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## USE OF CONSORTIUM FOR E-RESOURCES IN AGRICULTURE (CERA) : A CASE STUDY

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### ABSTRACT

*The paper provides the brief background of the Indian Consortium for e-Resources in Agriculture (CeRA) and the components of the National Agricultural Innovation Project (NAIP) with special reference to the Component-I under the important and most innovative web-based projects, i.e., CeRA. The overview of these project including objectives and deliverables has been highlighted especially keeping in view of the current scenario of the MPKV. There are several library consortia in India, UGC Infonet is mainly meant for universities controlled by UGC and CeRA is meant for agricultural universities. This paper discusses utilization of consortia-based digital information resources by the post graduate and doctoral students of the Mahatma Phule Krishi Vidyapeeth, Rahuri (M.S).*

**Keywords:** Agricultural Information System, Internet, CeRA, User Study, MPKV,

### 1. INTRODUCTION

Oral Communication has been an integral part of people interactions in all civilizations. With the advancement of science and technology, the process of communication has expanded over the years to cover print and other modes like computer, Mobile phone and associated gadgets. India is predominantly Agrarian Country, and the growth of agriculture is reflected in the good yields of different crops that depend on various factors- natural and man-made. Agricultural research, the backbone of agricultural growth in the country, demands timely dissemination of knowledge being generated and updated across the globe from time to time. R & D institutions have been procuring print versions of journals and literature in aid of science and technology.

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With the rapid growth of internet facilities and advancement of web technology, almost all reputed international journals are available on-line and can easily be accessed by researchers over the network. Since ICAR is having network connectivity across institutes and state community. Accordingly, the National Agricultural Innovation Project (NAIP) has funded for establishing the Consortium for e-Resources in Agriculture (CeRA) at the Indian Agricultural Research Institute (IARI) in November 2007 to facilitate accessibility of scientific journals to all researchers/teachers in the National Agricultural Research System by providing access to information specially access to journals online which is crucial for having excellence in research.

As the universities in India are broadly controlled by two agencies like UGC and ICAR, the library and information resources management and services are also performed differently. While the universities under UGC have formed UGC Infonet for consortia mode of journal subscription and electronic information services, the agricultural universities and agricultural research institutes formed CeRA for the same purpose. Moreover, there are several other consortia also in operation in India for institutions under CSIR, DRDO, IITs, IIMs, etc.

### **1.1 OBJECTIVES OF CERA**

- a) To upscale the existing R&D information resource base of ICAR institutions/universities comparable to world's leading institutions/organisations;
- b) To subscribe e-journals and create e-access culture among scientists/teachers in ICAR institutes/ agricultural universities; and
- c) To assess the impact of CeRA on the level of research publications measured through NAAS ID and Science Citation Index.

### **1.2 DELIVERABLES**

1. Online accessibility of all important journals and other resources related to agriculture and allied sciences to researchers and students of the consortium;
2. Quick access to R&D information as available worldwide and permanent archive of the subscribed e-databases; and
3. Improvement in the quality of scientific publications, teaching and research guidance.

### **1.3 ACCOMPLISHMENTS**

- IP-based access to CeRA resources has been made available to NARS institutions and universities. Web-based URL ([www.cera.jccc.in](http://www.cera.jccc.in)) is available with easy and customised interface and facilitating the online access and document delivery. More than 2000 journals are covered.
- Subscription to all relevant and important resources from Annual Reviews, Springer, CSIRO, Elsevier, Taylor and Francis, Nature, SCI, Indian journals, Oxford, Wiley, ASA, etc. have been made available.
- Numbers of training/workshop/orientation programs have been arranged at local and national level for maximising the usage of subscribed resources.
- Researchers being assisted to access full-text of library subscribed journals (which are not available in CeRA); the Document Delivery Request System has been in place.

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- CeRA maintains usage and other data for compiling the reports and further improving the system.
  - Steering, monitoring cum negotiation, and working committees have been constituted and meetings are held periodically to achieve objectives of consortium.
  - CeRA in collaboration with e-Granth and AALDI organised a Seminar cum User Meet on 24-25 February 2011.

## **2. MAHATMA PHULE KRISHI VIDYAPEETH, RAHURI (M.S)**

The Maharashtra Krishi Vidyapeeth, Rahuri is established on March 29, 1968 and subsequently named as *Mahatma Phule Krishi Vidyapeeth (MPKV)* after a great social reformer "*Mahatma Jyotiba Phule*". It has started functioning from October, 1969 at Rahuri, District Ahmednagar, Maharashtra, India. The Campus is situated 160 km from Pune on Pune-Delhi highway in Ahmednagar district.

The basic mandates assigned to this University are advancement in teaching, research and imparting extension education to the farmers of the State. There are four Agricultural Universities in the State, catering the similar services in their locality. The jurisdiction of Mahatma Phule Krishi Vidyapeeth, Rahuri extends over Western Maharashtra covering ten districts. The University has two faculties namely Agriculture and Agricultural Engineering. The under-graduate and post-graduate programmes are offered in both faculties. The University also deals with lower agricultural education through Agricultural Schools, Mali Training Centre and Training's for Livestock Supervisors. The University has a very good network of research stations spread over different agro-climatic zones. In all 23 research stations, 4 State level specialists and 16 research testing/verification centers are located in different agro-climatic zones in addition to 4 Zonal Research stations. Of the three fold functions, it is mandatory on the part of the University to transfer the technology from the research centers to the ultimate users through extension education programme.

## **3. OBJECTIVES OF STUDY**

The purpose of the study was to explore the awareness and usage of consortia-based information and knowledge resources by the post graduate (PG) and doctoral students of MPKV. The main objectives were to:

- Evaluate the pattern of access and use of digital resources by the PG and doctoral students
- Find out the purposes for which the digital resources were used
- Assess the impact of consortia-based delivery of digital resources
- Know the adequacy of resources available through the CeRA
- Assess the provision and impact of user education and information literacy courses for PG and doctoral students
- Suggest suitable measures to improve the consortia based delivery of digital resources

#### **4. SCOPE AND LIMITATION**

The study is based on the user behavior and the pattern of the utilization of information resources by the PG and doctoral students of MPKV. The scope of the study is limited to the digital resources mainly available through CeRA and in MPKV.

#### **5. RELATED STUDIES**

Corcoran, Janet (2006) stated that, even though the library spends a huge amount of money on resources, and if a user has inability or difficulty in accessing them and as a result does not use them, the money has been wasted.

UNESCO (2005) Priorities are to promote universal access to information and to strengthen communication capacities at the local level. It emphasizes the importance of websites for effective access of information resources available world over. Library users also prefer to avail information services through the library websites. As websites becoming important means for information services, it is essential to design the websites with utmost care and effectiveness.

Srivastava, Ranjana (2002) observed that Information resources in the form of journals occupy a pivotal position in any university or research library. The citation analysis of doctoral dissertation in chemistry reveals that the researchers mainly depend on periodicals for their information use. A proper control and management of journals is important for meeting the users' needs effectively. The two major problems associated with the serials management are the multiplication of number of journals published and the steep increase in their prices.

White and Creaser (2001) reported that journal prices are estimated to have increased by 39 per cent between 2001 and 2006, while the retail price index has risen by 16 per cent over the same period.

Bostick Sharon L (2001) argued that the buying power of the libraries for better prices has increased under the consortia mode.

Lebowitz (1997) observed that, "Although many consider the library to be the heart of the university, the use of the library is often not incorporated into courses being prepared for distance delivery .... as academic institutions extend their educational offerings beyond the campus, to rural, suburban, and urban locations, they need to consider... the role that the library plays in the educational process". She recommends that librarians convince fellow educators and administrators that as they are expanding their institutions' educational offerings beyond the campus boundaries, they need to provide their students with access to library services, which include among others, instruction in use of resources, document delivery, and communication facility between the students and librarian.

#### **6. RESEARCH METHODOLOGY**

The study was conducted among the PG and research students of MPKV Rahuri. Data was mainly collected using a Questionnaire. As a course teacher of 'library and information services';

and 'research methodology' for the PG and doctoral courses of the university, the investigator has made additional discussions with the students and enriched the data thus collected. The data was collected from total 291 PG and PhD students admitted during 2010-2011, tabulated, and analysed.

## 7. DATA ANALYSIS

An attempt has been made to analyze the research data collected from students from MPKV and interpret the results revealing their awareness among the use of CeRA that provides valuable source of information to the library managers and planners in designing and developing a suitable strategy in promoting the better use of valuable information sources including electronic format and thus justifying the cost effectiveness of library efforts.

The results of the user observations, questionnaire schedule, interviews and participatory design sessions provide a rich description of how CeRA use, searching methods employed in obtaining desired information and problems of not using CeRA, if any. The research study is confined to students of MPKV. Questions like name, Gender and educational qualification were asked.

The data is analysed in view to the objectives mentioned in the study as follows:

**Table No 1: Discipline Wise Analysis of Respondents - Admissions**

Sr. No	Subject	PG (2010-11)	Ph. D (2010-11)
1	Agronomy	18	10
2	Genetics & Plant Breeding	17	8
3	Plant Physiology	6	4
4	Seed Science Technology	10	4
5	Agricultural Economics	17	7
6	Extension Education	17	4
7	Animal Science	11	5
8	Dairy Science	7	4
9	Agril Entomology	16	7
10	Plant Pathology	16	7
11	Agril Microbiology	7	5
12	Soil Science and Agril Chemistry	17	6
13	Biochemistry	10	0
14	Food Science Technology	10	0
15	Irrigation Water Management	10	1
16	Fruit Science (Horticulture)	6	4
17	Vegetable Science	7	5
18	Agril Biotechnology	8	0
	<b>Total</b>	<b>210</b>	<b>81</b>
	<b>Grant Total</b>	<b>291</b>	

The above table founded that in MPKV has 18 Departments of varies subject and PG students have admitted 210 and Research students are 81.Total is 291 respectively.

**Table No 2: Awareness of Students of IT tools**

Sr. No	Awareness Level In IT Tools	Respondents	Percentage
1	Familiar	188	64.60
2	Moderately familiar	96	32.99
3	Not familiar	7	2.41
	<b>Total</b>	<b>291</b>	<b>100.00</b>

Table 2 shows the distribution of students according to their expertise in computer and IT tools. It is observed that all students have familiarity with computer and IT tools. 64.60 per cent students were familiar, 32.99 per cent were moderately familiar and 2.1 per cent were not familiar.

**Table No 3: Use of digital information resources**

Sr. No	Use of digital information resources	Respondents	Percentage
1	Internet Based Resources	210	72.16
2	Online Journals	178	61.17
3	CD ROM Databases	163	56.01
4	ETD (Available In MPKV)	148	50.86
5	E- Books	89	30.58

It is evident from Table 3 that while all students were using internet-based information resources with 210 (72.16%), the online journals 178 (61.17%), CD-ROM databases 163 (56.01%), Electronic Thesis databases 148 (50.86%) and E-Books were used by 89 (30.58%) per cent, students, respectively. Respondents may select more than one checkbox, so percentages may add up to more than 100%.

**Table No 4: Locations of accessing e-resources**

Sr. No	Location	Respondents	Percentage
1	University Library	227	78.01
2	Home	29	9.97
3	Internet Café	26	8.93
4	Hostel	9	3.09
	<b>Total</b>	<b>291</b>	<b>100.00</b>

Table 4 highlights the most favored location from where the electronic resources were accessed by the students. A majority of them (78.01%), accessed the resources from the University

Library of the MPKV, and the other locations were Home at personal PC or Laptop (9.97%), Internet Cafe (8.93%), and Hostel (3.09%) each.

**Table No 5: Frequency of Access and Use of CeRA Resources**

Sr. No	Frequency	Respondents	Percentage
1	Every Day	119	40.89
2	2-3 Time in a Week	93	31.96
3	Weekly	66	22.68
4	Monthly	13	4.47
	<b>Total</b>	<b>291</b>	<b>100.00</b>

The distribution of respondents according to the frequency of access and use of CeRA resources is shown in Table 5. It is evident that 119 (40.49%) per cent students were accessing and using CeRA resources for every day, 93 (31.96%) 2-3 times in a week, 66 (22.68%) per cent weekly, 13(4.47%) per cent once in a month.

**Table No 6: Purpose of access and use of CeRA resources**

Sr. No	Purpose	Respondents	Percentage
1	Full Text Article	143	49.14
2	Abstract	67	23.02
3	Request of Article	29	9.97
4	Article Received	52	17.87
	<b>Total</b>	<b>291</b>	<b>100.00</b>

Table 6 shows that 49.14 per cent students accessed and used CeRA full text resources and 23.02 per cent used abstracts only. 9.97 per cent respondents requested articles and 17.87 per cent respondents received articles through the Document Delivery System of the CeRA.

**Table No 7: Adequacy of CeRA resources**

Sr. No	Adequacy	Respondents	Percentage
1	Adequate resources available	107	36.77
2	Some time adequate	184	63.23
	<b>Total</b>	<b>291</b>	<b>100.00</b>

The distribution of PG students and research scholars indicating the adequacy of digital information resources is given in Table 7. It is evident that 36.77 per cent of the students felt that adequate resources were available through CeRA, and 63.23 per cent respondents felt that some time adequate resources were available through CeRA.

**Table No 8: Problems in accessing and using CeRA**

<b>Sr. No</b>	<b>Problems</b>	<b>Respondents</b>	<b>Percentage</b>
1	Many essential resources not available	197	67.70
2	finding relevant Information	109	37.46
3	Low speed of internet	87	29.90
4	Abstracting and statistics not available	9	3.09
5	Theses not available	227	78.01
6	Request article service should be strengthened	67	23.02
7	unwanted resources available	117	40.21
8	Slow Response of Requested Articles	17	5.84

The problems faced by the students in the effective use of CeRA resources are indicated in Table 8. Inadequacy of digital resources and expertise in search tools, many essential resources are not available, low speed of internet, Thesis not available etc., were the major problems identified.

## **5. FINDINGS**

The following are the major observations based on the study:

- All PG students and research scholars using internet based information resources, online journals, CD-ROM databases, electronic thesis database and e-books were 72.16 per cent, 61.17 per cent, 56.01 per cent, 50.86 per cent and 30.58 per cent respectively.
- Their preferred location to access the digital information resources is the University Library centre and then Home, Internet Café and Hostel.
- Observation of all the respondents for the Frequency of used CeRA resources, it is founded that the use of CeRA for every day with 40.89 per cent, 31.96 per cent 2-3 time in a week and 22.68 per cent weekly and 4.47 per cent once in a month respectively.
- The main Purpose of using CeRA is to download or search full text research journals articles with 143 (49.14%), and followed by Abstract with 67 (23.02%) and sending request of articles and article received through the document delivery system of the CeRA.
- While 36.77 per cent students felt that adequate resources were available through CeRA, 63.23 per cent indicated about, 'Some time adequate' resources.
- Major problems faced while using CeRA were non availability of many essential resources, difficulty in locating relevant resources due to less expertise in search tools, low-speed of internet, non availability abstracting and statistics databases, non availability of union catalogue of resources, difficulty in finding relevant information, etc.



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## 6. RECOMMENDATIONS

The following recommendations are made to improve the access and use of digital information resources and CeRA by the PG and doctoral students:

- Consortia-based digital information services should be strengthened by adding more resources like journals, books, databases, theses, reports, union catalogue of all information documents available in all libraries. The document delivery service should be more effective and inter-consortia services between other consortiums maintained by agencies like ICAR, UGC, CSIR, DRDO, IITs, IIMs, etc., can be considered.
- Information literacy and user education courses with emphasis on retrieval software, tools and techniques of searching, etc., should be provided to all categories of the users.

## 7. CONCLUSIONS

CeRA of ICAR has become a heavily-used service by the students. Curriculum-based information literacy courses like 'library and information services', 'research methodology', etc., have contributed much towards imparting required skills for the access and use of digital information resources. Strengthening of CeRA services by adding more resources and facilities will provide strong information support for the education, research, and extension programmes.

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