AGRIS – TOWARDS LEVEL TWO

DAULAT JOTWANI
Library and Documentation Services,
ICRISAT, Patancheru 502 324, A.P., India

The essential role of information in the field of agriculture and the formation of AGRIS level I have been discussed. The thinking that have gone in the planning of AGRIS level II and its main characteristics are discussed.

1 INTRODUCTION

The essential role of information in the field of agriculture was recognized when the Food and Agriculture Organization (FAO) was formed and entrusted with the task of collecting, analysing, interpreting and disseminating information relating to its mandate. It was in accordance with this mission and its worldwide authority, that the representatives of the Commonwealth Agricultural Bureaux (CAB), the European communities and the US National Agricultural Library (NAL) approached FAO in 1969 with a proposal for an international agricultural information network on the lines of International Nuclear Information System (INIS) under the broad framework of UNISIST Programme.

There were mainly two reasons due to which the efforts towards establishment of a network got momentum:

1. Frauendorfer’s study [1] which reported the existence of about 700 abstracting journals in this field in 22 languages out of which about 64% were only in four European languages and none of them was comprehensive and worldwide in scope.

2. Social pressure: governments and international organizations were under constant pressure not to spend millions of dollars for building up an information system in the atomic energy field while ignoring to make an adequate investment for the information system in agriculture, where probabilities were high to increase world food production simply by applying existing knowledge.

A Panel of Experts set up by FAO after due deliberations proposed that it was indeed desirable to establish an “International Information System for the Agricultural Sciences and Technology” (AGRIS) [2]. In the conceptualization of the programme, two major activities were identified:

1. creation of a single worldwide data base in the agricultural sciences from which a current awareness service (in printed and tape form) could be offered; and

2. to coordinate specialized services in agricultural documentation so as to achieve a concentration rather than the present wasteful duplication in subject sub-disciplines. These two activities have since been known as ‘AGRIS Level I’ and ‘AGRIS Level II’.

2 AGRIS LEVEL ONE

AGRIS Level I which became fully operational in January 1975 after 6 years of discussion, planning and evaluation, has been created through the cooperation of FAO of the United Nations, governments and institutions. It receives input currently from 94 countries and international organizations through national and regional input centres where relevant literature produced in their own country or region is identified, collected, catalogued in a standard format, categorized into subjects, and titles translated into the carrier language - English (if necessary). These inputs, which are references to current literature of all types within the scope of the system are submitted to the AGRIS Coordinating Centre of the FAO, Rome where
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these are merged into a magnetic tape database from which the following products are derived:

a. **AGRINDEX** - a monthly printed and categorized bibliography.

b. **AGRIS Data Base** on magnetic tape in which all references are available in machine readable form.

3 AGRIS DATA BASE AND AGRINDEX

Bibliographic title service offered by AGRIS database is a fairly comprehensive service. Supplemented with five indexes (i.e. personal author, corporate author, report and patent number, commodities and geographical indexes) each issue of AGRINDEX contains about 11,000 references (January 1982 issue lists 13,278 items) scanned from 5,400 periodicals and other publications in 42 languages as against January-April, 1975 (4 months) issues which together indexed about 11,000 references. AGRIS database has collected 7,07,875 references as of December 1981 which is about 15 times of 48,432 references collected upto December 1975 - the first operating year. About one-fifths of the total input comes from developing countries, though needs to be improved, presents a true partnership of developed and developing countries.

Despite its achievements AGRIS I is far from fully developed. An indexing system cannot meet the needs of real users in the field if it is not linked with abstracting service and efficient document delivery system. Studies by Lebowitz [3] and Longo et al.[4] reveal that its coverage is still half of what it ought to be. Almost half of the documents indexed are in English and more than 75% in just four European languages. Non-conventional literature accounts for little less than one-fifth of total input. Europe as a continent and United States as a country receive greatest coverage.

Nevertheless, there is much to believe that AGRIS I has contributed significantly to the development of national capabilities for the transfer and management of agricultural information in countries without fully developed system in this field.

4 AGRIS LEVEL TWO

The Panel of Experts in recommending to the Director General of FAO that AGRIS be established, suggested that the system be organized at two levels corresponding to different user’s requirements. Level I was to provide rapid current awareness service without selectivity. Level II was conceived as a network of specialized services including specialized information centres, analysis centres and data banks with responsibility in depth for particular subject field so that the wasteful duplication in subject sub-disciplines could be avoided.

At its sixth meeting (Rome, 4-5 October, 1973), the Panel of Experts recommended the establishment of Level II operations in the fields of Veterinary science, Forestry, Tropical agriculture and in any other suitable and practicable area. Accordingly, a number of teams were constituted to conduct pilot studies for exploring the possibilities of Level II services in the respective areas. The efforts of these teams, except ‘AGRIS Forestry’ have not produced any fruitful results. Dutta[5] has reviewed progress made by these pilot study teams.

In the area of Forestry, as a result of AGRIS Forestry feasibility study[6] and subsequent expert consultations, work has started on:

i. multilingual forestry thesaurus
ii. world list of forestry periodicals
iii. catalogue of forestry data bases and information services
iv. cooperation amongst forestry information centres

Besides, Molster has proposed an organization structure for Level II service in the field of Forestry, based on the cooperation of subject-related information storage and retrieval centres irrespective of language and country[7].

AGRIS Level I and Level II were discussed at the same time and were conceived as complementary facets. While Level I has been, by and large, implemented effectively and efficiently since 1975, Level II is yet to get a start which can be attributed mainly to:

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lack of clarity over its structure and strategy to be followed;

ii subjects selected for pilot studies e.g. tropical agriculture, forestry etc. were too broad to manage; and

iii attitude of developed countries to such subjects was not encouraging, as Lancaster has reported, “tropical agriculture, a major concern of many of the developing countries is not our primary interest”[8].

5 WHAT IS LEVEL TWO

AGRIS Level II was envisaged as a complex of sophisticated information services to be constructed within the overall AGRIS framework. Where the Level I is concerned with bibliographical identification of documents and emphasizes comprehensiveness and speed of reporting, Level II handles the processing of document-content which involves:

a selection of the bibliographic material of enduring scientific merit on a specific subject;

b deep indexing and abstracting of each item to facilitate the retrieval and to determine its utility. This activity will ultimately result in the publication of abstracting journals; and

c provision of Selective Dissemination of Information (SDI) service and retrospective searching based on the computerized database.

51 How of Level Two

Woolston, who has suggested alternative strategy for ‘AGRIS Tropical’ which is also applicable to AGRIS Level II in general, prefers to implement Level II in two phase[9]:

Level II A involves the publication of one or more abstract journals appropriately structured and indexed. The present services of the CAB, which are highly regarded by the scientific community exemplify his ‘Level IIA’ services.

Level II B makes the provision of services which are 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. sorghum, millets, rice, etc. or a single aspect of agricultural practice e.g. intercropping, irrigation etc. or it may go beyond the purely scientific aspect and deal with supply and demand of agricultural commodities.

These services are offered by specialized information analysis centres which are located where there is considerable research activity on the subjects. These information analysis centres will not only collect what is found in published literature (conventional) but also from unpublished literature (non-conventional) and invisible colleges by interaction with real workers in the field and as Molster[10] hopes, will be able to create integrated data bases containing about 80-90% of all known relevant records for their core area of interest. Such centres can truly be called as ‘centres of excellence’, where a good combination of research activity and information activity is found.

Woolston’s idea of information analysis centres and Molster’s concept of integrated data bases are based on the information services and data bases developed at the Cassava Information Centre of Centro Internacional de Agricultura Tropical (CIAT) at Cali, Colombia, the Tropical Legume Information Centre of International Institute of Tropical Agriculture (IITA) at Ibadan, Nigeria, the International Irrigation Information Centre at Bet Dagan, Israel, the Sorghum, and Millets Information Center of International Crop Research Institute for the Semi-Arid Tropics (ICRISAT) at Patancheru, India, the Faba Bean Information Service of International Centre of Agricultural Research in Dry Areas (ICARDA), Syria, the Coconut Information Centre of Coconut Research Board at Lunuwila, Sri Lanka, the International Buffalo Information Centre at Kasetsart University, Bangkok, Thailand and the Aquatic Sciences and Fisheries Information System of the Fisheries Department of FAO. The services of all these centres have been appreciated and lauded by their users throughout the world.

The establishment of more such information centres on Wheat, Maize, Chickpea, Pigeonpea, Groundnut, Potato, Livestock, Farming Systems, or on any other crop or aspect of agric-
culture, will certainly be a step in right direction. Such centres can be attached to those national and international research organizations where a considerable work on the same subject is being carried out. As these research organizations are expected to have their own developed and well equipped library and documentation units, too much investment for developing infrastructures for these information centres is not required. With little more financial assistance these centres can start functioning.

International Development and Research Centre (IDRC), Canada - which has already taken the lead and funding quite a good number of information centres; Consultative Group on International Agricultural Research (CGIAR) an international forum for supporting international agricultural research; and FAO can take up the responsibility to provide essential financial support. The activities of information centres, so created, will be coordinated by AGRIS Coordinating Centre. Each of these centres is expected to undertake:

i) compilation of current and retrospective bibliographies;
ii) development of its own integrated data base covering conventional and non-conventional literature;
iii) provide SDI service linked with quick document delivery system;
iv) technical query service;
v) dissemination of information about new developments in the field by publishing newsletters; and
vi) provide input for abstracting journals (proposed in Level II A), to issue reviews, and state-of-the-art reports.

6 CONCLUSION

It has been estimated that the coverage of any one agricultural data base (AGRICOLA, CAB, AGRIS) is less than two-thirds of all relevant information of all agricultural data bases together. It is, therefore, hoped that these information centres, which are smaller than Forestry, Tropical agriculture etc. will be able to develop their data base containing about 80% literature and will be in a better position to collect the remaining literature through personal contacts with scientists.

AGRIS, which has started as a cooperative venture of the nations and institutes has been able to cater to the information needs of agricultural scientists for more than 7 years now, though not fully, but it has certainly succeeded in stimulating the development of information handling infrastructures in many developing countries.

REFERENCES


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