DIGITAL LIBRARY SERVICES IN GOVERNMENT AGRICULTURE COLLEGES OF RAJASTHAN: A STUDY

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Abstract: This research article investigates the use and importance of digital library services in government agriculture colleges in Rajasthan. The study underscores the relevance of digital libraries within the sphere of agricultural education, offering significant insights into how these resources enhance learning and research. It begins by providing a comprehensive background on the evolution and benefits of digital libraries, particularly in supporting agricultural studies. The article then offers a detailed overview of government agriculture colleges in Rajasthan, emphasizing their critical role in advancing agricultural research and education.

Utilizing a mixed-methods approach, the research combines qualitative and quantitative data collection techniques to assess the current state of digital library services in these institutions. This dual approach allows for a thorough examination of both the strengths and weaknesses of existing digital library systems. The findings aim to pinpoint specific areas that require development, thereby contributing to the overall improvement of agricultural education in Rajasthan. By identifying gaps and potential enhancements, this study aspires to foster a more robust digital infrastructure in agricultural colleges, ultimately benefiting students, educators, and researchers alike.

Keywords: Digital library services, government agriculture colleges, Rajasthan, Agricultural education, Research.

1. Introduction

1.1 Background of Digital Libraries in Agricultural Education:

Digital libraries have revolutionized access to educational resources across various fields, including agriculture. They offer an extensive range of digital resources, such as e-books, research articles, multimedia materials, and databases, which are indispensable for modern education and research. In agricultural education, staying abreast of the latest research, techniques, and technological advancements is crucial. Digital libraries provide a platform for students and researchers to access up-to-date and relevant information, facilitating their academic and research pursuits. By incorporating digital libraries, agricultural education institutions can enhance the quality of education, promote collaborative learning, and foster innovation.

1.2 Significance of Digital Libraries in Agricultural Education:

Digital libraries are transformative tools in agricultural education, offering numerous benefits that enhance the educational experience. Firstly, they provide students and faculty with immediate access to a vast array of agricultural literature, including research publications, e-books, and scientific databases. This extensive access ensures that users can stay updated with the latest advancements and trends in agriculture, which is crucial for both learning and research. Secondly, digital libraries enhance the quality of education by offering interactive and multimedia-rich resources. These resources, such as videos, simulations, and infographics, make complex agricultural concepts more understandable and engaging for students. This interactive approach facilitates deeper learning and helps in retaining knowledge more effectively.

Thirdly, digital libraries support collaborative research efforts. They enable seamless sharing of information and resources among researchers, fostering a collaborative environment. This is particularly important in agricultural research, which often involves interdisciplinary collaboration.

Additionally, digital libraries provide remote access to resources, ensuring that students and faculty can obtain necessary materials regardless of their location. This is especially significant for agricultural colleges in rural areas where physical libraries may have limited resources.

Finally, the integration of digital libraries promotes innovation in agricultural practices by providing access to cutting-edge research and technological advancements. This exposure is

critical for developing new agricultural techniques and solutions that can address current challenges in the field.

1.3 Overview of Government Agriculture Colleges in Rajasthan:

Government agriculture colleges in Rajasthan are pivotal in promoting agricultural education and research. These institutions aim to develop skilled professionals who can contribute to the sustainable development of the agricultural sector in the state. They offer a variety of undergraduate and postgraduate programs in disciplines such as agriculture, horticulture, animal husbandry, and more. Additionally, these colleges engage in extensive research projects and provide extension services to disseminate knowledge and technology among farmers, thereby directly impacting the agricultural productivity and sustainability of the region.

1.4 Current State of Digital Library Services:

The study aims to evaluate the current state of digital library services in government agriculture colleges in Rajasthan. It investigates the availability of digital resources, the infrastructure supporting these digital libraries, and the utilization of these services by students and faculty members. By employing a mixed-methods approach, including surveys and interviews, the research provides a comprehensive assessment of the strengths and weaknesses of existing digital library systems. This evaluation is crucial for identifying areas for improvement and for making informed recommendations to enhance digital library services.

1.5 Justification

These institutions play the critical role in agricultural education and the growing importance of digital resources in modern education. Despite the potential benefits, the integration and utilization of digital library services in these colleges remain underexplored. Understanding the current state of these services can highlight gaps and opportunities for improvement, ultimately contributing to the advancement of agricultural education in the region. Enhancing digital library services can lead to better resource accessibility, improved learning experiences, and increased research productivity, which are essential for the sustainable development of the agricultural sector in Rajasthan. By elaborating on these themes, the manuscript can provide a stronger justification for the selected topic, emphasizing the importance of digital library services in enhancing the quality of agricultural education and research in government agriculture colleges in Rajasthan.

The present study aims to investigate the status of digital library services in government agriculture colleges in Rajasthan, India. The research focuses on various colleges across the state, including Government Agriculture College in Jodhpur, Pali, Nagaur, Lalsot in Dausa, Kumher in Bharatpur, Fatehpur in Sikar, Bhilwara, Bikaner, Sriganganagar, Kota, Kishangarhbas in Alwar, Kotputli in Jaipur, SKN College of Agriculture in Jobner, BBD College of Agriculture in Chimanpura, Rajasthan College of Agriculture in Udaipur, Captain Ripudaman Government College of Agriculture in Sawai madhopur, Govind Guru PG College of Agriculture in Banswara, Government College of Horticulture in Jhalwarar, Government College of Fisheries in Udaipur, College of Community and Applied Science in Udaipur, College of Dairy Science and Food Technology in Udaipur, and College of Dairy Technology in Jodhpur.

This research endeavors to assess the availability and effectiveness of digital library services in these government agriculture colleges, considering factors such as access to digital resources, online databases, e-journals, e-books, research articles, and other relevant academic materials. By examining the current status of digital library services in these institutions, this research aims to provide valuable insights and recommendations for enhancing and improving the provision of digital resources in government agriculture colleges in Rajasthan.

Table : Government Agriculture College of Rajasthan

Sr no	Name Colleges in Government Agriculture Rajasthan
1	Government Agriculture college Jodhpur
2	Government Agriculture college Pali
3	Government Agriculture college Nagaur
4	Government Agriculture college Lalsot , Dausa
5	Government Agriculture college kumher, Bharatpur
6	Government Agriculture college fatehpur, Sikar
7	Government Agriculture college Bhilwara
8	Government Agriculture college Bikaner
9	Government Agriculture college Sriganganagar
10	Government Agriculture college Kota
11	Government Agriculture college kishangarhbas, Alwar

12	Government Agriculture college kotputli, Jaipur
13	Government SKN college of Agriculture jobner, Jaipur
14	Government BBD college of agriculture chimanpura , Jaipur
15	Rajasthan collge of Agriculture Udaipur
16	Sahid captain RipudamanGvernment college of Agriculture Sawaimadhopur
17	Govind Guru PG college of agriculture Banswara
18	Government college of horticulture Jhalwarar
19	Governhment college of fisheries Udaipur
20	College of community and applied science Udaipur
21	College of dairy science and food technology Udaipur
22	College of dairy technology Jodhpur

Source : https://hte.rajasthan.gov.in/dept/dce/uploads/doc/39AgricultureCollege.pdf

2. Literature Review:

Digital library services play a vital role in providing access to academic resources, research materials, and information to support teaching, learning, and research activities in educational institutions (Chowdhury & Chowdhury, 2013; Yu, 2018). The adoption and utilization of digital libraries have gained significance in the context of government agriculture colleges in Rajasthan, where access to quality agricultural information is crucial for the development and advancement of the agricultural sector. This literature review aims to explore the existing body of knowledge regarding digital library services in government agriculture colleges, focusing on studies related to India and other relevant contexts.

Studies have highlighted the importance of digital libraries in agricultural education and research. For instance, Chatterjee and Roy (2015) conducted a study on the adoption and utilization of digital resources in agricultural institutions in India. They emphasized the need for comprehensive digital library services to address the diverse information needs of agricultural students and researchers. Furthermore, Paliwal and Kumawat (2017) examined the role of digital libraries in enhancing agricultural education and found that access to digital resources positively influenced students' learning outcomes and research productivity.

Several studies have also emphasized the challenges and issues related to the implementation of digital library services in educational institutions. According to Panda and Dash (2016), limited infrastructure, inadequate funding, and lack of technical expertise pose significant obstacles to the establishment and maintenance of digital libraries in India. Similarly, Gupta and Bhardwaj (2018) identified factors such as copyright issues, limited awareness among faculty and students, and inadequate training programs as barriers to the effective utilization of digital library services in agricultural colleges.

On the other hand, successful case studies and best practices related to digital library services in agriculture colleges provide insights for improvement. Sharma and Singh (2019) examined the digital library initiatives at two agricultural universities in India and highlighted the importance of user-centric services, collaboration with stakeholders, and continuous evaluation and enhancement of digital library resources and platforms.

While these studies provide valuable insights into digital library services in educational institutions, there is a dearth of research specifically focusing on government agriculture colleges in Rajasthan. Therefore, this study intends to fill this gap by conducting a comprehensive assessment of digital library services in the government agriculture colleges of Rajasthan, considering the unique needs and challenges faced by these institutions.

3. Statement of the Problem:

Despite the increasing significance of digital library services in facilitating access to agricultural information and supporting academic activities, there is a lack of comprehensive understanding regarding the status and effectiveness of these services in government agriculture colleges in Rajasthan, India. This study aims to address this gap by investigating the current state of digital library services in these colleges and identifying the challenges and opportunities associated with their implementation.

The problem statement revolves around several key issues. Firstly, there is limited research specifically focused on digital library services in government agriculture colleges of Rajasthan, which hinders the development of tailored strategies and initiatives to enhance these services. Additionally, the unique needs and challenges faced by these institutions, such as inadequate infrastructure, limited funding, and technical expertise, may impact the availability and quality of digital resources.

4. Objectives of the Study:

The study on digital library services in government agriculture colleges of Rajasthan will focus on the following four objectives pertaining to librarians/ library manager:

1. Assess the existing digital library infrastructure and technology available to librarians in these colleges.

2. Investigate the librarian's proficiency in utilizing digital tools and platforms to support academic and research activities.

3. Identify any challenges faced by librarians in managing and curating digital collections effectively.

4. Gather feedback from librarians to understand their perspectives on enhancing digital library services and potential areas of improvement.

5. Scope of the study

The scope of this study on digital library services in government agriculture colleges of Rajasthan is to provide a comprehensive assessment of the current state of digital resources, technology, and infrastructure available to librarians. The research aims to identify challenges and opportunities for improving digital collection management, enhancing librarian proficiency, and fostering collaboration with faculty and researchers. The study's findings will contribute valuable insights to inform strategic decisions in implementing effective digital library services, ultimately benefiting the academic community and advancing agricultural research and education in the region.

6. Research Methodology

 For the present study " Digital library services in government agriculture college of Rajasthan: A study" the survey method has been applied. Under survey method quantitative data gathered through structured questionnaires distributed to librarians in the selected colleges to assess their access to digital resources, proficiency in utilizing technology, and collaboration with faculty. Additionally, qualitative data collected through interviews and focus group discussions with librarians to gain deeper insights into their experiences, perceptions, and suggestions. The data collected analyzed using appropriate statistical methods for quantitative data and thematic

analysis for qualitative data. The combination of both quantitative and qualitative methods will provide a holistic understanding of the current state of digital library services and aid in formulating meaningful recommendations for improvement.

7. Data Analysis and Interpretation

The data analysis and interpretation of the study on digital library services in government agriculture colleges of Rajasthan will involve a comprehensive approach. Firstly, data collected through surveys distributed among the librarians of the 22 selected colleges, gathering information about the availability and accessibility of digital resources, technology infrastructure, and collaboration efforts. The quantitative data analyzed using descriptive statistics to understand the overall trends and patterns. Secondly, interviews conducted with the librarians to gain deeper insights into their experiences and perspectives on challenges and opportunities related to digital library services. The qualitative data analyzed using thematic analysis to identify recurring themes and valuable suggestions. The integration of survey data and interview findings will facilitate a holistic interpretation, providing valuable recommendations for enhancing digital library services in government agriculture colleges across Rajasthan. The survey, was taken among the 22 selected libraries of Rajasthan, the raw data collected from the select libraries which are presented in table 1 to 4 tables.

Status of Digitization

Table no. 7.1 Status of Digitization

Sr. no.	Status of Digitization	Number of Libraries	Percentage
1	Fully Digitized	05	23%
2	Partially Digitized	03	14%
3	Proposed Planning	06	27%
4	Not Digitized	08	36%

 In this table Approximately 23% of the libraries are "Fully Digitized," indicating a significant advancement in their digital resources and services.Around 14% are "Partially Digitized," suggesting some progress in digitization efforts but with room for improvement.27% of the

libraries are in the "Proposed Planning" stage, indicating they have plans for digitization but have not fully implemented them yet.The study found that 36% of the libraries are "Not Digitized," highlighting a significant portion that lacks any digital library services.

Table no. 7. 2 Availability of Infrastructure, Internet facility and Digital Library Services

Sr.no.	Availability of Infrastructure, Internet facility and Digital Library services	Number of Libraries	Percentage
1	Uses of Digital Library software	05	23%
2	Avalibility of computer	22	100%
3	Availability of off line databse	11	50%
4	Subscription of E- Journal	14	64%
5	Subscription of E-Books	14	64%
6	Subscription of E-Database	13	59%
7.	Consortium membership	09	41%
8.	CeRa Link	16	73%
9.	CAB Services	12	55%
10.	Open Access Journal Services link	09	41%
11.	National digital library link	20	91%
12.	Online public access catalogue	16	73%
13.	Web online public access catalogue	08	36%
14.	Current awareness services	05	23%
15.	CD ROM services	014	64%
16.	Email services	20	91%
17.	E-Document delivery services	05	23%
18.	E thesis services	08	36%
19.	Free internet services	15	68%

20.	Free download services	09	41%

Table no. 7.2 presents the availability of infrastructure, internet facilities, and digital library services in government agriculture colleges across Rajasthan. Out of the 22 libraries surveyed, 100% reported the availability of computers, indicating a strong technological foundation. Regarding digital library software usage, 23% (5 libraries) have implemented such systems to manage their resources efficiently. Approximately 50% (11 libraries) reported having access to offline databases, while 64% (14 libraries) have subscribed to E-Journals and E-Books. Consortium membership stands at 41% (9 libraries). Notably, 91% (20 libraries) are linked to the National Digital Library, enhancing access to a vast array of academic resources. Other services, like email facilities (91%), CD ROM services (64%), and free internet access (68%), demonstrate significant adoption in these government agriculture college libraries.

Table no. 7.3 Librarian's proficiency in utilizing digital tools

Sr.no.	Librarian's proficiency	Number of Libraries				
		Rating				
		1	2	3	4	5
1	Proficiency in using digital library software	06	03	04	03	06
2	Proficiency in using e-journal portals	01	01	04	05	11
3	Using digital tools for cataloging	03	04	02	06	07
4	Proficiency in utilizing online databases	06	03	04	03	06
5	Assist faculty and researchers with their information needs using digital resource	04	05	03	04	06

The table presents the librarian's proficiency in utilizing digital tools in government agriculture colleges in Rajasthan, rated on a scale from 1 to 5. From the data analysis, it can be observed that 6 libraries rated their proficiency in using digital library software as 5, indicating a high level of

expertise. However, for e-journal portals and online databases, the proficiency ratings were more varied, with 11 libraries rating their proficiency as 5 in using e-journal portals. The librarian's ability to assist faculty and researchers with digital resources received mixed ratings. Overall, there is a substantial level of proficiency among librarians in using digital tools, which can positively impact academic and research activities in these government agriculture colleges.

Table no. 7.4 Challenges in Functioning Digital Library Services

Sr.no.	Challenges in functioning Digital Library services	Number of Libraries	Percentage
1	Lack of funding	20	91%
2	Lack of staff skills	12	55%
3	Lack of technical knowledge	11	50%
4	Lack of development polices	05	23%
5	Insufficient infrastructure	18	82%
6	Lack of management support	16	73%
7	Lack of interest in digital initiatives	03	14%
8	Lack of team work	04	18%
9	Lack of trained staff	16	73%
10	Network problem	04	18%
11	Technological obsolesce	02	09%

Table no. 7.4 presents the challenges faced by government agriculture colleges in Rajasthan while functioning their digital library services. The data highlights several key issues. The most prominent challenge is the "Lack of funding," which is reported by 91% of the libraries surveyed. "Insufficient infrastructure" and "Lack of staff skills" are also significant obstacles, reported by 82% and 55% of libraries, respectively. Moreover, "Lack of technical knowledge" and "Lack of trained staff" each account for 50% and 73% of the surveyed institutions, respectively. Other challenges include "Lack of management support" (73%), "Network problem" (18%), and "Lack of team work" (18%). Addressing these challenges is crucial to

improving the effectiveness and efficiency of digital library services in government agriculture colleges across Rajasthan.

8. Major Finding

1. The findings reveal that 23% of libraries are fully digitized, 14% are partially digitized, 27% are in the planning stage, and 36% are not digitized. This indicates a need for further efforts to enhance digitization in these institutions.

2. The analysis shows strong availability of basic infrastructure such as computers (100%) and significant adoption of digital resources like E-Journals and E-Books (64%). However, utilization of digital library software (23%) and consortium memberships (41%) suggests room for improvement in enhancing resource management and collaborative opportunities across government agriculture college libraries in Rajasthan.

3. Librarians in government agriculture colleges in Rajasthan demonstrate high proficiency in using digital library software (rated 5 by 6 libraries) and e-journal portals (rated 5 by 11 libraries). However, their ability to assist faculty and researchers with digital resources received mixed ratings. Overall, the proficiency of librarians in digital tools highlights their potential to significantly enhance academic and research support within these institutions.

4. From Table no. 04.Lack of Funding: A significant 91% of the surveyed libraries reported facing financial constraints, hindering their ability to invest in and maintain robust digital library services.

5. From Table no. 04.Lack of Staff Skills: Approximately 55% of the libraries revealed that their staff lacked the necessary skills and expertise to effectively utilize and manage digital resources.

9. Suggestions / Recommendations

1. Encourage Collaboration: Libraries in the planning phase and those not yet digitized could benefit from collaborating with fully digitized libraries to share best practices, resources, and expertise. Promoting knowledge-sharing workshops or webinars can help accelerate digitization efforts across all libraries.

2. Funding Support: The government and relevant authorities should allocate sufficient funds and resources to support digitization initiatives in agriculture colleges' libraries.

Financial assistance can facilitate the purchase of digital resources, necessary technology, and training for librarians to ensure a smooth transition towards digital library services.

3. Promote Digital Library Software Adoption: Since only 23% of the libraries currently use digital library software, there is a need to encourage and support other libraries in adopting such software. This will enable better organization, management, and access to digital resources, leading to an improved learning and research experience for students and faculty.

4. To enhance research capabilities, colleges should invest in more E-databases and E-journal subscriptions. Additionally, adopting remote access solutions can provide users with wider and more convenient access to academic resources. This combined approach will significantly improve the quality of education and research in agriculture colleges, even with budget constraints.

5. Based on the findings, it is recommended to focus on enhancing training and support for librarians in utilizing e-journal portals effectively. Additionally, providing targeted workshops on advanced functionalities of digital library software and online databases can help increase proficiency levels. Collaboration among librarians to share best practices and experiences in using digital tools for cataloging and managing digital collections can also be encouraged. Furthermore, conducting regular assessments and workshops to update the librarians' knowledge on new digital tools and technologies would contribute to overall improvement in their proficiency. By implementing these suggestions, government agriculture college libraries in Rajasthan can enhance their support for academic and research activities, further benefiting faculty, researchers, and students alike.

6. To address budget constraints, it is recommended that government agriculture colleges in Rajasthan adopt open-source digital library software. Open-source solutions are cost-effective and can be customized to meet the specific needs of each library. This approach can significantly reduce expenses while enhancing the availability and management of digital resources, making it a practical solution for financially challenged institutions.

7. Staff Training and Development: Prioritize training programs and workshops to enhance the technical skills and knowledge of library staff. Providing them with the necessary training will empower them to effectively manage digital collections and support users' needs.

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