

Disaster Management Practices in General State Universities' Libraries in Rajasthan: An Empirical Study

Bhoopendra Singh¹; Dr. Mahendra Singh Rao²

Research Scholar, Department of Library and Information Science, University of Rajasthan, Jaipur¹; Assistant Professor, DLIS, University of Rajasthan, Jaipur, India²

hodlibraryscience@gmail.com; raoms78@gmail.com

ABSTRACT

Academic libraries face growing risks from natural and human-caused disasters, which require disaster management planning to become an essential part of library administrative work. The research investigates disaster management practices that general state universities' libraries in Rajasthan use for their preparedness and response, recovery and prevention activities. The research team used a standardized questionnaire to gather data from library professionals working at state university libraries throughout Rajasthan. The research evaluates the presence of disaster management plans in written form, together with staff training and awareness levels and risk assessment methods and infrastructure preparedness and digital backup and preservation implementation. The research shows that university libraries understand disaster preparedness as essential, but their actual implementation of these measures shows wide variations. Most libraries lack official disaster management policies while their staff members receive no regular training about disaster response through mock drills. The three main obstacles which prevent disaster management planning from being effective include budget limitations and insufficient professional skills and inadequate administrative resources. The research demonstrates that disaster management requires immediate implementation of standardized frameworks together with institutional backing for policies and ongoing training programs. The research findings will help library administrators together with policymakers to build disaster resistance which will safeguard library collections and operational services in the future.

KEYWORDS: Disaster management, University libraries, State universities, Rajasthan, Library preparedness, Risk management.

1. INTRODUCTION

The process of disaster management in libraries involves creating and executing plans which protect library collections and infrastructure and services and personnel from potential disasters. Libraries face two types of disasters which include natural events like floods and earthquakes and man-made incidents including electrical failures and cyber-attacks and vandalism and negligence. (Ranjan et al., 2016)The protection of essential library

resources requires proper disaster management because these resources cannot be replaced. (Chigwada & Ngulube, 2025) Libraries need disaster management because it helps them reduce damage and loss while maintaining service operations and protecting their physical and digital collection assets. The library contains essential academic resources which include both physical and digital collections of scholarly materials and rare manuscripts and archival documents that serve students and researchers. (Ashiq et al., 2024) A disaster management plan which is properly defined enables libraries to identify disaster risks and create protective strategies and define roles and responsibilities for emergency response operations. The system enables fast service recovery and service restoration which shortens the time needed for operational service interruption.

The disaster management system trains staff members through training sessions and awareness programs and mock drills which help them respond correctly in emergency situations. (Sunday et al., 2025) The system enables organizations to follow their established policies and guidelines which match the requirements of national disaster management protocols. Academic libraries operating in disaster-risk areas need disaster management to serve as their fundamental protection system which also builds their ability to withstand disasters and maintain library operations.

1.1 Background & Motivation

The academic libraries across Rajasthan experience various security risks because of their location in a specific region with its natural environment and their building structure and their management system. (Deshpande, 2022) The state's wide range of environmental conditions makes libraries vulnerable to natural disasters which include hot temperatures and dust storms and rare flooding events and dry spells and earthquakes that affect specific areas. The combination of hot weather with dry air conditions leads to paper degradation and binding damage and electronic device deterioration. The physical collections and library infrastructure face danger because of unexpected rainstorms and water entry into the building. (Sukula et al., 2025) Academic libraries across Rajasthan face challenges because their facilities consist of outdated structures which lack disaster protection features and have unsafe electrical systems and insufficient fire protection measures and insufficient climate management capabilities. The combination of crowded storage spaces with insufficient shelving units and non-climate-controlled storage areas creates conditions which endanger the safety of library materials. Multiple organizations lack disaster preparedness because they cannot afford it and their administrative work takes priority.

Academic libraries face technological vulnerabilities which impact their digital resource collections. The combination of insufficient data backup systems and weak cybersecurity measures together with power instability and unstable internet access creates conditions for library data loss and service interruptions. (Mahendra Singh Rao, 2025) The libraries face two major challenges because they lack trained staff and they do not have established disaster management plans or conduct emergency drills on a regular basis. The identified weaknesses demonstrate that academic libraries in Rajasthan need to perform immediate risk assessments while they should enhance their infrastructure and train their staff and receive institutional backing for disaster management operations. The region needs to solve these problems because they threaten the long-term survival of library services which must remain protected and sustainable.

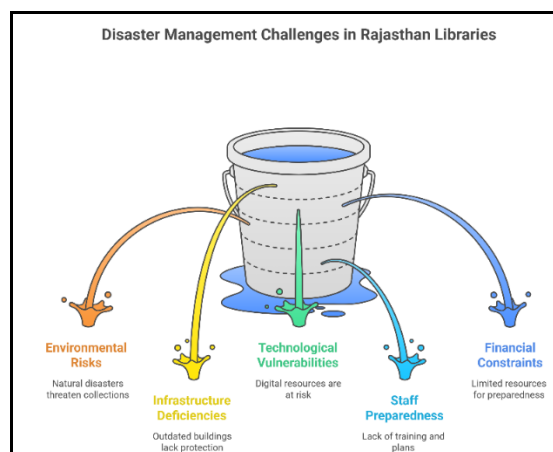


Fig. 1. Disaster Management Challenges in Rajasthan Libraries

1.2 Need for Preparedness in State University Libraries

Preparedness is a crucial component of disaster management in state university libraries, as these institutions serve as knowledge hubs supporting teaching, research, and academic development. (Sunday et al., 2025) University libraries house extensive collections of books, manuscripts, archival materials, and digital resources, many of which are unique and irreplaceable. Any disruption caused by natural or man-made disasters can severely affect academic activities and institutional functioning. State university libraries often operate under financial, infrastructural, and administrative limitations, making them particularly vulnerable to emergencies. (Garnett, 2019) Preparedness enables libraries to identify potential risks, establish preventive measures, and ensure a coordinated response during disasters. A well-prepared library can minimize damage to collections, ensure the safety of staff and users, and maintain continuity of essential services.

(Tan et al., 2010) Preparedness also involves developing written disaster management plans, conducting regular risk assessments, providing staff training, and maintaining emergency equipment and infrastructure. In addition, preparedness supports effective recovery by facilitating quick restoration of services and reducing long-term operational and financial losses. For state university libraries, proactive disaster preparedness is not optional but essential for sustainable library management, institutional resilience, and the long-term preservation of academic resources.

2. LITERATURE REVIEW

2.1 Studies on Disaster Preparedness in Academic Libraries

Academic libraries face rising disaster preparedness needs because natural and human-made disasters have become more frequent according to multiple research studies. Research shows that library staff understand the requirement for disaster planning yet they have not established official disaster management systems. (Rao & Verma, 2019) Academic libraries operate without established written policies and they do not provide staff training sessions or conduct emergency drills or maintain sufficient facilities for crisis situations. Research conducted so far has used surveys and case studies to evaluate readiness levels but researchers have found three main obstacles which include funding limitations and insufficient backing from administrators and inadequate specialized knowledge. (Feather, 2017)The current research base focuses on individual institutions and particular regions but it does not study state

university libraries in detail. The existing research gap requires an empirical study to examine disaster management practices which operate in general state universities' libraries across Rajasthan so this research investigates this topic.

2.2. Disaster Management Planning and Practices

(Sharma, 2018) Academic libraries need to create disaster management plans which will help them stop emergencies from happening and prepare for them and respond during emergencies and recover after emergencies. The plans serve to defend essential collection assets and operational systems while maintaining ongoing service delivery. The system requires risk assessment procedures and staff role definition and external organization emergency protocol development. (Morgan & Smith, 1997) The main preparedness steps include performing building maintenance work and implementing fire safety systems and environmental control systems. The execution of response and recovery operations requires attention because it enables organizations to maintain communication systems and establish evacuation protocols and digital preservation methods which include backup systems and cloud storage solutions. (Satpathy, 2007) Research shows that current policies fail to get implemented because organizations do not receive enough training or funding or administrative backing. The implementation of disaster management systems within library management systems becomes crucial for both organizational sustainability and operational resilience.

2.3 Role of Library Professionals and Training

Academic libraries need trained staff to develop and execute successful disaster management plans. The development of these plans requires library staff to detect security threats which they must use to execute preventive and response strategies. (Rattan, 2013) The organization needs to provide staff members with training about disaster readiness and risk evaluation and emergency response management and evacuation protocols. Library professionals need to keep their documentation current while working with disaster management committees and establishing contact with emergency response organizations. (Nwokedi et al., 2017) Digital resource protection requires organizations to create backup systems and implement cybersecurity protocols. The organization needs to run standard training programs which combine workshops with mock drills to help staff members develop their emergency management abilities. (Mahendra Singh Rao, 2025) State-funded institutions encounter multiple obstacles because they receive inadequate financial support and their staff members do not receive proper professional training. The defense of institutions requires two essential elements which include continuous training programs and disaster management education within library science academic curricula.

2.4 Research Gaps

Research about library disaster management shows major knowledge deficiencies which affect state university libraries operating in Rajasthan India. The existing body of research contains multiple studies which examine theoretical concepts but most of them focus on particular libraries or urban settings while there is a shortage of empirical studies which evaluate these institutions against each other. (Featherstone et al., 2008) The current research fails to address the specific regional threats which Rajasthan faces because of its varied topography and environmental conditions. The current research lacks investigation into four essential areas which include infrastructure readiness and environmental risks and administrative support and digital preservation practices. The current research lacks sufficient analysis of disaster management plan execution and staff training and emergency

Disaster Management Practices in General State Universities' Libraries in Rajasthan: An Empirical Study

readiness of institutions although official documents emphasize their value. (Wertman et al., n.d.) Research that unites professional roles with training systems and institutional frameworks to create a complete disaster management strategy remains absent. The research study aims to fill existing knowledge gaps through its efforts to gather detailed information about disaster management systems which operate within Rajasthan state universities.

2.5 Objectives

1. To examine disaster management practices in state university libraries of Rajasthan
2. To assess the level of preparedness among library staff
3. To identify major disaster risks faced by libraries

2.6 Hypotheses

The research will test the following hypotheses through empirical methods to study disaster management conditions in state university libraries.

1. H1: State university libraries across Rajasthan lack sufficient disaster management practices.
2. H2: State university libraries face major disaster preparedness challenges because their staff members receive insufficient training.

3. RESEARCH METHODOLOGY

The research methodology describes the methodical framework which researchers used to fulfill all research targets. The document outlines the research design structure together with details about the study participants and their selection process and describes all data collection instruments and presents the methods which were used to analyze the data. The research design follows a methodological approach which guarantees both reliable and valid and unbiased results about disaster management practices in state university libraries across Rajasthan.

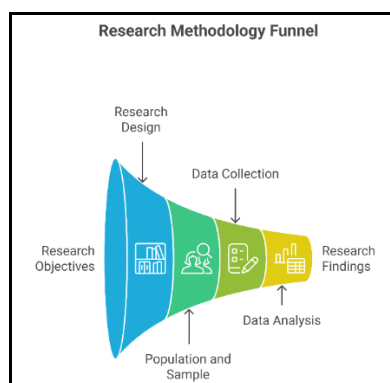


Fig. 2. Conceptual Representation of the Research Methodology Framework

3.1 Research Design: Descriptive and Survey-Based

The research uses descriptive methods together with survey techniques to evaluate disaster management and emergency readiness at Rajasthan state university libraries. The research method enables scientists to study present conditions by preserving all variables which enables them to study current disaster management systems and document staff knowledge and training approaches and disaster threat perceptions. The survey collects standardized library professional data at high speed which enables organizations to perform institutional comparison tasks. (Kaur

et al., 2016) The research design enables the collection of quantitative data about disaster preparedness and management plans and staff training and infrastructure readiness which allows statistical analysis to discover relationships between training programs and readiness levels. The framework establishes an appropriate structure which enables the research to achieve its objectives.

3.2 Population and Sample

The research study investigates library professionals in general state university libraries across Rajasthan, focusing on their disaster management practices. It sampled 130 library professionals from ten universities, selected through purposive sampling, ensuring representation of diverse regions. (Sinha, 2018) Participants included university librarians and their deputies, all with experience in library management. Questionnaires were distributed, yielding 130 valid responses to analyze staff readiness and disaster risks related to physical and digital collections.

3.3 Data Collection: Structured Questionnaire

The research data for this study came from a survey which evaluated disaster management techniques and library emergency readiness at state universities across Rajasthan. The research team based the questionnaire on previous disaster management studies which used multiple-choice and closed-ended questions to collect numerical responses. The assessment used a five-point Likert scale to evaluate disaster management plans and preparedness strategies and staff training and risk perception and response methods and institutional background. (Pathak, 2019) Library professionals assessed the questionnaire for content validity before conducting a pilot test which improved its measurement accuracy through clarity assessment. The structured questionnaire method enabled standardized responses which enabled statistical evaluation to compare disaster management systems between libraries.

4. DATA ANALYSIS AND DATA INTERPRETATION

The research team conducted systematic coding and statistical analysis through structured questionnaires which employed descriptive and inferential statistical methods. The research used descriptive statistics to analyze disaster management practices and preparedness measures and staff training levels and risk perceptions in Rajasthan state university libraries through frequency distributions and percentages and means and standard deviations. The research used validated inferential methods to confirm how staff training affects disaster readiness performance. The research findings became easier to understand through the use of tables and charts which demonstrated that the chosen methods worked well for this descriptive survey research.

Table 1. Descriptive Statistical Analysis of Key Variables

Variable	N	Mean	Standard Deviation	Interpretation
Availability of Disaster Management Plans	130	2.14	0.89	Low availability
Preventive & Preparedness Measures	130	2.48	0.76	Inadequate preparedness
Staff Training & Awareness	130	2.21	0.82	Low training level
Disaster Risk Perception	130	3.67	0.71	High risk awareness
Response & Recovery Practices	130	2.36	0.80	Poor response readiness

(Scale: 1 = Very Low to 5 = Very High)

Disaster Management Practices in General State Universities' Libraries in Rajasthan: An Empirical Study

Table 2. Frequency and Percentage Distribution of Staff Training

Training Status	Frequency	Percentage (%)
Regular Training	18	13.8
Occasional Training	32	24.6
Rare Training	41	31.5
No Training	39	30.1
Total	130	100

Table 3. Inferential Analysis – Relationship Between Staff Training and Disaster Preparedness

Variables Compared	Statistical Test	Test Value	Significance (p)	Result
Staff Training vs. Disaster Preparedness	Chi-Square Test	12.84	0.002	Significant
Staff Training vs. Response Capability	Correlation (r)	0.61	0.001	Positive relationship

The analysis of data from 130 library professionals in Rajasthan's state university libraries revealed unsatisfactory disaster management practices and staff preparedness. Descriptive statistics indicated low availability of formal disaster management plans (Mean = 2.14) and inadequate training (Mean = 2.21). Despite high disaster risk perception (Mean = 3.67), response and recovery practices were poor (Mean = 2.36). Training levels were low, with 61.6% receiving rare or no training. Inferential analysis showed a significant relationship between training and disaster preparedness ($\chi^2 = 12.84$, $p = 0.002$; $r = 0.61$). The findings highlight the need for comprehensive disaster management plans and enhanced training to improve disaster readiness among library staff.

5. DISCUSSION

The research investigated disaster management techniques and evaluated staff readiness while determining the most critical disaster threats which affect state university libraries across Rajasthan. The discussion follows the order of the research objectives and hypotheses while using evidence from the study's empirical data.

5.1 Disaster Management Practices in State University Libraries

The research results show that Rajasthan state university libraries lack proper disaster management systems because their mean scores remain low. Most libraries lack written disaster management policies together with official emergency response protocols which reveals their insufficient preparedness and recovery systems. The results confirm Hypothesis H1 because these libraries lack adequate disaster management systems. The current disaster management system operates through reactive measures instead of taking preventive steps because it lacks sufficient fire detection systems and emergency exit facilities. The research findings match previous studies which demonstrated that academic libraries lack proper disaster risk preparedness despite their staff being aware of potential threats.

5.2 Level of Preparedness Among Library Staff

The research investigated library staff readiness through its second objective which showed that staff members had only basic to intermediate levels of preparedness. Library professionals understand disaster risks but their ability to respond effectively remains restricted because they receive insufficient training and do not gain enough hands-on experience. The majority of participants indicated they did not take part in disaster management training sessions or mock emergency drills. The observation confirms Hypothesis H2 which states that insufficient training creates major barriers for disaster readiness. The research findings demonstrate that staff training and preparedness maintain a statistically significant connection which proves that training programs play a crucial role in developing response abilities and emergency readiness.

5.3 Identification of Major Disaster Risks

The research under the third objective reveals that state university libraries encounter various disaster threats which include fires and water damage and electrical breakdowns and severe weather events and digital system vulnerabilities to data loss and power interruptions. (Islam & Haridasan, 2024) The library faces dangerous threats to its collections and services because small-scale natural disasters happen with increasing regularity even though major disasters occur less often. The survey results show that participants understand the dangers but their knowledge about these threats does not lead them to develop proper emergency readiness strategies.

The discussion reveals that state university libraries across Rajasthan lack proper implementation of disaster management practices even though staff members demonstrate awareness about these practices. Library professionals understand disaster preparedness as essential but their organizations face barriers to successful implementation because of insufficient training and insufficient resources and insufficient administrative backing. The research results demonstrate that disaster management needs to become a fundamental component of institutional planning while staff members require ongoing training and policy backing for enhanced capacity.

CONCLUSION

The research investigated disaster management practices at Rajasthan state university libraries through an assessment of their readiness levels and employee training programs and their most critical disaster threats. The research shows that libraries do not have complete disaster management plans so they use limited preventive measures which are not well organized. The study found that staff members lacked proper training and organizations faced financial constraints and received inadequate backing from their institutions which resulted in poor disaster readiness. Library professionals show awareness about disaster risks but they do not use established disaster management systems for their implementation. The research demonstrates that academic libraries need disaster preparedness because they serve as essential knowledge centers which enable teaching and learning and support research activities. Academic libraries protect their essential print and digital collections which include vital resources that cannot be replaced after experiencing natural or human-caused disasters. The implementation of disaster preparedness measures helps organizations protect their assets while maintaining library operations and strengthening their institutional ability to withstand disasters. The successful management of libraries depends on three fundamental elements which include proactive planning and staff development and library infrastructure preparation.

The research adds value to Library and Information Science (LIS) studies through its analysis of disaster management systems in general state university libraries which remains a understudied field in Indian academic literature. The research identifies current deficiencies and operational difficulties which will help policymakers create better policies and administrators make better choices and scientists develop new research directions. The research results will help create official disaster management protocols which match the needs of state university libraries together with their equivalent academic facilities.

REFERENCES

- [1] Ashiq, M., Sultan, M. & Rafiq, M., (2025). encyclopedia-of-libraries-librarianship-and-information-science, *Technological Infrastructure for Libraries*. 3, 11–25. <https://doi.org/10.1016/B978-0-323-95689-5.00019-5>
- [2] Chigwada, J., & Ngulube, P. (2025). *Disaster Preparedness and Management Practices in Academic Libraries in Context*. 2024, 261–283.
- [3] Deshpande, R. S. (2022). Disaster management in India : are we fully equipped? *Journal of Social and Economic Development*, 24(s1), 242–281. <https://doi.org/10.1007/s40847-022-00225-w>
- [4] Feather, J. (2017). *Disaster Management for Libraries and Archives*.
- [5] Featherstone, R. M., Lyon, B. J., & Ruffin, A. B. (2008). *Library roles in disaster response : an oral history project by the National Library of Medicine*. 96(October), 343–350. <https://doi.org/10.3163/1536-5050.96.4.009>
- [6] Garnett, J. (2019). *Academic Libraries – Changing the Approach: Resilience Building against Disruptive Events and the Contribution to Disaster Risk Reduction Frameworks*. 4533. <https://doi.org/10.1080/13614533.2019.1703767>
- [7] Islam, A., & Haridasan, S. (2024). *Disaster Management and Preparedness in Delhi Public Library : A Case Study*. 14(1), 37–48. <https://doi.org/10.5958/2277-7946.2024.00004.4>
- [8] Kaur, T., Management, N. D., & Disaster, N. (2016). *Disaster Management in University Libraries of India and Pakistan*. 17.
- [9] Mahendra Singh Rao, * and Monica Rao\$. (2025). *Unveiling the Driving Forces : Exploring Motivation and Influencing Factors in Research Publication Decisions*. 45(2), 102–108.
- [10] Morgan, G., & Smith, J. G. (1997). *Disaster management in libraries : the role of a disaster plan*. 65, 62–71.
- [11] Nwokedi, G. I., Panle, P. P., & Samuel, N. (2017). *DISASTER MANAGEMENT AND PREPAREDNESS : A CASE STUDY OF*.
- [12] Pathak, S. (2019). *Disaster and Security Preparedness of Libraries in India*.
- [13] Ranjan, S., Purnima, D., Deepak, S., & Don, P. (2016). The Role of Dentistry in Disaster Management and Victim Identification : An Overview of Challenges in Indo-Nepal Scenario. *Journal of Maxillofacial and Oral Surgery*, 15(4), 442–448. <https://doi.org/10.1007/s12663-016-0896-4>
- [14] Rao, M. S., & Verma, L. N. (2019). *Quality of Work Life among Library Professionals : A Study of Determinant Factors*. 56(April), 95–99. <https://doi.org/10.17821/srels/2019/v56i2/138335>
- [15] Rattan, P. (2013). *Role of Library and Information Centres In Disaster Management*. 1–10.
- [16] Satpathy, K. C. (2007). *Role of Libraries in Disaster Management : Experience from North*.
- [17] Sharma, N. (2018). *Disaster Management in University Libraries of Assam : An Important Aspect*. 124–131.
- [18] Sinha, M. K. (2018). *A Study on Disaster Management Initiatives and Planning in Academic Libraries of North*

East India with Special Reference to Assam : A Survey. 15–17.

[19] Sukula, S. K., Jain, R. K., & Vaidya, S. (2025). *Artificial Intelligence Applications in Resource Discovery and Information Management in Libraries.* 11(1), 395–419. <https://doi.org/10.26761/IJRLS.11.1.2025.1862>

[20] Sunday, K., Dada, J., Hamza, J. M., & Mohammed, H. A. (2025). *International Journal of Disaster Risk Management Disaster Risk Management in Libraries and Information Centers : Global Strategies , Challenges , Policy and Recommendations.* 7(1), 203–214.

[21] Tan, Y., Das, A. K., Arabshahi, P., & Kirschen, D. S. (2010). *Distribution Systems Hardening against Natural Disasters.* 1–28.

[22] Wertman, L., Campbell, C. J., Mabe, M. R., Kenton, J. M., Ashley, M. E. A., & Management, E. (n.d.). *Optimizing Library Services — The Natural Role of the Public Library in Emergency Management.*
