

INFORMATION RESOURCES VULNERABLE TO DISASTERS AND DISASTER RECOVERY PLANS IN ACADEMIC LIBRARIES OF INSTITUTIONS OF HIGHER LEARNING IN KEBBI STATE.

Adline Benjozo

Research Scholar, Department of Library and Information Science,
Faculty of Social Science, Umaru Musa Yar'adua University, Katsina

and

Mudassir Abubakar Abule

Senior Librarian, Prof. Bello Daura University Library
Umaru Musa Yar'adua University, Katsina

Abstract

The paper investigated the Information Resources Vulnerable to Disasters and Disaster Recovery Plans in Academic Libraries of Institutions of Higher Learning in Kebbi State, Nigeria. The specific objectives include: to find out the information resources vulnerable to disasters and to identify disaster recovery plans in the study area. Interpretivism research paradigm was employed to guide the study. Qualitative method and phenomenological research design were used. The population consists of six heads of libraries in the institutions, selected through purposive sampling, and data was collected via semi structured interviews. Thematic analysis with NVivo 12 was used for data analysis. The study revealed that libraries faced significant disaster risks to a broad range of resources, including both print materials like books and journals, and digital resources such as student projects and computer systems. High-risk areas within libraries include storage rooms, reading rooms, basements, and archives. In addition, the libraries had disasters recovery plans such as data backups, off-site storage, restoration procedures, and inter-library collaboration for swift recovery of both print and digital resources. The study concludes that libraries in the study area faced significant vulnerabilities to disasters in both print and digital information resources. Unless and until a proper recoveries plans are put in place the resources will remain vulnerable. It is therefore, recommended that libraries prioritize the protection of both physical and digital resources through advanced storage solutions, fire- and water-proof facilities, and Libraries should institutionalize recovery mechanisms, including routine inventory audits, data backups, cloud storage, inter-library support networks, etc..

Keywords: Information Resources, Recovery Plans, Academic Libraries, institutions of Higher Learning

Introduction

Institutions of higher learning are essential hubs of knowledge and information. They house a vast array of valuable information resources, including research data, library collections, administrative records, and students' information. Libraries play a crucial role in society by serving as repositories of knowledge, providing access to information, and promoting literacy. They are fundamental to education and research, offering resources such as books, journals, databases, and other materials that support learning and intellectual growth. In educational institutions, libraries are essential for students, staff, and the community to access academic resources, conduct research, and enhance their academic pursuits (Awotola & Olowolagba, 2018; Ullah & Usman, 2023).

However, libraries face various challenges, one of the most critical being the impact of disasters on information resources. The concept of disaster refers to a sudden event causing widespread destruction, distress, or loss of life and properties. According to the United Nations Office for Disaster Risk Reduction (UNDRR, 2017), disasters are events that "cause significant physical harm, destruction, and distress, and disrupt the normal functioning of a community or society." Similarly, the American Library Association (2019) posits that natural disasters, such as earthquakes, floods, hurricanes, and fires, can severely affect libraries and their collections. These events can lead to physical damage to library buildings, equipment, and materials, resulting in the loss of valuable information resources. Moreover, the disruption caused by natural disasters can impede access to library services, hindering the academic and research activities of students, staff, and community members.

Statement of the Problem

Institutions of higher learning in Kebbi State, like many other libraries in Nigeria, face significant challenges related to natural disasters and the development of effective recovery plans for their information resources. With the increasing reliance on technology and digital information in academic institutions, the risk posed by disasters, including cyberattacks, natural calamities, and data breaches, has become a growing concern.

Preliminary investigations by the researcher indicate that there is limited research regarding the information resources vulnerable to disasters and the recovery plans in institutions of higher learning in Kebbi State. For example, in the institution where the researcher is employed, the library has suffered multiple fire incidents, having been burnt down approximately three times consecutively, highlighting the severity of vulnerability to disasters. Given these challenges and vulnerabilities, there is a pressing need to focus on research in this context. It is against this background that the study investigates information resources vulnerable to disasters and disaster recovery plans in academic libraries of institutions of higher learning in Kebbi State, with a view to proffering useful recommendations to address the challenges.

Research questions

The study was guided by the following research objectives:

1. What information resources do Librarians describe as vulnerable to disasters in academic libraries of institutions of higher learning in Kebbi State?
2. What are the recovery plans for the information resources available in libraries of institutions of higher learning in Kebbi State?

Review of Related Literature

Academic libraries in higher learning institutions hold a diverse range of information resources, including printed materials, digital collections, and archival documents, all of which face various disaster risks. Printed resources, such as books, journals, and manuscripts, are particularly vulnerable to physical damage from natural disasters like floods, fires, and termite infestations. These disasters can cause irreversible damage or deterioration, threatening the preservation of valuable academic resources. Aboyade *et al.* (2021); Makinde and Maimako (2025) point out that environmental factors such as humidity, mold, and poor storage conditions further exacerbate the degradation of these physical materials.

In addition to physical resources, digital information assets are increasingly integral to academic libraries, yet they face their own set of vulnerabilities. Makinde and Maimako (2025) emphasize that digital collections such as e-books, online journals, and databases are highly susceptible to cyber threats like hacking, data breaches, and system failures. Furthermore, disasters such as power outages, hardware malfunctions, and software failures can jeopardize access to these resources. The growing reliance on digital resources calls for libraries to implement robust cybersecurity measures, including regular backups, firewalls, and encryption systems.

Archival documents represent another critical category of information resources at risk in academic libraries. These materials, often unique and irreplaceable, are highly susceptible to environmental damage such as water, fire, and mold. Chigwada and Ngulube (2025) highlight that archival materials are frequently overlooked in disaster preparedness and recovery plans, leaving them vulnerable to irreversible damage. As such, libraries in Kebbi State must develop comprehensive disaster management strategies to ensure the preservation of their diverse

information assets and the continuity of academic services (Oyeniran, 2023; Akhshik & Beglou, 2023).

Recovery planning in academic libraries is a vital component of disaster management, ensuring the swift restoration of services and preservation of resources after a disaster. A structured recovery plan is essential to mitigate long-term damages and maintain continuity, especially in environments where physical and digital assets are at risk. According to Achmad (2023) and Akinola (2022), effective recovery involves not only procedural steps to salvage physical materials but also strategies for restoring digital assets, underscoring the importance of integrating data backup systems and IT infrastructure into modern recovery plans. These scholars highlight that libraries must consider both human capacity and technological resilience when formulating recovery strategies. Ansari *et al.* (2024) emphasize that recovery planning must be proactive, encompassing damage assessments, restoration processes, and clear staff roles to ensure timely and efficient recovery.

This highlights the critical need for a systemic approach to recovery, one that combines human training, technological investments, and institutional commitment to ensure that libraries can effectively resume operations and protect valuable resources in the aftermath of a disaster.

Methodology

The study employed interpretivist research paradigm for the study. Qualitative method and phenomenological research design were used. The population consists of six heads of libraries in the institutions, selected through purposive sampling, and data was collected via semi structured interviews. Thematic analysis with NVivo 12 was used for data analysis.

Presentation of Results

Figure 1: Figure showing information Resources vulnerable to disaster

1. What information resources are vulnerable to disasters in academic libraries of institutions higher learning in Kebbi State.

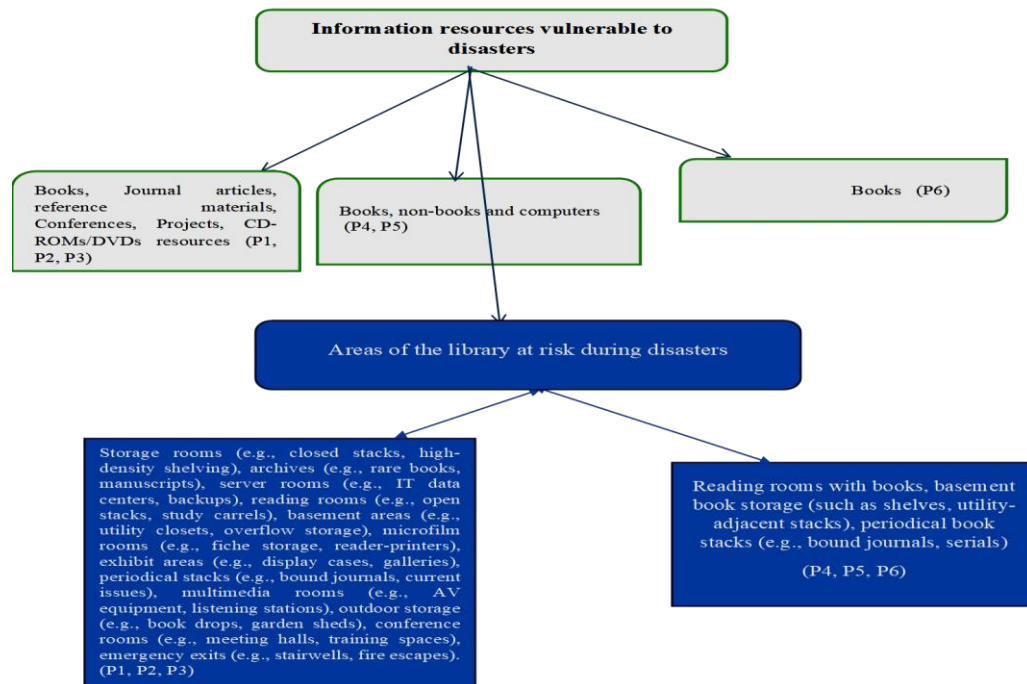
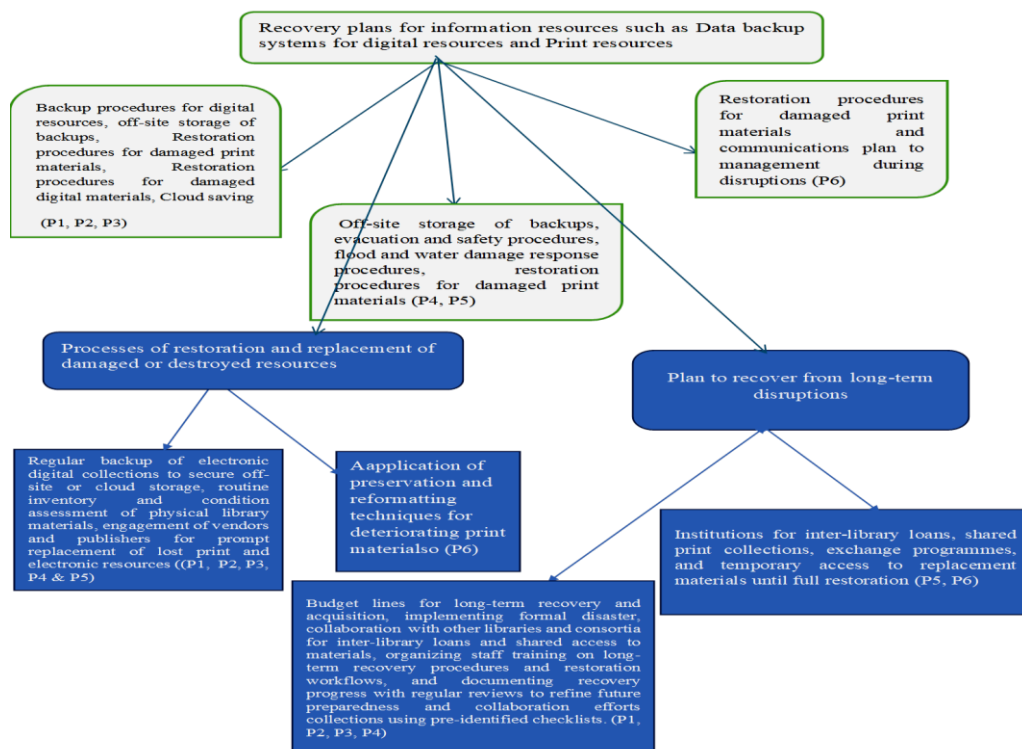


Figure 2: Figure showing recovery plans for information resources

2. What are the recovery plans for the information resources available in libraries of institutions of higher learning in Kebbi State?



Discussion of Findings

1. Information resources that are vulnerable to disasters in academic libraries of institutions of higher learning

The findings indicate that a wide range of library information resources are vulnerable to disasters, including books, journals, reference materials, conference papers, student projects, CD-ROMs/DVDs, non-book materials, and computer systems. Both print and electronic resources are highlighted as being at risk, with books receiving particular attention for their vulnerability. Key areas of the library exposed to disasters include storage rooms, archives, server rooms, reading rooms, basements, periodical stacks, microfilm and multimedia rooms, exhibit areas, outdoor storage, conference rooms, and emergency exits. Repeated emphasis is placed on spaces with high concentrations of materials, such as reading rooms, basement storage, and periodical stacks, as requiring special attention in disaster preparedness. This aligns with Jamali and Asadi (2019), who noted that information resources, regardless of format,

are susceptible to physical, environmental, and technological threats. Similarly, Feather (2022) and Flaherty (2023) emphasize that books and paper-based materials are particularly at risk due to their sensitivity to fire, water, and mishandling, which supports the study's emphasis on books as the most vulnerable resources. The exposure of critical library spaces such as storage rooms, archives, server rooms, basements, and periodical stacks further corroborates studies by Garnett *et al.* (2018) and Ilo *et al.* (2018), which identified high-density storage and basement areas as disaster-prone zones requiring priority attention in preparedness planning.

2. Recovery plans for the information resources available in academic libraries of institutions of higher learning

The findings reveal that libraries in Kebbi State have recovery plans to protect both digital and print resources, including data backup systems, off-site and cloud storage, and restoration procedures for damaged materials. Evacuation protocols, flood and water damage responses, and communication plans ensure staff safety and coordinated action during emergencies. Routine inventory checks, engagement with vendors, and preservation and reformatting techniques help maintain the accessibility and longevity of collections. Long-term recovery is supported through budget allocations, staff training on recovery workflows, and collaboration with other libraries for inter-library loans, shared collections, and temporary access to replacement resources, ensuring that services and collections can be efficiently restored after any disruption. The existence of data backups, cloud and off-site storage, restoration procedures, and collaborative recovery strategies supports global best practices for disaster recovery in libraries (Beattie & Shandrowski, 2021; Feather, 2022). The use of preservation techniques, inventory checks, and inter-library collaboration aligns with Galloup (2016) and Garnett (2021), who emphasized shared resources and partnerships as effective

recovery mechanisms. These findings indicate a proactive approach comparable to international standards, although sustainability depends on consistent funding and staff capacity.

Recommendations

The study offers the following recommendations:

1. Libraries should prioritize the safeguarding of both physical and digital resources by implementing advanced storage solutions, fire- and water-proof facilities, and regular environmental monitoring to reduce vulnerability to disasters.
2. Libraries should strengthen recovery mechanisms by implementing cloud-based backups, digital redundancies, and formal collaboration with other libraries to ensure quick access to replacement resources in emergencies. Additionally, crisis management protocols should include emergency staffing plans, security reinforcement, and contingency access measures to maintain service continuity during social or political unrest.

Conclusion

The study concludes that libraries in institutions of higher learning in Kebbi State face significant vulnerabilities in both print and digital information resources, with books, journals, archives, and IT systems being most at risk. Recovery strategies such as inventory checks, preservation techniques, cloud storage, and inter-library collaboration are in place and align with international best practices; however, their effectiveness is often constrained by limited funding, staff capacity, and institutional support. Overall, the study highlights the importance of proactive, well-resourced, and consistently implemented disaster recovery measures to safeguard information resources and ensure continuity of library services.

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