

Status of Implementation of ICT in Nehru Library, Chaudhary Charan Singh Haryana Agricultural University, Hisar: A Study

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ABSTRACT

Information and Communication Technology (ICT) has changed the every sector of human endeavor and similarly, innovations in ICT and its implementation in libraries is playing a vital role in the field of library automation and digitization of services. This paper explored the current status of implementation of ICT in Nehru Library, CCS HAU, Hisar. Questionnaire method has been adopted to collect the data from the library authority. The study found that the Nehru Library, CCS HAU, Hisar has excellent infrastructural facilities in its premises and providing ultra satisfactory services to the different categories of users. Excellent ICT infrastructure has been established in the Nehru Library, which includes Koha LMS software, computerization of in-house activities of the library, RFID implementation, digitization of contents, and all other associated facilities and services. The Nehru Library has also implemented most of the components of RFID technology such as tagging of entire collection, installation of security gate, self check-in and self check-out Kiosk, use of hand hold reader for tracking out books and use of hand hold reader for physical verification of library. Furthermore, it was found that Koha Library Management Software is being used by the Nehru Library to perform routine in-house activities as well as for circulation services, while D-Space is being used for maintaining digital library (Krishikosh Repository), and Refread remote access application has been used to provide remote access of the e-resources.

KEYWORDS: Agricultural libraries, ICT, Library automation, Digitization, CCSHAU.

INTRODUCTION

Education is the only way, which plays a prominent role in the overall growth of any society around the globe. At present, the institutions particularly of higher education hold one of the most significant roles in shaping the future of any society. Similarly, the role of library in society means a lot. In academia, particularly in higher education a library plays a very important role as a core part of education system of that institution. It is correctly said that a library is the heart of any academic institute or any university. In the words of Bhatt (2010) “university is an institution of higher education, and the library is heart of learning community, providing a place for students,

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research scholars and faculty to do their research and advance their knowledge". The era of this 21st century is known as digital era and with the introduction of Information and Communication Technology (ICT) to a library, the library has gone through a drastic change. It is a lot easier to find out what you are looking for in a library now. The popularity and reliability of any library mainly depends on the services required by the users of the library. It is a universal truth that in this digital or ICT era, one cannot think to runs a library without the help of computerization. At the same time, libraries cannot offer its excellent services without assistance of ICT. However, it is pertinent to mention here that most of the libraries of developing countries are not up to the mark in ICT services in comparison with developed countries such as USA, UK, Australia, and other European countries, *etc.* If a library has rich collection, providing excellent infrastructural facilities and services to the users on their utmost satisfaction level than the main motto and existence of the library can only be justified. Therefore, an effort has been made to explore the ICT application and services in Nehru Library of Chaudhary Charan Singh Haryana Agricultural University, Hisar.

REVIEW OF LITERATURE

Venu and Rao (2021) conducted a study to know "the status of ICT infrastructure and application in selected Government degree college libraries of Telangana State and revealed that the majority of the Govt. degree college libraries in Telangana State were in developing stage in terms of ICT infrastructure and its implementation even though autonomous Govt. degree colleges better than other degree colleges, while it has also been found that financial limitation and lack of ICT skilled staffs were the main hurdles, which were impeding the proper implementation of ICT in the Govt. Degree college libraries under the study". A study was conducted by Mohanta and Das (2019) to know the application of ICT in the college libraries of Assam and found that more than half of the libraries were partially automated, and availed institutional repositories, while maximum libraries had faced the problem of lack of IT skilled manpower followed by inadequate training in ICT applications. Bhanu Partap and Tiwari (2018) conducted a comparative study on "status of ICT infrastructure and services of libraries of SRMSWCET Bareilly and DBITE Dehradun and found that both the engineering institutions' libraries responded that they have automated library services to the users as SRMSWCET- Bareilly was using Gurukul software (Local made software) and DBITE- Dehradun was using Koha software, whereas, the library of SRMSWCET- Bareilly was providing housekeeping, circulation and wi-fi services in electronic environment as compare to the library of DBITE- Dehradun, which was providing only circulation services to its user's community". On the other hand, Quadri *et al.* (2015) conducted a comparative study of two Nigerian Universities to explore the implementation and use of Information and Communication Technology (ICT) application in library services and found that Internet 33.0%, computers 40.0%, printers 20.0% were some of the ICT facilities available in both university libraries under study and also found that ICT facilities had benefited at great extend for library services in both university libraries, while ICT helps library users to search and retrieve information in the library with the use of Online Public Access Catalogue (OPAC). Similarly, a study on IT application in agriculture university libraries of Western India was conducted by Patil *et al.* (2014) and found that fifty percent of the Universities under study had achieved 100% library automation and 50% libraries were using LibSys library management software, while all the university libraries under study had acquired Commonwealth Agricultural Bureaux (CAB) abstracts' database using comprehensively for the purpose of teaching, research, and extension activities in the field of agricultural sciences. Mondal and Bandyopadhyay (2010) conducted a study to "know the status of application of ICT and related

manpower problems in the college libraries of Burdwan, West Bengal and noticed that college libraries of Burdwan Sadar faces several hindrances in implementation of full-fledged IT application in their libraries because of inadequate funds, insufficient manpower, lack of ICT skill among the library professionals, and lack of right attitude of the college authorities. A survey was conducted to know the library automation in college libraries in Goa state of India and explored that inadequate funds, insufficient manpower, lack of ICT training and ICT skills among the library professionals were the major factors in lagging behind automation of college libraries” (Sadanand and Periera, 2008).

A lot of studies to know the status of different types of libraries have been conducted by different researchers in different parts of India and abroad but no study has been found on agricultural university, which was conducted in recent past to know the status of ICT, resources and services of agricultural university library. Therefore, a study has been planned to fill this gap and CCS Haryana Agricultural University, Hisar has been chosen as a topic of research for this study.

CCS HARYANA AGRICULTURAL UNIVERSITY, HISAR

“After the division of Punjab State, the first established university in Haryana State in 1970 is Haryana Agricultural University, which is one of the Asia's biggest agricultural universities. In 1991, it was renamed after India's seventh Prime Minister Chaudhary Charan Singh. Thus, now it is known as Chaudhary Charan Singh Haryana Agricultural University, Hisar. The university covers an area of 8645 Acres, out of which, 7219 acres at main campus and 1426 acres at sub-campuses. The University has six colleges in its main campus with different departments, *i.e.*, College of Agriculture (COA), College of Home Science (COHS), College of Agriculture Engineering & Technology (COAE&T), College of Basic Science & Humanities (COBS&H), and College of Fisheries Science (COFS), and College of Biotechnology (COBT). The University has two more colleges in its outstation campuses other than these six colleges situated in main campus, *i.e.*, College of Agriculture, Kaul (COAK) and College of Agriculture, Bawal (COAB). The University is affiliated to Indian Council of Agricultural Research (ICAR)” (CCS HAU, 2023).

NEHRU LIBRARY– A PROFILE

“Though the library was establishment in 1948 with the establishment of College of Veterinary Sciences, in the year 1975 it was named after Jawaharlal Nehru, the first Prime Minister of India. The covered area of the building is 9076 m² with a capacity to accommodate more than 3.5 lacs books and bound journals (CCSHAU, 2022). The library possesses a rich collection of more than 3.8 lacs books, bound journals and other reading material to meet the informational requirements of students, teachers, research scholars, extension specialists and other staff of the Chaudhary Charan Singh Haryana Agricultural University (CCSHAU) as well as Lala Lajpat Rai University of Veterinary and Animal Sciences (LUVAS) located at Hisar and sub-campuses. The library is also maintaining its collections at College of Home Science, Hisar, College of Agriculture, Kaul, College of Agriculture, Bawal, Campus School, 19 Krishi Vigyan Kendras and 7 Regional Research Stations. The library is successfully exploiting the power of information and communication technologies in various activities for retrieval and dissemination of information” (Nehru Library, 2023).

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Table 1: Current Status of the Nehru Library, CCS HAU, Hisar

Information Resources	Quantity
Books	2,53,643
Bound journals	1,05,737
Thesis	14,235
CD-ROM databases	155
Books CDs	2,555
Theses CDs	3,840
E-books	1,662
Total	3,81,827
EBSCO E-Books Academic Collection	2.4 Million
NIPA Computer Examination Package	4,30,000

Source: Annual Report, 2021-22, Nehru Library, CCS HAU, Hisar

OBJECTIVES OF THE STUDY

- ✓ To examine the status of ICT infrastructure in Nehru Library, CCS HAU, Hisar
- ✓ To know the status of implementation of Library Management Software
- ✓ To identify the areas of automation in Nehru Library, CCS HAU, Hisar
- ✓ To explore the current status of e-resources subscribed by Nehru Library, CCS HAU, Hisar
- ✓ To explore the various services based on ICT offered by the Nehru Library, CCS HAU, Hisar

Scope and Limitation of the Study

The scope of the present study is limited to identify the status of implementation of ICT in Nehru Library, Chaudhary Charan Singh Haryana Agricultural University, Hisar. Furthermore, the study includes only the Central Library (Nehru Library) of CCSHAU, Hisar and excludes the libraries of its offshoot campuses.

NATURE OF THE STUDY

The study being empirical in nature was conducted to know the current state of functioning of the Nehru Library, CCS Haryana Agricultural University, Hisar. The state of functioning can be properly investigated by surveying this library and describing the results with the help of various techniques of data description and presentation.

RESEARCH METHODOLOGY

The study explores the ICT application, tools and its utilization, ICT based services offered by library, impact of ICT services on the library, complexity in implementation of ICT as well as to scrutinize the real scenario of ICT in the University stated as above. In the present work, questionnaire technique with observation has been used for the collection of data because this is the best suited and easy technique for conducting surveys. A questionnaire was designed to collect data about the implementation of Information Communication Technology (ICT) in Nehru Library, CCS HAU, Hisar. The data have been collected through a structured questionnaire, which was administered

during September-October 2022 in the library premises, and from the records of the library, annual reports, and exploring the current ICT resources and services available/offered by the library. After data collection, the investigators simply recorded the contents of the questionnaires manually on data sheets prepared for the purpose and presented the same in tabular form and conclusions are drawn accordingly with frequency count and percentage analysis.

DATA ANALYSIS AND FINDINGS

This section discusses the analysis and interpretation of the data collected from Nehru Library, CCSHAU, Hisar as follows:

Table 2: Status of Library Patrons

Member's Categories	No. of Members 2019–2020	No. of Members 2020-2021
Teachers/Scientists	319	101
Students	1622	869
Non-teachers	762	151
Special Member	676	155
Total	3379	1276

The data given in Table 2 highlights the status of patrons/users registered with Nehru Library, CCS HAU, Hisar for the period 2019-20 and 2020-21. It was noticed that total no. of registered patterns in Nehru Library during 2019-20 were 3,379, out of which, 319 were faculty/scientists, 1622 students, 762 non-teachers, and 676 were special members. On the other hand, during 2020-21, the register members in library were less (1276) as compared to the registered members in 2019-2020 due to non-renewal of membership due Covid-19 pandemic.

Table 3: Status of Library Staff

Designation	No. of staff	Filled–Up Posts	No. of Vacant Posts
Librarian	01	01	0
Professor (LIS)	01	01	0
Asstt. Librarians	07	03	04
Lib. Assistants	21	12	09
Lib. Attendant	15	12	03
Binary Foremen	01	01	0
Book Binder	04	02	02
Bindery Attendant	03	0	03
Farsh	06	0	06
Total	59	32	27

The Table 3 shows the present status of staff working in Nehru Library, CCS HAU, Hisar. Total 59 posts of library staff have been sanctioned in various cadres, out of which, 32 posts are filled up with various cadres on regular basis, whereas, 27 posts are still lying vacant. There are two library professionals working in Professor (LIS) grade, whereas, three are working on Assistant Librarian/faculty cadre. Apart from this, 12 Library Assistants, 12 Library Attendants, One Bindery Foreman and two Book Binders are currently working on regular basis. Some non-professionals are also working on temporary basis (Outsourcing) so that working of library could go smoothly.

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Table 4: Status of Budget Utilization and Source of Budget

Budget Head	2016-17	2017-18	2018- 19	2019-20	2020-21
Salaries	3,38,01,978	Bulk Budget in CAU*	Bulk Budget in CAU	Bulk Budget in CAU	Bulk Budget in CAU
Books & Journals	2,94,36,935	87,05,640	1,05,98,917	1,29,14,477	1,65,98,491
Others	62,58,932	55,18,803	56,36,224	43,32,522	61,51,186
Books for SC Students	6,45,433	8,11,020	7,50,888	5,76,669	2,92,446
Total	7,01,43,278	1,50,35,463	1,69,86,029	1,78,23,668	2,30,42,123

* Comptroller

Table 4 shows the status of budget allocated under various heads during the period of five years by Nehru Library of CCS HAU, Hisar. The library got maximum budget allocated amounting to Rs.7,01,43,278 during financial year 2016-17 under various heads for various purposes, whereas, minimum budget during 2017-18, Rs. 1,50,35,463 was allocated to the Nehru Library. On the other hand, Rs. 1,69,86,029 was allocated during the financial year 2018-19, while Rs. 1,78,23,668 was allocated during 2019-20. In the financial year 2020-21, Rs. 2,30,42,123 was allocated to the Nehru Library, out of which the library has spent Rs. 1,65,98,491 for purchasing books and journals. The data given in the above Table 3, shows that the University have allocated a very good budget to the Nehru Library during the last five years under all the heads and even increases every year as per the demand raised by the library. It is apparent to mention here the budget allocated to library during the 2016-17 is maximum due to because it also includes the budget of salary to staff. Furthermore, the Nehru Library has received regular grants/budget from State Government, ICAR and from some adhoc grants from various Govt. Departments such as DST, World Bank, UGC, etc.

Table 5: Availability of Reading Material

Print Media	Total No.	Non-Print Media	Total No.
Research Journals	Yes	e-Books	Yes
Indexing/Abstracting Journals	Yes	e-Journals	Yes
Books	Yes	Microfiches/films	Yes
Thesis/dissertations	Yes	Video films	No
Govt. publications/ Reports	Yes	CD-ROMs	Yes
Standards	Yes	DVDs	Yes
Patents	Yes	Floppies	Yes
Manuscripts	No	CD-ROM databases	Yes
Monographs	Yes	Online databases	Yes
Maps/Atlases	Yes	Any Other	
Reference books	Yes	IndiaStat.Com.	Yes
News papers	Yes	Scopus Indexing	Yes
Bound volumes of journals	Yes	Online Database	Yes

The status of availability of reading material in various forms is reflected in Table 5. The Table reveals that the library has all kind of reading material *viz.* as Research Journals, Indexing/Abstracting Journals, Books, Theses/Dissertation, Govt. Publications/Reports/, Standards, Patents, Manuscripts, Monographs, Maps/Atlases, Conference proceeding, Reference books, News Papers, Bound volumes & journals, e-Books, e- Journals, Microfiches/films, CD-ROMs, Floppies, DVDs, CD–Rom databases, Online databases and others library collections IndiaStat.Com, Britannica online academic edition, Scopus Indexing & Online Databases, whereas, manuscripts and video films collections are not available in the library.

Table 6: Year–wise Collection of Library Resources

Type of Collection	2016-17	2017-18	2018-19	2019-20	2020-21
Books	2,44,025	2,45,050	2,45,776	2,48,000	2,49,304
Periodicals	1,03,431	1,04,089	1,04,700	1,05,245	1,05,449
Thesis	12,608	12,957	13,193	13,537	13,834
CD – ROM (Database)	158	161	161	-	-
CDs (Books)	2,522	2,543	2,549	2,552	2,553
CDs (Thesis)	2,213	2,562	2,798	3,142	3,439
e – Books	413	541	541	756	773
e-Journals	3,952	3,950	4,115	2,930	2,800
Total	3,69,322	3,71,853	3,73,833	3,76,162	3,78,152

Table 6 shows addition in different types of collection of reading material in Nehru Library during last five years. The data given in above table reveals that the library has been adding increasing no. of volumes of books and bond volumes year after year except CD-ROM (Database) and e-Journal. It is pertinent to mention here that subscription of CD-ROM databases has stopped in 2019-20. The current subscription of e-Journals has gone down during the last five years. It was noticed during the study that total collection (print and non-print) of the Nehru Library was 3,69,322 during the financial year 2016–17, whereas, during 2017–18, total collection was reached to 3,71,853. On the other hand, during 2018-19 the collection was reached to 3,73,833 documents, while during 2019-2020, total collection was reached to 3,76,162, and in the year 2020– 21, the collection of Nehru Library upgraded to 3,78,152 resources.

Table 7: Automated Library Activities

Automation Activities	Status
Acquisition	No
Cataloguing	Yes
Circulation	Yes
Serial Control	Yes
Barcoding	Yes
RFID	Yes

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The Table 7 shows the status of automation of various activities of Nehru Library, CCS HAU, Hisar and it is clearly noticed from the above Table that the Nehru Library has automated most of the in-house activities such as Cataloguing, Circulation, Serial Control, Barcoding, and RFID, except Acquisition of documents, however, the work on automated acquisition (module) of documents is in process and will be completed very soon.

Table 8: Various Services Offered by the Library

Services	Status
Reference Service	Yes
CD-ROM Database Service	No
Internet Surfing	Yes
OPAC	Yes
Circulation Service	Yes
Reservation of issued documents	Yes
Bookshop	Yes
Book Bank Service	Yes
Multimedia facility	Yes
Video-conferencing	Yes
Reprography service	Yes
Printing service	Yes

The Table 8 shows the status of services offered by the Nehru Library, CCS HAU, Hisar. The Table reveals that the Nehru Library offers various services like Reference Services, Internet Surfing, OPAC, Circulation Service, Reservation of issued documents, Bookshop, Book Bank Service, Multimedia facility, Video-conferencing, Reprography service and Printing service, except CD-ROM Database Service because the subscription of this service has no more been provided by the publishers.

Table 9: Use in Library Hardware Resources

Hardware Resources	Numbers of Items
Numbers of servers	04
Numbers of PCs	60
Numbers of printers	31
Numbers of scanners	02
Numbers of LEDs	04
Numbers of VCRs	-
Any other	
Numbers of UPS	25
Numbers of Barcode Reader	14
Numbers of Head phones	06
Numbers of PDTs	05

The Table 9 shows the status of Hardware resources available in Nehru Library, CCS HAU, Hisar. It was noticed that total no. of servers 04, total no. of PCs 60, total no. of printers 31, total no. of scanners 02, total no. of LEDs 04, total no. of UPS 25, total no. of Barcode reader 14, total no. of head phones 06, total no. of PDTs 05, except of VCRs were available in the Library. This shows that library have very good ICT infrastructure in its premises for in-house activities as well as to serve the users' community in efficient manner.

Table 10: Status of Internet and Wi-Fi Facility

Name of facility	Status
Internet	Yes
Wi-Fi	Yes

The Table 10 shows the status of availability of Internet and Wi-Fi facility in the Nehru Library, CCS HAU, Hisar. The table reveals that the library has been providing access of Internet as well as Wi-Fi facility to the users.

Table 11: Status of Implementation of RFID Technology in Library

Implementation of RFID Technology	Status
Whether entire collection of library is RFID tagged	Yes
Security gate Installation	Yes
Check out from RFID staff station	Yes
Check in from Drop Down Box	Available but not in use
Self issue kiosk	Yes
Self return kiosk	Yes
Use of hand hold reader for tracking out books	Yes
Use of hand hold reader for physical verification of library	Yes

The Table 11 shows the status of implementation of RFID Technology in Nehru Library, CCS HAU, Hisar. The table reveals that the Nehru Library has implemented most of the components of RFID technology such as tagging of entire collection, installation of security gate, self check-in and self check-out Kiosk, use of hand hold reader for tracking out books and use of hand hold reader for physical verification of library. Although self check in kiosk has been installed in the library but it could not be used due to the problem of collection of overdue charges.

Table 12: Participation in Consortia Activities

Name of the Participating Libraries	Name of Consortia and Year of Starting to Access	Areas of Resource Sharing
All SAUs/ICAR institute	Agricat (2011)	Union Catalogue of All Agricultural Libraries under NARES
All SAUs/ICAR institute	Krishikosh (2011)	Digital Repository of All Agricultural Libraries under NARES
All SAUs/ICAR institute	Document Delivery Service through CeRA (2008)	Supply of reprints of articles among NARES Libraries to share the resources

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All SAUs/ICAR institute	CeRA (2008)	Agricultural and Allied sciences
All the member libraries of Delnet	Delnet (2020)	All knowledge domain
All the member libraries of NDLI	NDLI (2019)	All knowledge domain

The Table 12 shows the status of participation of Nehru Library, CCS HAU, Hisar in various consortiums. The above table states that Nehru Library has been participating in various consortiums to access and share the information resources, which are comes under the umbrella of ICAR/UGC/AICTE, *etc.*, such as Agricat (2011), Krishikosh (2011), CeRA (2008), Delnet (2020) and NDLI (2019). These consortiums are playing an important role in sharing and access of information resources among the partner institutions not only in India but around the globe.

Table 13: Software Resources

Software resources	Name of the software
Library automation software	KOHA
Digital library software	D Space
Remote Access applicable	Refread
Any other	-

The Table 13 shows the status of software resources being used by the Nehru Library for data handling and to provide access to the information resources among the users. It was found during the study that Koha Library Management Software is being used by the Nehru Library to perform routine in-house activities as well as for circulation services, while D-Space is being used for maintaining digital library (Krishikosh Repository). It is apparent to mention here that Nehru Library, has been maintaining its institutional repository, a community in Krishikosh Repository hosted by DKMA, ICAR-IARI, New Delhi, while Refread remote access application has been used to provide remote access of the e-resources subscribed/accessible to the academic and research community of the university so that they could have round the clock access to e-resources to its users irrespective of their locality.

CONCLUSION

The prime objective of the study is to explore the status of implementation of Information Communication Technology (ICT) and current status of Nehru Library, CCS HAU, Hisar, which comprises to investigate the status of staff, collection, services, budgetary provision and other infrastructural facilities available with the Nehru Library. The Nehru Library, CCS HAU, Hisar has excellent infrastructural facilities in its premises and providing ultra satisfactory services to the different categories of users. Excellent ICT infrastructure has been established in the Nehru Library, which includes Koha LMS software, computerization of in-house activities of the library, RFID implementation, digitization of contents, and all other associated facilities and services. Nehru Library has automated its maximum activities and users are enjoying best services in automated environment, which also saves their precious time. Besides, the Nehru Library has following best collection development policy to procure best print and electronic information resources, and electronic databases. Staff development policy and practices have also been followed in positive way and provide every type of opportunity for staff members working on different positions. However, during the study, it was noticed that library in-house activities and users' services have been somewhat affected because maximum number of library professionals had got retired and some are going to retire

within couple of years. Therefore, it is suggested that the authority of the University have to take this serious issue and try to recruit competent and qualified library professionals at the earliest so that best services could be imparted to the users on their utmost satisfaction level. Apart from this, some more new and innovative services may be added to the library for the better user services. One more suggestion is this that some of the respondents also reported during the study that AC Plant of the Library was not working on full capacity, hence, must be replaced with new and energy efficient AC plant in the library or it could be better that the whole library should be centralized air conditioned. Authority has taken the serious note on the suggestions collected from the users and on the basis, centralize AC of whole library as well as installation of Ultra High Digital CCTV cameras has already been done in the library.

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