

# Growth of Agricultural Libraries in India in the Post-Independence Era

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## Abstract

The author traces the origin and development of agricultural libraries in India beginning with the creation of Department of Agriculture in 1873. The recommendations of various committees having bearing on library matters are also discussed and listed the pathos of agricultural libraries, studies the impact of information technology in the storage and retrieval of agricultural information. The author sees a bright future for agricultural libraries in the growing network of information networks.

## 1. INTRODUCTION

Immediately after achieving independence in 1947, the Government of India under the leadership of Pandit Jawahar Lal Nehru gave top priority to the development of agriculture. In 1950, India had a total food production to the mark of 55 million tonnes and to meet the shortage of food grains, the country had to beg from the foreign countries. For improvement, it was essential to develop new varieties of crops, occupy more areas under cultivation and to develop infrastructure for agriculture research, education and extension activities. There were hardly two Institutes under ICAR (1929) namely Imperial Agricultural Institute (1905), New Delhi and Imperial Veterinary Research Institute (1889), Izatnagar and six Government Agricultural colleges at Coimbatore, Kanpur, Lyallpur, Nagpur, Sabhor Poona, and Naini (1910). In the first phase of Agricultural Development 31 ICAR Institutes were created till 1957 and in next four decades from 1957 to

1997 the number of ICAR Institutes went upto 61 (Table 1). On the other side the State Agricultural Universities (SAUs) were opened from 1960s onward with the first Agricultural University at Pant Nagar (1960) and today there are 30 Agricultural Universities (Table 2).

Accordingly the number of teachers and scientists in the agricultural universities as well as the ICAR Institutes increased along with agricultural students. Today there are 31,000 scientists and teachers working in the Agricultural Research Sector in India (Table 3) with 15,300 undergraduate and postgraduate students in SAUs. Under ICAR only four institutes namely: IARI, IVRI (Izatnagar), NDRI (Karnal), CIFE (Bombay) are undertaking post-graduate teaching and enrol 1200 students every year (Table 4).

## 2. DEVELOPMENT OF AGRICULTURE IN INDIA

Seventy-eight percent of India's population lives in villages and their main occupation is farming. At the time of independence India had a population of 360 million people, with about 50 million tonnes of food production. The improvement in the traditional agriculture

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technique to increase the food production was the basic concern of independent India and a challenge before the Government. Pandit Jawahar Lal Nehru in 1949, while addressing a gathering of agricultural scientists and students at IARI, New Delhi said "Every thing may wait but agriculture cannot". This indicated the policy and priority of the Government. In order to meet the food needs of the country, the Government gave all priority to agriculture. Under the aegis of Indian Council of Agricultural Research (ICAR), commodity and problem based institutes were opened throughout the country to accelerate the research in agriculture, animal, veterinary, dairy and fisheries sciences.

In the second phase of development, agricultural education and extension activities were given emphasis along with research work. UGC, in 1958, accorded the status of a deemed university to IARI where education at Ph D level was started and its earlier Degree of Associateship was changed to M Sc degree. Education Commission had recommended minimum one Agri-tech University in each of the states of India. As a result SAUs were started. The first SAU was Govind Ballabh Pant University of Agriculture and Technology (Pant Nagar, 1960), Orissa University of Agriculture & Technology (Bhubaneswar, 1962), Punjab Agricultural University, (Ludhiana, 1962), University of Agricultural Sciences (Bangalore, 1864), Andhra Pradesh Agricultural University (Hyderabad, 1964) and so on. (Table 1).

SAUs work under the control of state administration. They are funded upto 90 per cent by the ICAR and rest of their budget is met by state government. Since agricultural research, education and extension is the primary responsibility of states, the growth of SAUs has been faster.

**Table 1. Institutional System of ICAR (1996)**

Institutions	Number
Deemed Universities	4
ICAR Institutes	42
National Research Centres	30

Project Directorates	10
National Bureau	4
All India Coordinated Research Projects	80
Krishi Vigyan Kendras	262
Trainers Training Centres	8
National Research Centre in Agriculture For Women	1
Operational Research Projects	400
Other Schemes & Projects	26

The Green Revolution in 1966-67 brought about self-sufficiency in food grains. Since then the third phase of agricultural development started to sustain the results of Green Revolution. Both SAUs and ICAR institutions started growing with a faster pace. Food production, from 55 million tonnes in 1950-51, increased to nearly four times to approximately 192 million tonnes in 1996-97, alongwith near targets to achieve sufficiently in pulses, oilseeds, fisheries and horticultural crops. White Revolution has already fulfilled the needs of the country for milk. Today, the Indian Agricultural Research System under the ICAR is one of the largest in the world comprising of research institutes, project directorates, schemes, programmes, etc. (Table 2).

**Table 2. Statewise SAUs in India**

States	Number of SAUs
Jammu & Kashmir	1
Himachal Pradesh	2
Punjab	1
Haryana	1
Rajasthan	1
Gujarat	1
Maharashtra	4
Kerala	1
Tamil Nadu	2
Karnataka	2
Andhra Pradesh	1
Orissa	1
West Bengal	2

Assam	1
Bihar	2
Uttar Pradesh	3
Madhya Pradesh	2
NEH Region (Central Univ.)	2
<b>Total</b>	<b>30</b>

The National Agricultural Research System of India has necessary infrastructure and is well equipped with laboratories, libraries, manpower, etc. It also has the largest scientific manpower. It is estimated that the country today has over 60,000 scientists under various government and non-government organisations engaged in active research, excluding technical, administrative and supporting personnel. The scientific manpower—management personnel, scientists and teachers engaged in research, education & extension work in agricultural sector—has been estimated to about 31,000 (Table 3).

**Table 3. Scientific Manpower Engaged in Agricultural Research in India (1996)**

ICAR System	6,500
State Agricultural Universities	22,000
General Universities and Affiliated Colleges	1,000
Agrobased Industries	1,000
Voluntary/Private Organisations	250
Related Govt. Departments	250
<b>Total</b>	<b>31,000</b>

All the 28 SAUs comprising of 172 agricultural colleges and 4 deemed universities under ICAR annually enroll about 16,500 students at various level courses under human resource development programme (Table 4).

**Table 4: Students on Roll in Agricultural Educational Institutions (1998)**

<b>Educational Institutions</b>	<b>P.G./Ph.Ds</b>	<b>Graduates</b>
ICAR Institutes	1200	Nil
State Agricultural Universities & Colleges (28+172)	6300	9000

### 3. GROWTH OF AGRICULTURAL LIBRARIES SINCE INDEPENDENCE

The oldest institutes of IARI and IVRI were having libraries with good collection consisting of journals, monographs, reports, bulletins and theses. The agricultural colleges were having small libraries and collection of 10,000 to 20,000 books. With the growth of ICAR Institutes, more libraries were opened and the state agricultural university libraries played a vital role in the research and education programme of the SAUs.

#### 3.1 Status of SAUs and ICAR Institute Libraries

The status of art of ICAR libraries has been assessed by the following survey teams:

- (1) Dr MS Randhawa Committee (1957)
- (2) Dr Ralph R Shaw and Dr Krishna Rao Committee (1956)
- (3) The Indo American Agricultural Library Survey and Study Team (Dr Dorothy Parket Committee (1958))
- (4) Dr Ramaiah Committee (1969)

In addition to above, ICAR sponsored regional agricultural library study teams and finally a survey was done by IARI library during 1992-93. All important committees have stated that ICAR libraries were in poor condition in terms of power collection, inadequate library manpower and physical facilities as well as inadequate financial resources to meet the literature/information requirements of the scientists of their respective institutions. So far as the budget was concerned, the libraries of ICAR have shared hardly 1.5% or less than that of the budget of their respective institutes. The appointed librarians were in the lower cadre at semi-professional level and they have been working under the supervision of some scientists who were non-professional. All these reasons have contributed for the slow pace of development ICAR libraries which still persist in most of the libraries. In spite of the recommendations of various committees

regarding the improvement in the physical facilities of ICAR libraries, strengthening of collection of books and journals, appointment of trained librarians, status of library staff equal to that of the Heads of Department and scientists as well as recommendations for a National Agricultural Library of India headed by the Director.

ICAR, in spite of the recommendations of Dr Ramaiah committee and Dorothy Parkar Committee, has not given due status to their librarians and pay scales. Thus the library suffered a great.

Libraries, being part and parcel of the education and research system, are playing vital role. They provide information support and function as nerve centre for research activities around which the progress of the country is spiralling high. Their development has been along with the growth and development of institutions in particular and country as a whole in general. Libraries have served the nation and born many constraints during the span of 50 years of independence.

### **3.1.1 ICAR Model Act for Agricultural Universities in India**

The ICAR Model Act (under Section 7, Subsection 10) is regarding the powers and functions of the University to maintain laboratories, libraries, research stations and institutions and museums for teaching, research and extension. This statement gives a legal base to the libraries of agricultural universities. The librarian shall be a member of the Academic Council and an officer of a university responsible to the Vice-Chancellor for all matters concerning the library and the purchase, cataloguing and maintenance of books and journals and operation of the library. The contents of the Sections 7 and 18 of the ICAR Model Act, incorporating the recommendations of Cummings Committee Report (Dr Ralph W Cummings as Chairman) and Sutton Committee Report (Dr TS Sutton as Chairman—an Advisor under USAID Mission to PAU) has far reaching effects on agricultural university library organisation, administration, powers and duties of the university librarians.

Subsequently, these sections of ICAR Model Act were incorporated in the acts and statutes of almost every agricultural university in India. This provided the library a rightful place in the administrative set-up of an agricultural university.

### **3.1.2 Joint Indo-American Teams**

Two Indo-American teams in 1950s gave emphasis on improving agricultural education, research, and extension, which resulted in additional emphasis on the need for better libraries. The report of second team headed by Dr MS Randhawa states:

"Libraries are necessary part of the researcher's tool. Every possible step should be taken to improve library facilities which are often inadequate". Dr Randhawa as Vice-Chairman of ICAR got a committee consisting of Dr Ralph R Shaw and Dr DB Krishna Rao appointed in 1956 to conduct a study of library and bibliographic services for agricultural teaching and research in India. The recommendations of this committee created deep awareness among librarians and administrators for better agricultural libraries.

### **3.1.3 Indo-American Agricultural Library Survey and Study Team (1968)**

This survey team was set up as a result of the recommendations made at a meeting of the Directors of Agricultural Research Institutes (1967) and it was headed by Dr Dorothy Parker. The committee visited the then existing agricultural university libraries. Chief Librarian of IARI was its member-secretary. This committee gave 69 recommendations. The most important recommendations were regarding to:

- ◆ Improvement in the physical facilities to ICAR institute libraries.
- ◆ Strengthening of the collection of books and journals.
- ◆ Appointment of trained librarians in the institute libraries.
- ◆ Status of library equal to that of a Department of the institute.
- ◆ Status of Librarian on par with Head of the Department

- ◆ Making of a National Agricultural Library in India headed by a Director.

### **3.1.4 Ramaiah Committee (1969)**

This committee was constituted under the Chairmanship of Dr K Ramaiah, a Member of Parliament, consisting of scientists like Dr MS Swaminathan (IARI), Dr CM Singh (IVRI), Dr NN Dastur (NDRI), etc. to review the recommendations of Dr Dorothy Parker Committee which accepted a few out of them.

### **3.1.5 Regional Agricultural Library Study Teams (1973)**

In 1973, ICAR sponsored Regional Agricultural Library Study Teams to study the working of agricultural libraries again. One of the teams reported that no appreciable progress was made after Ramaiah Committee and failure to act upon the recommendations of Ramaiah Committee was pointed out. They also recommended about the role of libraries in the development of research, but ICAR had taken eight years to clear the recommendations of both Regional Study Teams and Ramaiah Committee.

### **3.1.6 ICAR Workshops and Seminars for Agricultural Libraries**

A number of workshops, seminars and conferences for agricultural libraries were held under the aegis of ICAR at different places. Important among them were (i) The first Library Workshop at Pantnagar, (ii) All India Conference on Agricultural Education relating to Libraries, JNKVV, Jabalpur, (iii) Workshop on Reprography, Ludhiana, (iv) Seminar on Agricultural Librarianship and Documentation, Ludhiana, (v) National Conference of Agricultural Librarians Hyderabad and (vi) Seminar on Agricultural Librarianship and Documentation, Pantnagar, December, 1988 and after this no seminar or workshop has been organised.

### **3.1.7 Standing Library Advisory Committee of ICAR**

There is a Standing Library Advisory Committee (LAC) of ICAR to deal with policy matters concerning agricultural libraries. The

LAC consists of librarians from some agricultural universities and ICAR institutes with Deputy Director General (Education), ICAR as its Chairman and the Chief Librarian, ICAR library as its member-secretary.

The above mentioned various committees gave substantially useful recommendations for the development of agricultural libraries in the country.

## **3.2 APPLICATION OF INFORMATION TECHNOLOGY**

Information Technology (IT) has come as a boon to substitute the day by day decreasing human efficiency, to help to win over budgetary constraints of libraries and to a great extent to increase higher utilization of literature resources and need based information more effectively. IT facilitates automatic collection of information, storage, processing and retrieval. The application of IT in libraries has been in three dimensions, namely

- (i) Computerisation of library resources
- (ii) Publishing of CD-ROM databases, and
- (iii) Computer based networking for information communication.

Computers have been used in various activities for a long time but in India, particularly in library field, their use has been for a decade or so. A survey of agricultural libraries in 1991 reveals that there were hardly a couple of libraries which made a beginning of computer use. By the year 1995, CPRI library (Simla) had computerised total literature on potato available in the country and outside since 1901 to date.

IARI library in this area has gone much ahead. It has completed the computerisation of its book catalogue by converting over one lakh books and monographs into machine-readable-form by the end of March 1997. Here data conversion activity continues for other forms of documents, viz. theses, bulletins, articles, etc. ICAR Institutes like IHR (Bangalore), CPCRI (Kasargod), SAUs like GB Pant University (Pantnagar), PAU (Ludhiana) and HPKV (Palampur), etc. have made just a beginning.

CD-ROMs (Compact Disk-Read only Memory) were originated in the mid 1980's. Silver Platter (USA) is the largest CD-ROM publishing company in the world. Today a large number of CD-ROM databases are available on a variety of subjects including agro-biological sciences. To name a few are:

- CABI Abstracts since 1972 (CAB)
- AGRIS CDs 1975 (FAO)
- AGRICOLA since 1960 (NAL,USA)
- Zoological Records (1978-)
- Biological Abstracts (1985)
- Chemical Abstracts (1994)
- Derwent Biotechnology Abstracts (1982)
- CGIAR Institutes' Libraries fulltext databases
- FAO statistics on Diskettes
- World List of Agricultural serials, etc.

A large number of CDs on various agricultural and allied subjects are also published by other organisations other than Silver Platter. These CD-ROMs cover abstracts and full text of journal articles, statistics, fulltext of books and monographs. Leading publishers of scientific journals have started publishing fulltext journals on CD-ROMs and to name a few are:

- ◆ Academic Press
- ◆ Annual Reviews Inc.
- ◆ Blackwell Scientific Publishers
- ◆ Kluwer Academic Publishers
- ◆ Elsevier Science, etc.

In New Delhi, NISCOM (formerly Publication & Information Directorate, CSIR) has published its 'Wealth of India' (Raw Material series) an encyclopedic dictionary of economic plants on CD-ROM under the title 'Wealth Asia' in 1995. Libraries by subscribing some important databases on CD-ROMs can serve better and save their expenditure on hard copies. IARI library in this process has procured all CABI CDs on plant sciences, AGRIS CDs, AGRICOLA, Biotechnology, Zoological Records, WLAS (World List of Agricultural Serials), CGIAR CDs (Full text libraries of 16 international

agricultural research centres), FAO's agricultural statistics and 'Wealth Asia' on CDs. With the help of a CD-ROM drive attached to a PC, required specific information can be searched, retrieved and served in a minimum possible time.

IARI Library has installed a 28-drive CD-Net consisting of 11 networking terminals providing simultaneous access to different CD-ROM database searches, retrieval, downloading and printing facility. This is in addition to stand alone single drive CD-ROM search facilities. It also provides e-mail facilities to its over 300 registered PG students. Other libraries of GB Pant University, HPKV (Palampur), PAU (Ludhiana), Kerala Agricultural University, CPRI (Simla), IVRI (Izatnagar), NDRI (Karnal) and many others have started procuring CD-ROM databases in the respective areas of their needs.

### 3.3 Pathos of Agricultural Libraries

- (i) With the application of some Sections of the ICAR Model Act for Agricultural Universities (Para 3.1.1 above) and incorporation of some recommendations of Cummings Committee as well as Sutton Committee into the Acts and statutes of almost of every agricultural university, the SAU libraries went ahead of ICAR institute libraries which are still in poor state. Today, Agricultural university librarians are enjoying the status of a Professor and professor's pay scale under UGC system with full administrative and financial powers for the organisation and management of their libraries.
- (ii) Contrary to SAU libraries, the pathology and irony of ICAR institutes' libraries has been that all good recommendations of Indo-American Agricultural Library Survey and Study Team were turned down by the Ramaiah Committee and recommendations of Ramaiah Committee accepted by ICAR were never implemented by the Directors of ICAR institutes.
- (iii) The Standing Library Advisory Committee of ICAR remained in dormancy for the last 20 years. However, it was revived in 1995 and after a couple of meetings again paralysed for certain reasons.

- (iv) Association of Agricultural Librarians and Documentalists of India (AALDI) in 1988 at Pantnagar seminar elected new members to form a new executive committee of AALDI, which could raise the voice of librarians' grievances and suggest new measures to accelerate the pace of development of agricultural libraries. This committee of AALDI never met and since then went into long dormancy because of the lack of commitment of its members to the profession.
- (v) ICAR librarians have not been granted equal status and UGC pay scales on par with scientists of their institutes as well as their counterparts in SAUs, hence they do not enjoy adequate administrative and financial powers to develop their libraries by purchasing new books and journals. They work through an obsolete bureaucratic system.
- (vi) The surveys made by IARI library staff in 1991 and 1995-96 reveal that ICAR libraries are still in poor conditions—with poor collection and inadequate manpower. Budget allocation to libraries on an average remains below the mark of 1 per cent as against UGC norm of 6 per cent of a university budget. On the other hand agricultural university libraries have built adequate book collection and subscribe a satisfactory number of agricultural journals. They have adequate manpower and financial resources. Here the library of IARI, New Delhi is an exception to it by virtue of its national role.
- (vii) National Agricultural Library is the need of the country. Unfortunately, there is no *de jure*, National Agricultural Library. However, IARI Library is playing the *de facto* role of National Agricultural Library since long time.

### 3.4 Indian Library & Information Networks

India has developed a number of general and specific purpose networks during the last 14 years, e.g. 'Vikram'—a defence network, 'INDONET' of CMC Ltd., 'NICNET' of Planning Commission, and 'ERNET' of Department of Electronics, Government of India, and

'INFLIBNET' (Information Library Network) of UGC. All these are national networks. Similarly, at the regional level in the field of library and information science, there are DELNET, CALIBNET, BOMNET, etc. DELNET, today, connects over 65 libraries of Delhi. It provides e-mail facility at Delhi, national and international levels through NICNET. The DELNET has OPAC facility. The nodal libraries can access to union catalogue of books and journals, and other materials in host computer located at India International Centre, New Delhi. IARI library is a member of Delnet and is participating in its professional activities. However, some regional networks have their connectivity with national networks—ERNET and NICNET which further have their connectivity with INTERNET. INTERNET—a global network today connects over two million desktop PCs. Hence, it is possible that a library can have its connectivity based on V-SAT or Telecom with NICNET and ERNET and can have access globally to important agricultural databases, or library catalogues in electronic form, home page of an organisation and can send e-mail to and receive from any institution or individual on his desktop computer. One can transfer file, messages, fulltext, visuals, and can have video-conferencing, etc.

### 3.5 Agricultural Networks Scenario

Today, infact, there is no national or regional network of agricultural libraries. However, ICAR, New Delhi has taken initiatives in this direction. First of all, IARI library made a beginning of computer based activities in 1993 and had computer connectivity with DELNET through a modem-telephone line. In 1995, IARI management started a project of campus networking through CMC Ltd, and in just one year, a powerful network having 100 MB fibre optic backbone was installed and commissioned in february 1996. This electronic information network of STAR topology on IARI campus connects over 50 computers housed in 17 buildings remotely located withing the radius of two kms. It is further being strengthened speedily and by the time this paper is published, it will have more than 100 connections.

IARI library has installed a 28-drive CD-Net consisting of 11 networking terminals providing simultaneous access to different CD-ROM databases search and retrieval, downloading and printing facility. This is in addition to stand alone single derive CD-ROM search facilities.

The CD-Net housed in the library has also been made accessible from various divisions of the institute on this network. Agricultural libraries can join INFLIBNET of UGC as well as ERNET of NICNET for global access to information to serve their users. It is to mention here that IARI network has its V-SAT based main hub housed in the library and library thus, has access to global information for library catalogues, full text journal databases, magazines, newspapers etc. through World Wide Web. ICAR has a plan to connect all agricultural universities and ICAR institutes through modems and V-SATs with IARI network as early as possible. Thus libraries of SAUs and ICAR institutes will be on network. Twenty-six SAUs have already been provided hardware support by the ICAR and work of computer networking is progressing fast under the expert technical leadership of CMC Ltd.

#### **4. FUTURE OF INDIAN AGRICULTURAL LIBRARIES**

In spite of some dark spots in the history of past 50 years of Indian agricultural libraries for different reasons, now they have sunny days and a bright future. The present trends of economic globalization has made agricultural globalization imminent and the second Green Revolution will be an event of near future. The agricultural libraries and information centres cannot be

ignored and they will have to play a vital role in the service of the nation. It is emphasized again that ICAR, New Delhi has plans to develop a nation-wide agricultural information network connecting all libraries of State Agricultural Universities and ICAR research institutes. ICAR has already taken initiatives to establish Agricultural Research Information Service (ARIS) cells in IARI, IVRI, HPKV, GB Pant University, Narendra Dev University, etc. by providing computer hardware, etc. as mentioned earlier. The ARIS cells will have connectivity with libraries also for bibliographic information.

As already mentioned earlier that a campus LAN based on V-SAT in IARI has already been established, and made operational which provides connectivity to internet through ERNET. This will happen in the whole of country in couple of years. Thus Indian agricultural libraries with electronic platform will join information super highway and enter with pride and smile into the 21st century.

#### **5. FURTHER READINGS**

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