSTON, J.E. : AGRIS Tropical: an Alternate Strategy. *IAALD Quarterly Bulletin,* 22(1,2): 30-34(1977).
12. Consultative Group on International Agricultural Research. Washington D.C., *CGIAR* (1980).
13. MOLSTER, H.C. : "Future trends of agricultural information-technical aspects". Paper presented at the 6th IAALD World Congress, Manila, 3-7 March 1980.
14. Searching: review of IDRC activities 1980 . . . and a look back at IDRC's first decade 1970-1980. Ottawa, Ont., *IDRC* (1981). See also, BUNTROCK, H. : Bibliography on AGRIS. 1970-bcginning of 1978. *IAALD, Quarterly Bulletin* 24(1): 17-22 (1979).