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- 1 Public Libraries in a Developing Society
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PLANNING FOR AN AGRICULTURAL INFORMATION SYSTEM IN INDIA

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1 INTRODUCTION

India is primarily an agricultural country, and 80 per cent of the population lives in about 5,76,000 villages. Agriculture and allied occupations provide livelihood to about three-fourths of the population and contribute nearly one half of the national income. The two outstanding features of agricultural production are the wide variety of crops and the preponderance of food over non-food crops. India is the fourth-largest grain producer in the world and has one of the largest potentials of any nation for future increases in grain production. The food grains production in India has more than doubled during the last 30 years. In 1950 the food grain production was about 50 million tonnes, but in 1981-82 it reached 134 million tonnes. India's agricultural production has been growing at the rate of 30% per annum.

2 AGRICULTURAL RESEARCH

It was in the beginning of this century that the Government of India recognized the need for the establishment of a sound system of scientific investigations in connection with agriculture. The Imperial Department of Agriculture was established in Calcutta in 1881, followed by State Departments of Agriculture in Bombay, Madras, Shillong, Allahabad, and Nagpur between 1883 and 1895. However, it was in 1905, that the Government laid the foundation of organized research in India by establishing at Pusa, Bihar, the Agricultural Research Station and the Experimental Farm (later called the Imperial Institute of Agricultural Research, and after Independence (1947), the Indian Agricultural Research Institute). Subsequently, funds were provided for the develop-

ment of agricultural research and education in the provinces and a separate Department of Agriculture was constituted in most of the provinces. Agricultural colleges were also founded in Poona, Kanpur, Nagpur, Lyallpur (now in Pakistan), Coimbatore, and Sabour. The administration and co-ordination of agricultural work and governmental policy were looked after by the Government of India till 1921. However, there was no agency in the country charged with the specific purpose of co-ordinating work on agriculture and animal husbandry in different provinces and bringing them in line with the policy of the central government.

The Royal Commission on Agriculture was appointed in 1926 to examine the conditions of agriculture and rural economy in India. The Royal Commission, after discussing the possible methods by which close contact might be established between the scientific investigators working in the institutions under the central government and those employed under provincial governments, recommended the establishment of an Imperial Council of Agricultural Research, which was registered as a society on 16 July 1929. Consequent upon the advent of independence, the name of the society was changed to the "Indian Council of agricultural research" on 10 June 1947.

Until 1965, the ICAR functioned largely as an apex co-ordinating body financing selected *ad hoc* research projects mainly through revenues obtained from the Agricultural Produce Cess Act of 1940. In 1965, the Government of India entrusted to ICAR Society the responsibility of managing research institutes in agriculture, animal husbandry, and fisheries. Thus, a network of research institutes located in different parts of the country was merged with the ICAR so that problems of agricultural research could be viewed in their totality. In addition, ICAR was also entrusted with the responsibility of fostering and supporting the growth and development of agricultural universities,

ICAR, as an apex agency, is responsible for coordinating the research, education, and extension activities in the entire country. A well organized national grid of cooperative research has been operating in the country for some time now. In this system, three sets of institutions are involved, namely 31 Research Institutes and one staff college of ICAR, 5 Project Directorates, 80 All-India Coordinated Research Projects and 23 Agricultural Universities. The development of agricultural research activities in India has been admirably chronicled by M S Randhawa.¹

While the ICAR institutes and the agricultural universities organize research on fundamental and applied aspects of production, protection, and utilization of crops, animals, and fish, the co-ordinated projects carry on research on applied aspects of practical importance. Besides these institutions, agricultural research is conducted by most of the state Departments of Agriculture, which function under the aegis of the state governments. All the traditional universities have some agricultural colleges affiliated to them and at present there are

105 agricultural colleges, 24 veterinary colleges, about 20 home science colleges, and a few colleges of agricultural engineering and food technology.

3 AGRICULTURAL DOCUMENTATION ACTIVITY IN INDIA

There are nearly 200 libraries in the field of agriculture and allied sciences in India. All the research organisations mentioned earlier have libraries, whose collections vary to a great extent. The libraries of the Indian Agricultural Research Institute, Indian Veterinary Research Institute, and the National Dairy Research Institute are known for the rich collection in their respective areas of specializations. Many of the agricultural university libraries, particularly the old ones, also have very good collection of agricultural literature. According to a 1969 estimate² ICAR libraries have over 6,20,000 volumes and 9,832 current serials with them. Agricultural universities in the country have over 7,80,000 volumes and 11,392 current serials. The number at present will be considerably more.

Most of these libraries carry out routine library functions, with only rudimentary documentation functions. Many of these issue weekly list of periodicals received, monthly list of additions, some provide newspaper clippings or sort of current contents service. Most of them compile *ad hoc* bibliographies for their clients on request. The IARI library is maintaining on cards an Indian Bibliography of Agriculture since 1944. The bibliography contains more than 1,00,000 references and is arranged in two parts: alphabetical part by author, and subject part in classified order according to UDC. The bibliography is being kept updated through the addition of about 8,000 entries per year, selected by scanning over 700 Indian and foreign periodicals for work done by Indian scientists relating to Indian agriculture. Similarly, a file containing 40,000 references on cards was built up during 1905 to 1947 at the Mukteswar Branch of the Indian Veterinary Research Institute^a.

In 1976, an initiative was taken at the Marathwada Agricultural University, Parbhani (Maharashtra), towards the bibliographical control of Indian agrobiological literature. Bibliographical Research Cell set up at the university library in collaboration with senior scientists and library's professional staff prepared a retrospective information file from 1966 of Indian work, and published seven bibliographies on different agricultural topics horticulture (3,497 references), soil science (3,767 references), vegetable crops (4,209 references), pulses (2,357 ref.), weed science (2,414 abstracts), grapes (1,400 abstracts), and oil seeds (3,500 references). It has taken 6 years for collecting 24,747 references and 5,020 abstracts on 12 subjects of agriculture and to publish (commercially) 7 projects⁴. Although, not very comprehensive, this is a laudable attempt at bibliographical organization of Indian agro-biological literature.

Besides these attempts at bibliographical organization of Indian agricultural literature, mention may be made of the *Indian Science Abstracts* published by INSDOC since 1965. Although according to a study by Moitra and Batra⁵ the coverage by *Indian Science Abstracts* is only 42.2% (a figure quoted by many subsequent librarians), it may be pointed out that the study was based on the coverage of two journals only for a single year (1971). But the significant point made in the paper was that taking the coverage in 3 important abstracting services together—the *Indian Science Abstracts*, the *Biological Abstracts*, and the CAB abstracting journals—the total came to 81.9% only. Considering the fact that the two journals selected for study, *Indian Journal of Agricultural Sciences* and the *Indian Journal of Animal Sciences* are predominantly research journals, this gap in coverage is very significant.

The ICAR has established a current research information centre by creating the Research Information Unit in 1967 to provide a central source of information on the nature, location and status of current research projects conducted in the country. In 1974, the Government of India nominated ICAR to act as the national input centre for the supply of bibliographical information to AGRIS through its Research Information Unit. The unit, designated the Agricultural Research Information Centre (ARIC), is located at the IASRI buildings, adjacent to the IARI campus.

With the setting up of the Agricultural Research Information Centre, a significant step towards the bibliographical control of Indian agricultural literature has been taken. However, the centre has yet to come up to its optimum operation. The total number of entries sent from India during 1976-1980 into the AGRIS system was 13,817. However, during 1981, inputs were of the order of 6,660, and the current tempo is about 450 entries per month. It has been estimated that there are about 650 periodicals, which cover Indian agricultural literature. Besides, there are theses and a larger number of non-conventional literature. Together, it is estimated that 10,000—12,000 items of agricultural research interest are generated every year in India. Indian input in the AGRIS system is thus barely 50% of the national output. Thesis material, which is not covered by ARIC, is covered in the *Thesis Abstracts* published by the Haryana Agricultural University since 1975. A very good survey of agricultural information activities in India has been done by Surendr Mohan⁶.

4 NATIONAL AGRICULTURAL INFORMATION SYSTEM

The above brief account of the agricultural documentation activities in India, clearly shows that there is no organized effort so far to coordinate, collect, collate and disseminate agricultural information in India. It may be stressed here that agricultural information does not mean research information only (for which some efforts have been made) but socio-economic data and extension literature

are equally important. In a workshop on information in Agriculture hold on 7-8 August 1982, at Mohanpur, West Bengal, jointly sponsored by the Bidhan Chandra Krishi Viswavidyalaya (BCKV) and the Indian Association of Special Libraries and Information Centres (IASLIC), four distinct categories of agricultural information users were identified :

- (i) Scientific community;
- (ii) Extension agents;
- (iii) Policy markers/Administrators/Media personnel; and
- (iv) Farmers.

It was also recognized that the requirements and level of information of the above category of users are different. The workshop recommended that since it is not possible to deal with the different types of information requirements of various categories by a single organization, an agricultural information grid should be set up. Each nodal point in the grid will also serve as a referral centre for the whole grid.

The problems of agricultural documentation in India have been discussed in a number of forums. The report of the second Indo-American Library Survey Study Team (*op. fit.*) carried valuable recommendations directed toward evolving a national system of agricultural libraries and documentation centres, with the libraries of the Indian Agricultural Research Institute (IARI). The Indian Veterinary Research Institute (IVRI) and The National Dairy Research Institute (NDRI), functioning as national libraries in agriculture, veterinary, and dairy science respectively. At the "ICAR-PAU Seminar on Agricultural Librarianship and Documentation" a plea was made by Banerjee and Moitra⁷ for the setting up of a National Agricultural Research Information Centre (NARIC).

However, thinking so far was that research information only constitutes agricultural information. Surendar Mohan (*op. titl*) suggested an agricultural information network with the participation of three proposed national agricultural libraries namely IARI, IVRI, and NDRI, other libraries of the ICAR, Agricultural Universities Libraries, and cooperation of libraries of the food, fertilizer and seed corporations, various commissions and surveys, libraries of CSIR complex, coffee, tea, and rubber boards, etc. This network would form one sector of the NISSAT. Banerjee⁸ somewhat modified his original idea of NARIC when he proposed National Agricultural Reference and Referral Centre (NARC), which is more wide based.

The best way to set up a sound agricultural information network in India will be to develop the library/documentation centres attached to each specialized institutes under ICAR into a national information centre for that speciality. For example, every bit of agricultural information—scientific, socio-economic, or extension—concerning, say potato, should be documented at the Central

Potato Research Institute, Simla. Similarly all information concerning dairy science should be documented at the National Dairy Research Institute, Karnal. The head-quarters library of ICAR should concentrate on literature on agricultural policy and agricultural administration. The Directorate of Agricultural Economics and Statistics, New Delhi, will be the nodal centre for all socio-economic information concerning agriculture. This network of specialized information centres, will be co-ordinated by a National Agricultural Information Centre (at IARI?), whose function will be mainly referral. It will also undertake such activities, which transcends specific subject fields, such as compilation of union catalogues, functioning as national input centre for AGRIS, organizing translation service, or undertaking training activities. Each nodal point in the grid should function as an information analysis centre—compiling bibliographies, supplying photocopies on demand, bringing out state-of-the-art report, publishing newsletters, and generally attending to all types of queries, scientific, technical, and socio-economic concerning the crop. They can help each other by supplying copies of documents of interest to the centre concerned. For example, if IVRI comes across a document which it feels would be of interest to NDRI, it should pass on the information (and a copy of the document if requested) to NDRI. For this type of cooperation amongst various units within the grid, it is necessary to adopt a common citation and indexing practices. Some economy in the periodical budget can be effected, if this type of cooperation is agreed upon, since each institute can concentrate on acquiring core periodicals and depend on sister institutes for obtaining relevant information from the peripheral periodicals.

Information is an essential input in any developmental activity. Planning for a national agricultural information centre in India has been going on for a long time. It is high time that some concrete steps are taken to lay a strong agricultural information base in India.

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