



# Patterns of Information-Seeking Behavior and Digital Access for Agrarian and Paramedical Community Users: A Study of Apex institution in Kota, India

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**Abstract**— Information is essential for every person in the modern era. Information is known as knowledge, and the library plays a vital role in society by providing access to this knowledge. College students of every institution need regular updates of information for the progress of their respective fields. This study focuses on students from Apex Institute of Agriculture and Research (AIAR) and Apex Paramedical College (APC) in Kota, India. The questionnaire method was used to gather information from agriculture and paramedical stream students regarding digital access and information-seeking behavior of library users. This study examines the library IT infrastructure, e-library facilities, library timings, library management systems (LMS), use of library services, library collection development, research and training activities, online learning and information platforms, user satisfaction, and reference services. A total of 180 questionnaires were distributed to students across four programs (B.Sc. Agriculture, D.Pharm, BMLT, and DRT), with 105 responses received (58.33% response rate). The findings reveal that the majority of students (53.33%) visit the library daily, with most spending one hour (54%) in the library primarily for borrowing books (35%). Students expressed high satisfaction with library facilities including seating (91%), lighting (100%), drinking water (83%), and ventilation (81%). Keyword search (82%) is the preferred search technique, and full-text databases (40%) are the most commonly used. The study concludes that users are highly satisfied with the library resources, services, and physical facilities, and recommends improvements such as e-book facilities, OPAC access, and professional training programs for students.

**Keywords**— Apex Institute of Agriculture and Research (AIAR), Information Communication Technology (ICT), Electronic and Digital Library, Agri-Community, Diploma in Pharmacy (D.Pharm), Bachelor of Medical Laboratory Technology (BMLT), Diploma in Radiation Technology (DRT), Online Public Access Catalogue (OPAC).

## I. INTRODUCTION

Information is essential for every teacher, student, researcher, and administrator. The library is the heart of every institution. According to Dr. S.R. Ranganathan's trinity principle, the book, reader, and staff (librarian) are the most important elements

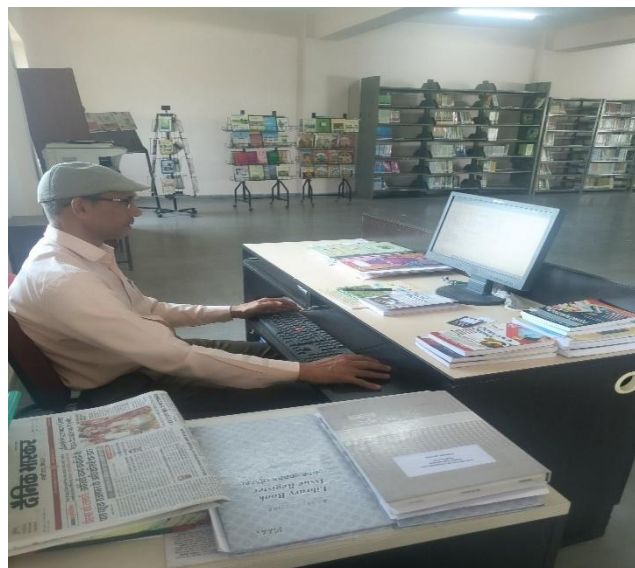
for the development of any institution. This study clarifies the level of satisfaction or dissatisfaction of library users with the digital access, physical information, and reference services provided by the library to its users.



**FIGURE 1: Front view of the library**  
(Photo credit to Dr. Prashant Bhardwaj)

### 1.1 Need for the Study:

Agriculture institutions are updating rapidly. The role of library resources is very important for new research and regular updates in the agriculture and medical fields. Therefore, there is a basic need to update librarians and library staff through training, workshops, and with the help of online and offline library resources.



**FIGURE 2: Inside view of the library**  
(Photo credit: Dr. Prashant Bhardwaj)

This study focuses on the library services provided to the Apex Institute of Agriculture Research (AIAR) and Apex Paramedical College (APC) medical stream courses staff and students. The library is the heart of every academic institution, and the librarian is the main key resource person between staff/students and library online/offline resources. Agriculture is the main financial income source for Indians, and the medical stream is rapidly updating its scenario. To increase farming growth and farmers' financial growth, the agriculture institution's role is very important. Similarly, medical courses such as

Bachelor of Medical Lab Technology, Diploma in Radiation Technology, and Diploma in Pharmacy are very important in the medical field. The staff and students of these institutions need rich library resources, current awareness services, national and international journals of agriculture and medicine, competitive books, and online platforms for their academic growth. This is possible with the help of the librarian, library staff, and strong management decisions.

## II. ABOUT THE INSTITUTIONS

Apex Institute of Agriculture and Research (AIAR) College is a part of Apex University, Jaipur. It is situated in IPB-14 RIICO Institutional Area, Ranpur, Kota. The campus began operating in Kota in 2022. The B.Sc. in Agriculture started in the year 2022. The course is affiliated with Agriculture University, Kota, and the allotted seats are 60 students every year. The course is on a yearly basis, and exams are conducted every year. Students take the Rajasthan Joint Entrance Exam (JET) for agriculture and, after merit-based selection, participate in counseling to fill their chosen colleges. They are allotted colleges or universities as per their merit list. The course is four years, and the eligibility is 12th pass with Biology/Mathematics + Physics, Chemistry, or Agriculture with 50% for the general category and 45% for SC/ST/OBC/EWS categories. In the starting year 2022, 16 students were allotted through counseling, and from 2023 onward, all 60 seats are fully occupied.

Diploma in Pharmacy (D.Pharma) started on campus from the year 2022. The 60 seats allotted to the college for admission are fully occupied. Bachelor of Medical Laboratory Technology (BMLT) started on campus from the year 2023, and the allotted 50 seats are fully occupied. Diploma in Radiation Technology (DRT) started on campus from the year 2023, and the allotted 50 seats are fully occupied.



**FIGURE 3: Library facilities provided to users**  
(Photo credit: Dr. Prashant Bhardwaj)

The college is co-educational. The AIAR College library resource collection includes 4,272 books. Of these, 1,159 books are available for the agriculture course, 1,446 books are available for the pharmacy diploma course, and 1,667 books are available for the paramedical courses. In the agriculture library, 345 titles are available, including 914 textbooks and 245 reference books. Two regular magazines – *Krishak Bharti* and *Krishak Jagat* – are subscribed, and two journals – *Indian Journal of Agriculture* and *Indian Journal of Animal Science* – are subscribed for the agriculture library. Three newspapers arrive daily, of which two are Hindi and one is English. The regular time for students to use the library for reading is 9:15 AM to 2:30 PM. For study purposes, staff and students can also sit in the library between 9:00 AM and 5:00 PM. Two library cards are issued to each student for borrowing books, with an issue period of fourteen days. Staff can issue 6 books for one month. A separate reading room facility is provided to staff and students for self-study. A newspaper stand is also available for library users. A separate reference section has been provided to users on the librarian's initiative. All staff and librarians are well qualified as per norms and guidelines.

### III. REVIEW OF RELATED LITERATURE

Several studies have examined library user behavior, satisfaction levels, and the impact of digital resources on information-seeking patterns.

S.A. Fazlur Rahman and M. Tamizhelvan found that digital library infrastructure needs improvement along with digital resources. They recommended enhancing web OPAC facilities, overnight issue systems, book bank systems, and photocopy facilities. The majority of students in their study were satisfied with the availability of newspapers, books, and periodicals.

Jogender Singh examined that academics have welcomed the automation of libraries. This may be motivated by a variety of needs, including personal, professional, and entertainment purposes. It was recommended that library staff focus on assisting users to develop a better image for the library.

R. Lakshmi Sankari, K. Chinnasamy, and A.M. Venkatachalam pointed out that users are satisfied with library collections and services but want training in the use of online information. Although document delivery service is provided on demand, the researchers pointed out that it would be worthwhile if the library could provide indexing, abstracting, and inter-library loan services as well. User education about library use should be conducted through seminars or workshop training.

Rajeev Kumar Gaba and Krishan Gopal revealed that the internet is the most important method of obtaining information. Periodicals are the first preference of engineers for obtaining information, while government documents are the least preferred source. Their description shows that library staff is very cooperative and helpful.

Tradasal and Matesheela revealed that books, newspapers, popular magazines, and class notes of seniors are the most useful sources of information. They concluded that personal attributes such as gender, year of study, medium of institute, area of habitation, hostel stay, marital status, and frequency of visits to the university library have no bearing on the use of specific sources of information.

The present study builds upon this existing literature by focusing specifically on the comparative analysis of agriculture and paramedical students in the context of Kota, India.

### IV. OBJECTIVES OF THE STUDY

The major objectives of the study are:

1. To compare the behavior of agriculture and paramedical staff and students toward their library resources
2. To compare the information-searching habits of agriculture and paramedical students and staff
3. To compare the understanding level of agriculture and paramedical students regarding the facilities provided by the library
4. To compare the information-searching habits of agriculture, pharmacy, and paramedical stream courses in the college
5. To offer suggestions for the improvement of library services in AIAR and paramedical courses
6. To identify the difficulties faced by agriculture and paramedical students and staff in using library services and how their library facilities can be improved
7. To determine the satisfactory level of the available library resources

### V. HYPOTHESES

The following hypotheses were formulated based on the study objectives:

1. **Ho1:** Agriculture community and paramedical students and staff are fully satisfied with the library services
2. **Ho2:** Agriculture community and paramedical staff and students who visit the institute's library resources on a regular basis achieve better academic outcomes than others
3. **Ho3:** The institute's staff and students improve their information knowledge and reading habits through library use

## VI. RESEARCH METHODOLOGY

This study presents a comparative analysis of user satisfaction with library services, facilities, and collections at Apex Institute of Agriculture Research (AIAR) and Apex Paramedical College (APC) library. The survey included students from the 4-year Bachelor of Agriculture (B.Sc. Agriculture), 2-year Diploma in Pharmacy (D.Pharma), 3-year Bachelor of Medical Lab Technology (BMLT), and 2-year Diploma in Radiology Technology (DRT) programs.

A well-structured questionnaire was developed and distributed to students. A total of 180 questionnaires were distributed to agriculture and paramedical staff and students, and 105 questionnaires were received, representing a response rate of 58.33%. The results, findings, conclusions, and future scope were analyzed according to the stated objectives.

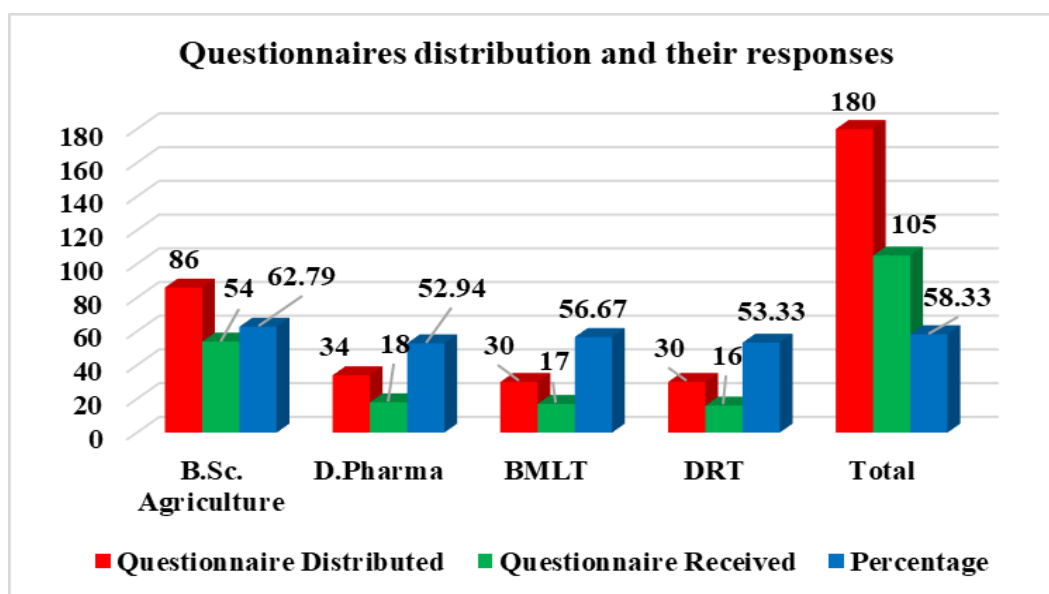
## VII. DATA ANALYSIS AND INTERPRETATION

### 7.1 Questionnaire Responses:

A well-structured questionnaire was distributed to 180 students, and 105 students responded. This represents 58.33% of the total questionnaires distributed. The researcher distributed 86 questionnaires to 4-year Bachelor of Science in Agriculture (B.Sc. Agri.) students, 34 questionnaires to 2-year Diploma in Pharmacy (D.Pharma) students, 30 questionnaires to 3-year Bachelor of Medical Lab Technology (BMLT) students, and 30 questionnaires to 2-year Diploma in Radiology Technology (DRT) students. Respondents included 54 B.Sc. Agriculture students, 18 D.Pharma students, 17 BMLT students, and 16 DRT students. Questionnaire distribution and responses are shown in Table 1.

**TABLE 1**  
**QUESTIONNAIRE DISTRIBUTION AND RESPONSES**

Stream	Questionnaires Distributed	Questionnaires Received	Percentage
B.Sc. Agriculture	86	54	62.79
D.Pharma	34	18	52.94
BMLT	30	17	56.67
DRT	30	16	53.33
<b>Total</b>	<b>180</b>	<b>105</b>	<b>58.33</b>



**FIGURE 4: Questionnaire distribution and responses**

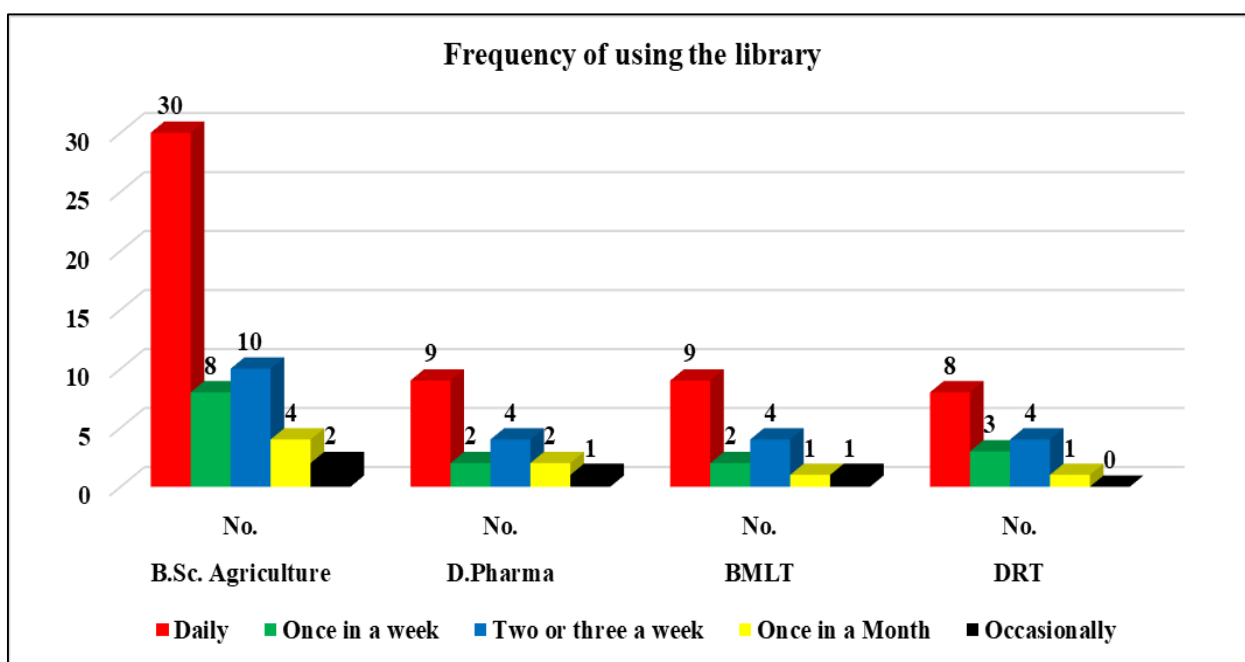
Table 1 shows that B.Sc. Agriculture student responses were 62.79%, D.Pharma student responses were 52.94%, BMLT student responses were 56.67%, and DRT student responses were 53.33%. The overall response rate was 58.33% of total distributed questionnaires. The highest percentage of responses was from B.Sc. Agriculture students, indicating that higher education students may be more responsive to surveys.

### 7.2 Frequency of Library Use:

Table 2 shows the frequency distribution data of 54 B.Sc. Agriculture, 18 D.Pharma, 17 BMLT, and 16 DRT students of AIAR and APC, Kota.

**TABLE 2**  
**FREQUENCY OF LIBRARY USE**

Frequency	B.Sc. Agriculture	D.Pharma	BMLT	DRT	Total	Percentage
Daily	30 (56%)	9 (50%)	9 (53%)	8 (50%)	56	53.33
Once in a week	8 (15%)	2 (11%)	2 (12%)	3 (19%)	15	14.29
Two or three a week	10 (18%)	4 (22%)	4 (23%)	4 (25%)	22	20.95
Once in a month	4 (7%)	2 (11%)	1 (6%)	1 (6%)	8	7.62
Occasionally	2 (4%)	1 (6%)	1 (6%)	0 (0%)	4	3.81
<b>Total</b>	<b>54 (100%)</b>	<b>18 (100%)</b>	<b>17 (100%)</b>	<b>16 (100%)</b>	<b>105</b>	<b>100</b>



**FIGURE 5: Frequency of library use**

Table 2 shows that among B.Sc. Agriculture students, 56% come daily, 18% come two or three times a week, 15% come once a week, 7% come once a month, and 4% come occasionally. Among D.Pharma students, 50% come daily, 22% come two or three times a week, 11% come once a week, 11% come once a month, and 6% come occasionally. Among BMLT students, 53% come daily, 23% come two or three times a week, 12% come once a week, 6% come once a month, and 6% come occasionally. Among DRT students, 50% come daily, 25% come two or three times a week, 19% come once a week, 6% come once a month, and none come occasionally.

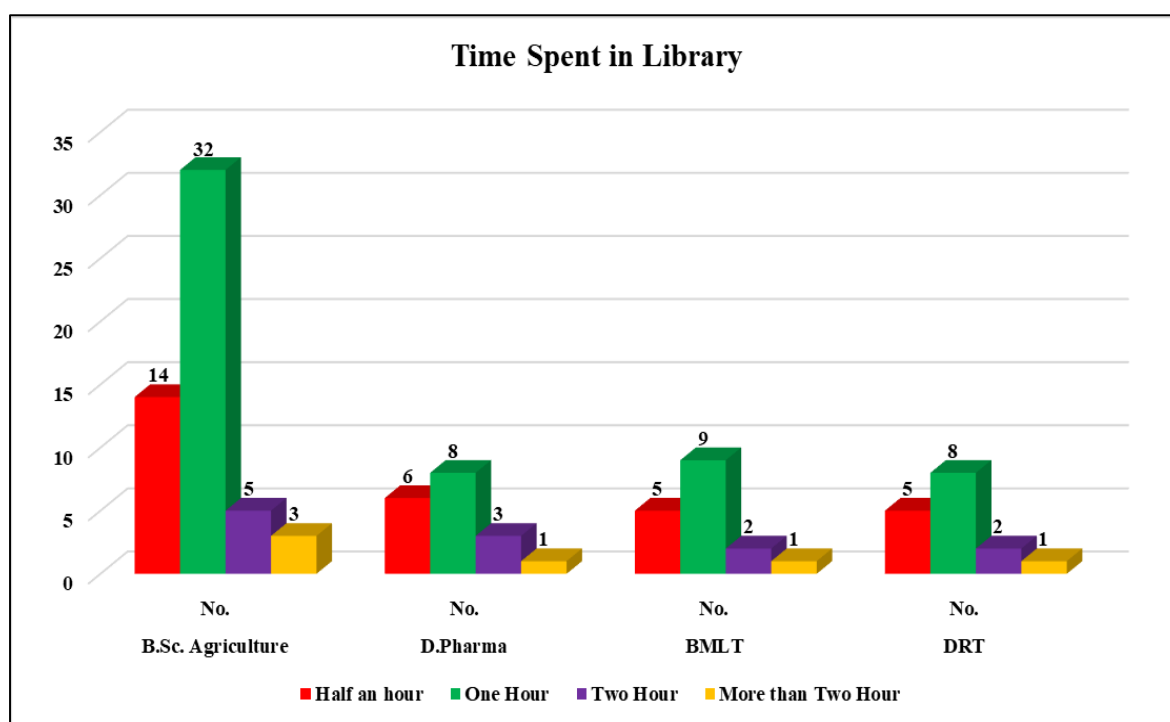
Overall, 53.33% of students come daily, 20.95% come two or three times a week, 14.29% come once a week, 7.62% come once a month, and 3.81% come occasionally. B.Sc. Agriculture students showed the highest daily usage, indicating strong engagement with library resources.

### 7.3 Time Spent in Library:

Table 3 shows the time spent in the library by students of AIAR and APC, Kota.

**TABLE 3**  
**TIME SPENT IN LIBRARY**

Duration	B.Sc. Agriculture	D.Pharma	BMLT	DRT	Total	Percentage
Half an hour	14 (26%)	6 (33%)	5 (29%)	5 (31%)	30	29
One hour	32 (59%)	8 (44%)	9 (53%)	8 (50%)	57	54
Two hours	5 (9%)	3 (17%)	2 (12%)	2 (13%)	12	11
More than two hours	3 (6%)	1 (6%)	1 (6%)	1 (6%)	6	6
<b>Total</b>	<b>54 (100%)</b>	<b>18 (100%)</b>	<b>17 (100%)</b>	<b>16 (100%)</b>	<b>105</b>	<b>100</b>



**FIGURE 6: Time spent in library**

Table 3 shows that among B.Sc. Agriculture students, 26% spent half an hour, 59% spent one hour, 9% spent two hours, and 6% spent more than two hours in the library. Among D.Pharma students, 33% spent half an hour, 44% spent one hour, 17% spent two hours, and 6% spent more than two hours. Among BMLT students, 29% spent half an hour, 53% spent one hour, 12% spent two hours, and 6% spent more than two hours. Among DRT students, 31% spent half an hour, 50% spent one hour, 13% spent two hours, and 6% spent more than two hours.

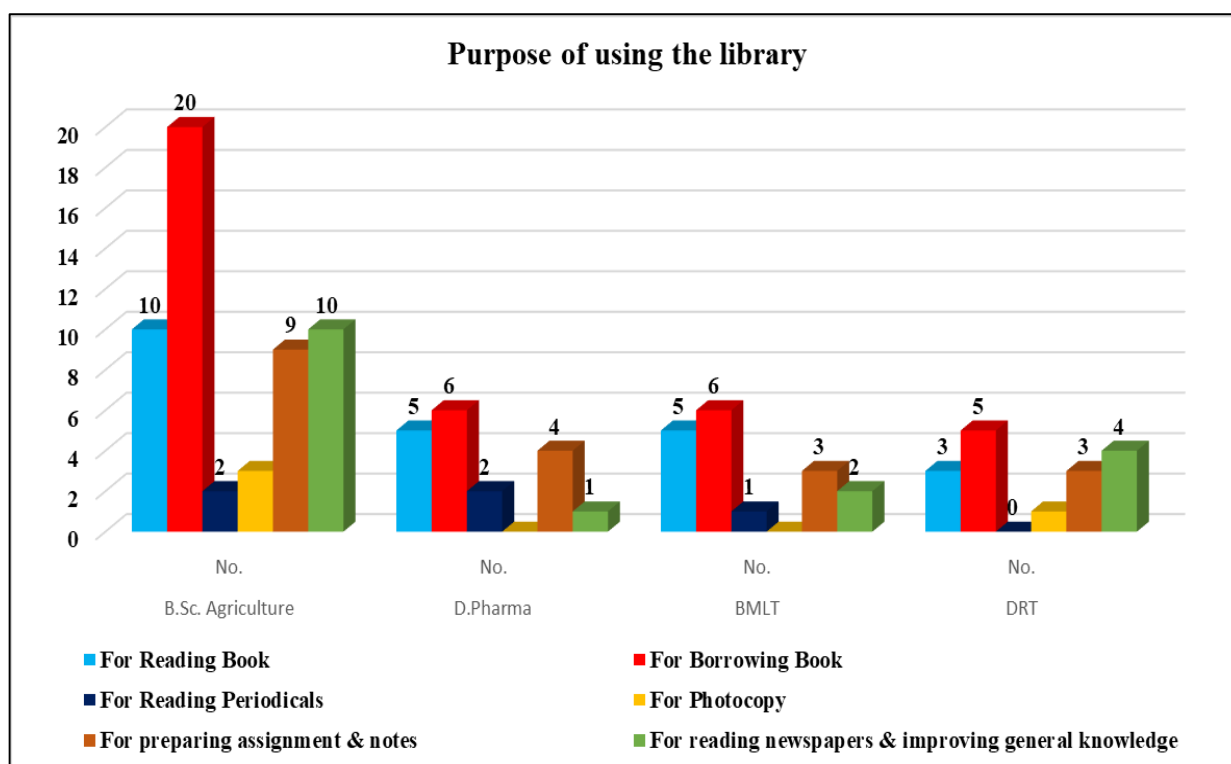
Overall, the majority of students (54%) spent one hour in the library, followed by 29% spending half an hour, 11% spending two hours, and 6% spending more than two hours.

### 7.4 Purpose of Library Use:

Table 4 shows the purpose of AIAR and APC students visiting the library.

**TABLE 4**  
**PURPOSE OF LIBRARY USE**

Purpose	B.Sc. Agriculture	D.Pharma	BMLT	DRT	Total	Percentage
For reading books	10 (18%)	5 (28%)	5 (29%)	3 (19%)	23	22
For borrowing books	20 (37%)	6 (33%)	6 (35%)	5 (31%)	37	35
For reading periodicals	2 (4%)	2 (11%)	1 (6%)	0 (0%)	5	5
For photocopy	3 (6%)	0 (0%)	0 (0%)	1 (6%)	4	4
For preparing assignments and notes	9 (17%)	4 (22%)	3 (18%)	3 (19%)	19	18
For reading newspapers and improving general knowledge	10 (18%)	1 (6%)	2 (12%)	4 (25%)	17	16
<b>Total</b>	<b>54 (100%)</b>	<b>18 (100%)</b>	<b>17 (100%)</b>	<b>16 (100%)</b>	<b>105</b>	<b>100</b>



**FIGURE 7: Purpose of library use**

Table 4 shows that the majority of students (35%) visit the library for borrowing books, followed by reading books (22%), preparing assignments and notes (18%), reading newspapers (16%), reading periodicals (5%), and photocopying (4%). Across all course groups, borrowing books emerged as the primary purpose for library visits.

### 7.5 Satisfaction with Library Facilities:

Table 5 shows the satisfaction levels of students with various library facilities.

**TABLE 5**  
**SATISFACTION WITH LIBRARY FACILITIES**

Course	Satisfaction Level	Seating for Reading n (%)	Drinking Water n (%)	Lighting n (%)	Ventilation n (%)	Total Students (N)
B.Sc. Agriculture	Satisfied	50 (93%)	48 (89%)	54 (100%)	46 (85%)	54
	Not Satisfied	4 (7%)	6 (11%)	0 (0%)	8 (15%)	
D.Pharma	Satisfied	16 (89%)	15 (83%)	18 (100%)	14 (78%)	18
	Not Satisfied	2 (11%)	3 (17%)	0 (0%)	4 (22%)	
BMLT	Satisfied	15 (88%)	13 (76%)	17 (100%)	12 (71%)	17
	Not Satisfied	2 (12%)	4 (24%)	0 (0%)	5 (29%)	
DRT	Satisfied	15 (94%)	11 (69%)	16 (100%)	13 (81%)	16
	Not Satisfied	1 (6%)	5 (31%)	0 (0%)	3 (19%)	
Total	Satisfied	96 (91%)	83 (81%)	105 (100%)	81 (81%)	105
	Not Satisfied	9 (9%)	17 (19%)	0 (0%)	19 (19%)	

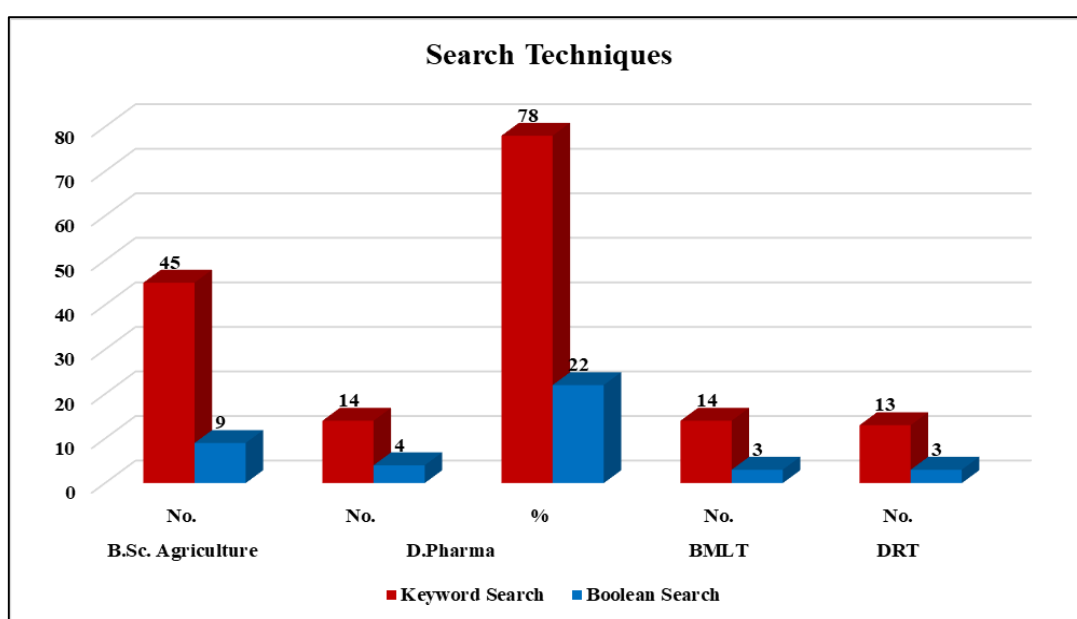
Table 5 shows that 91% of students are satisfied with seating and reading facilities, 83% are satisfied with drinking water facilities, 100% are satisfied with lighting facilities, and 81% are satisfied with ventilation facilities. Overall, students expressed high satisfaction with all library facilities.

**7.6 Search Techniques:**

Table 6 shows the search techniques used by students in AIAR and APC library.

**TABLE 6**  
**SEARCH TECHNIQUES**

Technique	B.Sc. Agriculture	D.Pharma	BMLT	DRT	Total	Percentage
Keyword search	45 (83%)	14 (78%)	14 (82%)	13 (81%)	86	82
Boolean search	9 (17%)	4 (22%)	3 (18%)	3 (19%)	19	18
<b>Total</b>	<b>54 (100%)</b>	<b>18 (100%)</b>	<b>17 (100%)</b>	<b>16 (100%)</b>	<b>105</b>	<b>100</b>



**FIGURE 8: Search techniques**

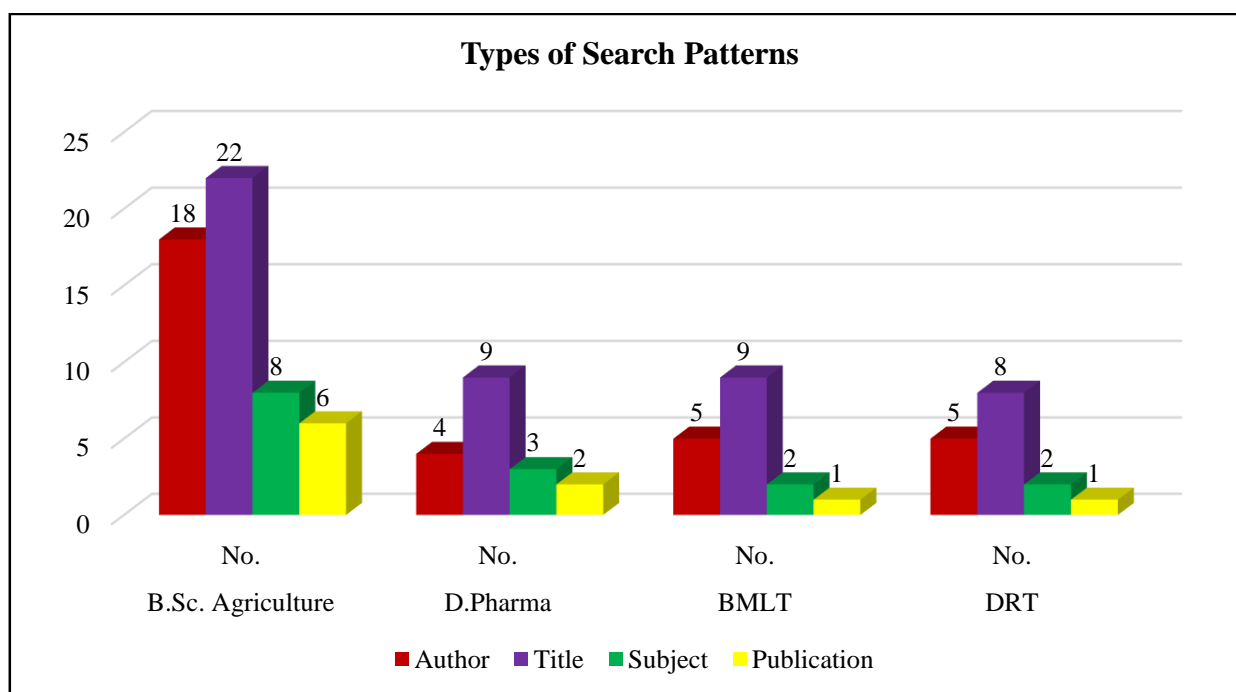
Table 6 shows that 83% of B.Sc. Agriculture students, 78% of D.Pharma students, 82% of BMLT students, and 81% of DRT students use keyword search techniques. Overall, 82% of students prefer keyword search, while 18% use Boolean search techniques.

### 7.7 Types of Search Patterns:

Table 7 shows the search patterns used by AIAR and APC students.

**TABLE 7**  
**TYPES OF SEARCH PATTERNS**

Approach	B.Sc. Agriculture	D.Pharma	BMLT	DRT	Total	Percentage
Author	18 (33%)	4 (22%)	5 (29%)	5 (31%)	32	30
Title	22 (41%)	9 (50%)	9 (53%)	8 (50%)	48	46
Subject	8 (15%)	3 (17%)	2 (12%)	2 (13%)	15	14
Publication	6 (11%)	2 (11%)	1 (6%)	1 (6%)	10	10
<b>Total</b>	<b>54 (100%)</b>	<b>18 (100%)</b>	<b>17 (100%)</b>	<b>16 (100%)</b>	<b>105</b>	<b>100</b>



**FIGURE 9: Types of search patterns**

Table 7 shows that 46% of students prefer title search, followed by author search (30%), subject search (14%), and publication search (10%). Title search is the most preferred method across all course groups.

### 7.8 Types of Database Search:

Table 8 shows the types of databases searched by AIAR and APC students.

**TABLE 8**  
**TYPES OF DATABASE SEARCH**

Type of Database	B.Sc. Agriculture	D.Pharma	BMLT	DRT	Total	Percentage
Abstracting database	9 (17%)	4 (22%)	4 (23%)	4 (25%)	21	20
Indexing database	6 (11%)	1 (6%)	2 (12%)	1 (6%)	10	9
Full-text database	4 (7%)	8 (44%)	7 (41%)	7 (44%)	26	40
Numeric or statistical database	15 (28%)	2 (11%)	1 (6%)	1 (6%)	19	18
Both bibliographical and full-text	20 (37%)	3 (17%)	3 (18%)	3 (19%)	29	28
<b>Total</b>	<b>54 (100%)</b>	<b>18 (100%)</b>	<b>17 (100%)</b>	<b>16 (100%)</b>	<b>105</b>	<b>100</b>

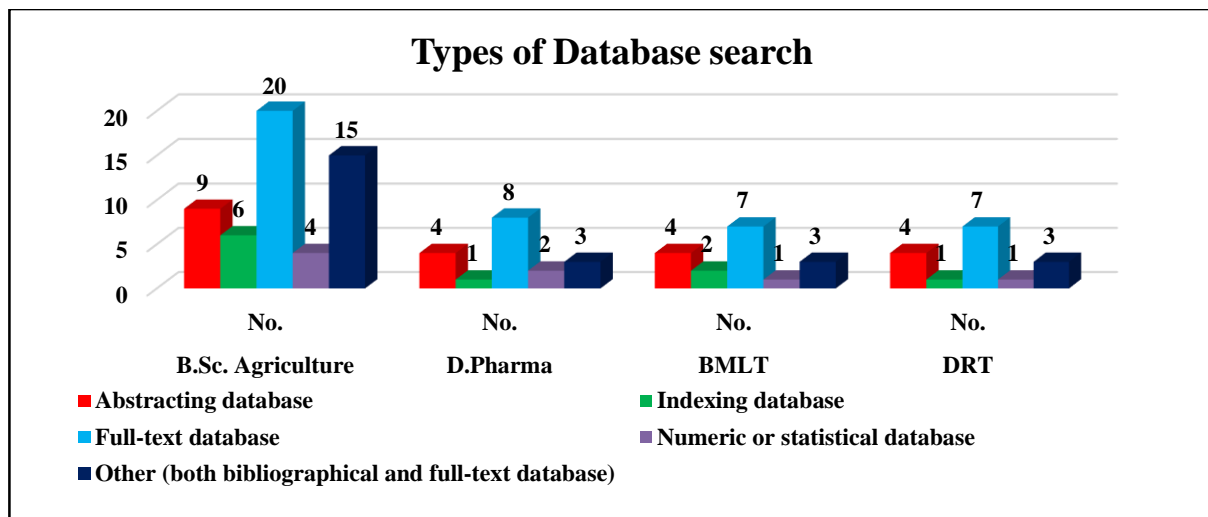


FIGURE 10: Types of database search

Table 8 shows that full-text databases (40%) are the most commonly used, followed by both bibliographical and full-text databases (28%), abstracting databases (20%), numeric or statistical databases (18%), and indexing databases (9%).

### VIII. CONCLUSION

After detailed observation of the institutional details of APEX institutions, this study found that while the library serves its users well within limited resources, there is significant potential for improvement. Indian agriculture plays a crucial role in the national economy, making agricultural information services particularly important. This study confirms that users are highly satisfied with the library resources, services, and physical facilities. Key findings include:

- The majority of students (53.33%) visit the library daily, demonstrating strong engagement
- Most students (54%) spend one hour in the library per visit
- Borrowing books (35%) is the primary purpose for library visits
- Students expressed high satisfaction with seating (91%), lighting (100%), drinking water (83%), and ventilation (81%)
- Keyword search (82%) is the preferred search technique
- Title search (46%) is the most common search pattern
- Full-text databases (40%) are the most frequently used database type

The librarian should train students to help them find their required information efficiently and should organize conferences, seminars, or workshops on campus to support staff research projects.

### IX. RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. Librarians should help staff and students access their required information and understand the information-seeking behavior of AIAR and APEX paramedical course users
2. Librarians should organize conferences, seminars, and workshops on campus with the help of staff and students to support research projects and academic work
3. The library collection should be increased annually according to university norms and student needs
4. E-book facilities should be introduced for AIAR and APC staff and students
5. Audio and video resources should be provided free of cost to students
6. Free and paid e-journal brochures should be introduced alongside offline journals

7. Book-bank facilities, currently available for DRT and BMLT courses, should also be introduced for B.Sc. Agriculture students
8. An e-library facility and limited, restricted free Wi-Fi connection should be provided to staff and students
9. A user orientation program should be provided to teach students about available library facilities and how to find information according to Ranganathan's five laws of library science
10. Free or paid library management software such as SOUL 3.0 or KOHA should be installed to save time and improve efficiency
11. OPAC (Online Public Access Catalogue) facility should be provided to save staff and student time
12. International and national workshops, seminars, and conferences should be organized with the help of college management and staff members

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#### CONFLICT OF INTEREST

The author declares that there is no conflict of interest regarding the publication of this paper

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