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Disaster Risk Management in Libraries and Information Centers: Global Strategies, Challenges, Policy and Recommendations

Kayode Sunday John Dada[1*], Jumare Mohammed Hamza[1], Hafsat Aliyu Mohammed[1]

[1] University Library, Federal University of Education, Zaria, Kaduna State, Nigeria; kayodescholar@gmail.com (D.K.S.J); jumarem2@gmail.com (J.M.H); hafsataliyu82@gmail.com (H.A.M).

[*] Correspondence: kayodescholar@gmail.com; tel.: +234)7030066180.

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ABSTRACT

Libraries and Information Centers, as custodians of information, knowledge, and cultural heritage, face significant risks from disasters that threaten their collections, operations, and the communities they serve. This paper examines disaster risk management (DRM) in libraries and information centres by defining disaster risk and DRM, identifying key DRM approaches specific to these institutions, and outlining measures for safeguarding library resources. It also analyses the significant challenges libraries face in implementing effective DRM and offers actionable recommendations to strengthen their resilience. Emphasis is placed on the critical need for proactive disaster preparedness, including forging strong partnerships with organisations such as the Nigerian Environmental Management Agency (NEMA) to facilitate emergency services, resource sharing, and expertise exchange, as well as collaboration with the British Library to promote regular, practical training sessions on disaster response and recovery for libraries and information centres in Nigeria. Furthermore, the study emphasises the importance of proactive policy development, continuous capacity building, and the adoption of technology-driven solutions to enhance disaster resilience. Through these strategic initiatives, libraries can better safeguard their invaluable assets and maintain their crucial role in community recovery and the preservation of knowledge.

KEYWORDS

Disaster risk management; libraries; information centres; disaster preparedness; resilience strategies; emergency response; policy recommendations; developing countries.

1. Introduction

Libraries serve as vital repositories of information, preserving both physical and digital resources for education, research, and cultural heritage. However, they are vulnerable to natural, technological, and human-induced disasters that can disrupt services and destroy collections. Disaster risk management (DRM) has emerged as a crucial framework for mitigating these threats. This paper defines disaster risk and discusses Disaster Risk Management (DRM) types in libraries, explores measures to secure resources, and critically analyses challenges and recommendations.

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Libraries are defined as critical community resilience hubs that leverage their infrastructure and resources to support disaster risk management by providing safe spaces, access to information, and recovery assistance during and after disasters (Pathak, 2019; Bansal, 2015). This role extends beyond traditional functions, positioning libraries as active participants in community preparedness and response. In DRM, libraries are characterised as institutions responsible for safeguarding vulnerable cultural and intellectual assets against disasters, requiring proactive measures like risk assessments and preservation strategies to mitigate loss (Smith & Kostelecky, 2021; Brender & Markov, 2013). This definition emphasises their protective duty toward irreplaceable collections. The importance of libraries and information centres' preparedness for disasters and prevention is crucial, as they significantly impact the preservation of intellectual content for current and retrospective information seekers and users.

Consequently, libraries are recognised as key players in disaster risk management by serving as trusted sources of information, disseminating disaster preparedness knowledge, and facilitating communication between authorities and the public (Falcao et al., 2024). This role underscores their capacity to educate and empower communities. In this context, libraries within the DRM framework are regarded as adaptive organisations that integrate risk reduction, response, and recovery into their operational models, ensuring service continuity and resource accessibility despite the impacts of disasters (Johnson & Lee, 2025). This definition emphasises their evolving, resilient nature.

However, disaster risk refers to the potential loss of life, injury, or damage to assets resulting from the interaction of hazards, vulnerability, and exposure within a specified area over a specific period (UNDRR, 2017). In the library context, disaster risk encompasses the likelihood of events such as floods, fires, earthquakes, cyber-attacks, or theft impacting collections, infrastructure, and users. Vulnerability stems from factors such as poor building design, inadequate preservation techniques, or a lack of preparedness, which exacerbate this risk. At the same time, exposure pertains to the location of library assets in hazard-prone areas (Robertson, 2015).

Disaster risk management (DRM) systematically applies policies, strategies, and practices to prevent new risks, reduce existing risks, and manage residual risks, thus enhancing resilience and minimising disaster losses (UNDRR, 2017). For libraries, DRM involves planning, organising, and implementing measures to protect resources and ensure service continuity before, during, and after a disaster (Bansal, 2015). Disaster risk management in libraries and information centres is the systematic process of identifying, assessing, and mitigating risks posed by natural or human-induced disasters—such as fires, floods, or theft—to protect collections, infrastructure, and services (Sudar, Cvetković, & Ivanov, 2024; Jovičić, Gostimirović, & Milašinović, 2024; Kabir, Tanvir, & Haque, 2022; Kaur, 2020). It emphasises proactive planning, staff training, and resource allocation to minimise vulnerability and ensure continuity of access to information within library operations (Brown, 2018; Ayoung et al., 2016).

The importance of libraries and information centres' response and recovery is fundamental to ensuring disaster risk management (DRM) policies, plans, and actions are designed to prepare for, respond to, and recover from disasters. They must ensure that library and information professionals are well-equipped with contingency plans, emergency response teams, and post-disaster restoration efforts to safeguard both physical and digital resources, thereby ensuring that libraries remain functional hubs for knowledge dissemination (Issa e*t al.,* 2016; Velasquez *et al.,* 2016). With that, Libraries and Information centres will need to take a proactive step in strengthening the implementation of DRM Policy (Disaster Prevention and Mitigation, Disaster Preparedness, Disaster Response and Disaster Recovery and Rehabilitation) to ensure the safety of every individual, intellectual property in libraries and information centres in the community and also reduce natural and man-made disaster risks.

To guide this study and provide a structured framework for analysis, several research questions have been formulated. These questions aim to explore global practices, collaborative efforts, prevalent strategies, and challenges related to disaster risk management (DRM) in libraries and information centres. They serve as the foundation for investigating how institutions can better prepare for, respond to, and recover from various disaster scenarios:

- What do libraries and information centres employ the key strategies globally for effective disaster risk management?
- How do libraries collaborate with emergency organisations (e.g., NEMA, FEMA) and international partners (e.g., British Library) to enhance DRM?
- What preventive, reactive, and integrated DRM approaches are most prevalent?
- What are libraries and information centres' primary challenges in implementing disaster risk management?

2. Methodology

This comprehensive study employed a descriptive qualitative research approach to synthesise a broad spectrum of global knowledge on disaster risk management tailored explicitly for libraries and information centres. The research aimed to identify effective strategies, highlight key challenges and provide practical recommendations that can significantly enhance the resilience of these vital institutions in the face of unforeseen disasters.

To achieve this, a meticulous multi-stage screening process was implemented for the selection of high-quality and relevant literature, including peer-reviewed articles, insightful case studies (notably regarding funding constraints as discussed by Zaveri in 2024; Ebijuwa & Oyelude in 2016; Velasquez et al. in 2016; along with aspects of technological resilience in the UK as noted by Brown in 2018), as well as technical reports and regulatory documents originating from a diverse array of regions including Africa, North America, Europe, Asia, and Oceania. This careful selection process ensured a rich diversity of geographical and institutional perspectives, as well as varying disaster contexts. The literature was sourced from reputable academic databases, including Scopus, Web of Science, Library and Information Science Abstracts (LISA), Emerald Insight, and Google Scholar, as well as specific Disaster-Specific Repositories, thereby strengthening the overall research framework.

3. Reviews on Disaster Risk Management (DRM) Strategy

National agencies and researchers worldwide have conducted studies on disaster risk management (DRM) to promote resilient, stronger, and proactive DRM governance in all organisations. Disaster risk management in libraries involves a holistic approach that integrates risk assessment, prevention, preparedness, response, and recovery strategies. It aims to reduce the impact of disasters on library assets and services through technological innovation, stakeholder collaboration, and resilience-building measures tailored to local and global disaster profiles (Echezona *et al.*, 2018).

According to Al-Malawi, El-Mougher and Al-Agha (2021), in their study on the role of the Al-Shifa Medical Complex administration in evacuation and Sheltering Planning, due to the suffering of the Gaza Strip from repeated attacks by the Israeli occupation and the escalation of such attacks over the past ten years. Their study employed the content analysis method and a Descriptive approach for data collection, which involved observation (field visits), personal interviews with stakeholders, and a risk analysis of the Al-Shifa Medical Complex.

Their findings reported that Quick response in implementing evacuation mechanisms is critical to the plan's success and saving lives. They demonstrated that planning for evacuations and sheltering is among the top priorities of the Al-Shifa Complex Administration and the General Administration of Hospitals and that the Al-Shifa Complex Administration has prepared a comprehensive evacuation plan, updated annually. This shows that having a risk analysis policy in place by libraries and information centres will provide adequate measures to address crises and disasters, thereby protecting the lives and property of library collections.

Similarly, the study of Olawuni, Olowoporoku, and Daramola (2021) examined the determinants of residents' participation in disaster risk management (DRM) in Lagos Metropolis, Nigeria, a meg-

acity with over 20 million residents vulnerable to floods, fires, and building collapses due to rapid urbanisation and environmental degradation. They employed a multi-stage sampling design, stratified Lagos into island and mainland clusters, randomly selecting two wards from each of the six Local Government Areas (LGAs). Systematic sampling targeted every 10th residential building, yielding 474 valid questionnaire responses from 501 sampled buildings. Their study measured disaster awareness across 15 hazard types via Disaster Awareness Indexes (DAIs) on a five-point Likert scale; they reported that limited DRM knowledge (31.2% island, 72% mainland) and training (68.4% untrained), with 75.9% of trained residents engaging in DRM activities like community awareness (42.8%) and prevention projects (41.9%). However, 78.5% reported no local DRM agencies. ANOVA revealed significant differences in DRM participation by place of residence, age, income, length of residence, and educational status, but not gender or household size. By addressing the identified institutional gaps and promoting information sustainability, libraries and information centres can enhance community resilience, reduce disaster losses, and support sustainable development in Lagos and similar urban contexts, aligning with the study's call for a shift from reactive to proactive disaster risk management (DRM) strategies.

The study by Balanggoy (2024) investigated the implementation of disaster risk reduction and management (DRRM) in secondary public schools in Benguet, Philippines, across four thematic areas—prevention and mitigation, preparedness, response, and recovery and rehabilitation — utilising a descriptive quantitative approach. The study surveyed 18 schools. They used descriptive statistics, weighted means, and the Kruskal-Wallis Test to analyse the extent of implementation, variations across municipalities, and challenges faced. Their research highlighted a high level of DRRM implementation across prevention and mitigation (mean = 3.28), preparedness (3.36), and recovery and rehabilitation (3.33), but a moderate level in disaster response (3.20), alongside challenges such as insufficient budgets (14.66%), overburdened coordinators (13.79%), and weak coordination with disaster management agencies (5.17%). These findings underscore the critical role of libraries as community hubs for knowledge dissemination, training, and coordination.

By addressing the identified gaps, libraries and information centres can support educational continuity, reduce vulnerabilities, and contribute to safer communities, aligning with the Philippines' 2011–2028 National Disaster Risk Reduction and Management (NDRRM) Framework.

Kumar *et al.* (2020) investigated the Indicator-Based Assessment of the Integrated Flood Vulnerability Index for Brunei Darussalam. Their study employed an integrated vulnerability approach, weighted by the Iyengar and Sudarshan method, and incorporated it into a composite Flood Vulnerability Index (FVI) using ArcGIS 10.4. They reported that data from historical records shows that (70 people across 10 families per district), and interpolation techniques like Inverse Distance Weighting (IDW) for rainfall have limited district-level data. They also found that the Tutong district had the highest vulnerability (7.5%, moderate), followed by Temburong (4.3%, low). In comparison, Belait had the lowest vulnerability (0.4%), attributed to its high forest cover and canalisation. Brunei-Muara demonstrated low susceptibility due to its high literacy rate, low unemployment rate, and strong economic factors. Libraries and information centres can archive and disseminate valuable resources for researchers, policymakers, and disaster management professionals, using the study recommendations to support community engagement, advocate for flood resilience policies, and promote community resilience through knowledge dissemination.

Similarly, Ivanov (2024) examined the state of disaster risk reduction (DRR) and disaster risk management (DRM) in North Macedonia, emphasising theoretical, normative, and institutional aspects aligned with international frameworks, such as the Sendai Framework. Their findings highlighted inefficiencies, coordination gaps, and resource constraints in the DRR system, proposing recommendations to enhance preparedness, response, and recovery. This study is significant for libraries and information centres as it underscores their potential role as critical hubs for disseminating disaster risk reduction (DRR) knowledge, supporting community resilience, and addressing institutional gaps in disaster management. Libraries and information centres can leverage their accessibility and resources to bridge information gaps, foster education, and facilitate interagency collaboration, and the need for the creation of robust early warning systems, data-driven risk assessments, and public awareness to address challenges such as insufficient coordination, limited expertise, and resource

constraints in ensuring they provide access to digital platforms for disseminating real-time disaster information and reduce vulnerabilities and support proactive disaster management.

The study by Cvetković, Renner, and Jakovljević (2024) offers a comprehensive analysis of industrial disasters, examining their causes, consequences, and strategies for enhancing resilience. Their review article is significant for libraries and information centres as it underscores their critical role in disaster risk management (DRM) by serving as knowledge hubs for industrial disaster preparedness, response, and recovery. Their study highlights the multifaceted nature of industrial disasters—chemical spills, explosions, nuclear accidents—and their human, economic, and environmental impacts, drawing on historical cases such as Seveso (1976), Bhopal (1984), Chornobyl (1986), and Fukushima (2011). This study emphasises the importance of libraries and Information Centers to bridge knowledge gaps, foster dialogue among engineers, safety managers, and policymakers, enhance community resilience, and support intersectional collaboration in high-risk industrial contexts.

According to Cvetković *et al.* (2024), the complex interplay of human, technical, and organisational factors in industrial disasters offers libraries and information centres a strategic opportunity to enhance DRM. By serving as resource hubs, training centres, and collaboration platforms, libraries can address the identified research gaps—human errors, weak safety cultures, and inadequate regulations. These efforts align with global frameworks, such as the UNISDR, positioning libraries as vital contributors to building resilient communities. Through targeted actions, libraries can mitigate the health, economic, and environmental impacts of industrial disasters, fostering a proactive approach to safety and recovery.

4. Types of Libraries Disaster Risk Management

Libraries employ various digital rights management (DRM) approaches, depending on their resources, location, and mission. Three primary types are identified in the literature:

- Preventive DRM: This focuses on reducing the likelihood of disasters through proactive measures. Examples include installing fire suppression systems, waterproofing storage areas, and digitising collections to reduce physical vulnerability (Zaveri, 2014; Pathak, 2019).
- Reactive DRM: This involves response and recovery actions post-disaster, such as salvaging water-damaged books, restoring digital backups, or relocating services. Studies from typhoon-affected libraries in the Philippines highlight the role of reactive DRM in post-disaster recovery (Velasquez *et al.*, 2016).
- Integrated DRM: A holistic approach combining prevention, preparedness, response, and recovery. It emphasises resilience-building through staff training, risk assessments, and community collaboration, as seen in Australian libraries following the 2018 wildfires (Brown, 2018; Robertson, 2015).

Each type reflects a library's capacity and strategic priorities, with integrated DRM increasingly favoured for its comprehensive scope (Ranke, 2016).

3.3 Measures of Securing Library Resources

Securing library resources against disasters requires a multifaceted approach. Key measures include:

- Risk Assessment: Regular evaluations to identify potential hazards (e.g., water leaks, faulty wiring) and prioritise mitigation efforts in libraries (Rutto & Otike, 2016; Velasquez *et al.*, 2016).
- Physical Protection: The installation of fire alarms, flood barriers, and secure shelving protects physical collections in all libraries and information centres, which is crucial to safeguarding physical collections against fire, theft, mutilation, and disasters (Pathak, 2019).

- Digital Backups: Digitising library information resources and their materials and storing them in cloud-based systems will ensure data preservation against physical loss when libraries and information centres face such a threat (Brender & Markov, 2013).
- Staff Training: Equipping librarians with disaster response skills is essential, as it enhances preparedness and recovery efficiency for the protection and risk management of library resources and facilities (Bansal, 2015).
- Insurance: Library management must ensure adequate financial protection through insurance policies to mitigate economic losses from disasters (Robertson, 2015). When implemented effectively, these measures reduce vulnerability and enhance library resilience for current and retrospective information users.

5. Case Studies of Disaster Risk Management in Libraries and Information Centers

Based on the column showed that in Nigeria, the University of Jos experienced devastating fire disasters in 2013 and 2016, which destroyed significant portions of its library collections. The 2016 fire at the Naraguta campus library highlighted the inadequacy of disaster risk management practices. Akintunde (2016) notes that, despite previous incidents, the library lacked essential equipment, such as smoke detectors and fire sprinklers, and staff were insufficiently trained for emergency response. Post-disaster assessments revealed inadequate funding, poor disaster awareness among stakeholders, and delayed recovery efforts, resulting in the loss of thousands of volumes (Akintunde, 2016). A study by Ilo *et al.* (2018) further indicates that while Nigerian libraries are somewhat prepared for fire disasters, financial constraints limit comprehensive DRM implementation, leaving them vulnerable to other risks like floods and vandalism.

Table 1. Case Studies of Disaster Risk Management in Libraries**.**

Country	Disaster Type	Institutional Setting	challenges	Outcome	Implications for libraries in both developing and developed contexts
Nigeria	Library Fire Disasters (2016)	University of Jos	Lack of essential equipment like smoke detectors and fire sprinklers, staff were insufficiently trained for emergency response inadequate funding and poor disaster awareness among stakeholders delayed recovery	The lack of financial constraints limits comprehensive DRM implementation, leaving it vulnerable to other risks, such as floods, vandalism, and theft, which can result in the loss of thousands of volumes.	Library management must train their staff in Disaster Risk Management Strategies and ensure they have sound skills in using fire extinguishers in an emergency.
USA	Hurricane Harvey and University Libraries (2017)	Libraries in Texas, including the University of Houston Libraries.	Availability of robust DRM plan for pre-disaster measures such as elevating critical infrastructure and digitising vulnerable collections	During the hurricane, emergency response teams utilised back-up power systems and relocated materials to safer zones. Post-disaster recovery involved collaboration with federal agencies like FEMA and the use of grant funding to restore damaged facilities	Integrating technology and institutional support into disaster risk management (DRM) practices and disaster preparedness training for librarians is crucial.

UK	British Library Flood Preparedness (2019-2020)	British Library, UK	Availability of an advanced DRM framework, particularly in response to flood risks exacerbated by climate change.	Brown (2018) outlines how the library conducted risk assessments to identify flood-prone areas and invested in water-resistant storage solutions and automated monitoring systems.	The library should ensure that adequate measures are in place for heavy rainfall. To prevent significant damage, the library must have contingency plans, including staff drills and off-site backups, in place. The National Library associations must be ready to train librarians in providing disaster management guidelines and training.
Canada	University of British Columbia Library Wildfire Response (2021)	University of British Columbia Library	UBC implemented a DRM strategy that included fireproof storage, regular risk assessments, and partnerships with local emergency services.	The library activated its disaster response team, evacuated critical materials, and relied on cloud-based backups to maintain digital access (UBC Library, 2021).	The Need for Libraries and Information Centers to integrate community resources and digital resilience into library DRM, along with grant-funded disaster planning.

Another study revealed that Hurricane Harvey in 2017 had a severe impact on libraries in Texas, including the University of Houston Libraries. Prestamo (2018) documents how the university implemented a robust DRM plan that included pre-disaster measures such as elevating critical infrastructure and digitising vulnerable collections. During the hurricane, emergency response teams utilised backup power systems and relocated materials to safer zones. Post-disaster recovery involved collaboration with federal agencies, such as FEMA, and the use of grant funding to restore damaged facilities (Prestamo, 2018). This case highlights the USA's emphasis on integrating technology and institutional support into disaster recovery management (DRM), a practice further explored by Miller (2016), who underscores the importance of disaster preparedness training for librarians.

The British Library in the UK has developed an advanced digital rights management (DRM) framework, particularly in response to flood risks exacerbated by climate change. Brown (2018) outlines how the library conducted risk assessments to identify flood-prone areas and invested in water-resistant storage solutions and automated monitoring systems. In 2019-2020, these measures proved effective when heavy rainfall threatened London; the library's contingency plans, including staff drills and off-site backups, prevented significant damage (Brown, 2018). The UK's approach reflects a proactive stance on DRM, with Corrall *et al.* (2016) emphasising the role of national library associations in providing disaster management guidelines and training.

In 2021, the University of British Columbia (UBC) Library in Canada faced wildfire risks due to extreme weather conditions in British Columbia. Adamo (2016) and subsequent updates in library reports (UBC Library, 2021) detail how UBC implemented a DRM strategy that included fireproof storage, regular risk assessments, and partnerships with local emergency services. During the 2021 wildfire season, the library activated its disaster response team, evacuated critical materials, and relied on cloud-based backups to maintain digital access (UBC Library, 2021). This case illustrates Canada's focus on integrating community resources and digital resilience into library disaster recovery management (DRM), a trend supported by Ye*h et al.* (2016), who advocate for grant-funded disaster planning.

Based on the above case studies, libraries and information centres must be prepared to support staff with funds for Disaster Preparedness and recovery training programmes and implement an adequate DRM policy.

6. Causes of Disasters in Libraries

Libraries, as vital repositories of knowledge and culture, face a range of potential threats that can compromise their collections, services, and infrastructure. Disasters—whether natural or human-made—can have devastating consequences, particularly in institutions that lack proper risk mitigation strategies (Cvetković, 2019; Cvetkovic & Martinovic, 2020; Cvetković et al., 2022). Understanding the various causes of these disasters is essential for developing effective preparedness and response plans.

1. Natural Hazards: Libraries are vulnerable to natural disasters, including floods, earthquakes, and hurricanes, which can damage infrastructure and collections, particularly in areas with high geographical risk (UNDRR, 2017).
2. Poor Infrastructure Maintenance: Ageing buildings with neglected maintenance—such as leaking roofs or faulty electrical systems—heighten the risk of disasters, including water damage or fires (Pathak, 2019).
3. Human Error: Accidental actions, such as improper handling of materials or failure to follow safety protocols, can lead to fires, spills, or equipment malfunctions (Smith & Kostelecky, 2021).
4. Technological Failures: Libraries' dependence on digital systems makes them vulnerable to cyber attacks, server crashes, or power outages, risking data loss (Falcao e*t al.,* 2024).
5. Lack of Preparedness: Inadequate disaster planning and training leave libraries ill-equipped to prevent or respond to emergencies, exacerbating damage (Robertson, 2020).
6. Theft and Vandalism: Intentional human acts, such as theft of rare books or vandalism, constitute disasters that compromise library resources and security (Johnson & Lee, 2025).

7. Strategies for addressing the Causes of Disaster

A comprehensive approach that combines preventive, educational, and technical measures is essential to effectively reduce the risks and impacts of disasters in libraries. The active involvement of key institutions, local government authorities, and security experts is crucial for successfully implementing protective strategies. Below are key strategies aimed at addressing the major causes of disasters in libraries:

1. Mitigation of Natural Hazards: The National Emergency Management Agency (NEMA) and state-level disaster management authorities, in collaboration with Library Management, need to identify vulnerabilities to floods, earthquakes, and other hazards by Implementing structural reinforcements, such as flood barriers and seismic retrofitting, to reduce exposure to natural disasters. Engage local communities and disaster management experts to ensure culturally and environmentally appropriate solutions (UNDRR, 2017).
2. Enhancement of Library Infrastructure Maintenance: National Emergency Management Agency (NEMA), in partnership with Local government agencies, regular inspection and maintenance schedules for all library facilities and infrastructure with priority for upgrades to electrical and plumbing systems to prevent fires and leaks, ensuring compliance with national safety standards (Pathak, 2019).
3. Training of Library Staff to Reduce Human Error: Continuous training programs, incorporating simulation and certifications in safety protocols, material handling, and emergency procedures, will be conducted for library staff in coordination with NEMA and fire service agencies. This effort aims to minimise accidental damage and enhance staff preparedness (Smith & Kostelecky, 2021).
4. Strengthening Technological Resilience: In alignment with national cyber security frameworks, Nigeria's National Information Technology Development Agency (NITDA) provides funds for procurement, maintenance, and regular check of robust cyber security equipment

and facilities with uninterruptible power supplies to protect digital assets from technological failures, cyber attacks, and power outages (Falcao *et al.*, 2024).

5. Development of Comprehensive Disaster Preparedness Plans: Local disaster management committees and library management boards, in consultation with the National Emergency Management Agency (NEMA), create regular updates of disaster management plans and policies to enhance emergency readiness and response in maintaining library information resources (Robertson, 2020).
6. Installation of Security Facilities: The Library Management, in partnership with the Nigeria Police Force and private security firms, installs surveillance systems, access controls, and anti-theft devices to deter vandalism and theft, thereby protecting valuable collections (Johnson & Lee, 2025). By involving key stakeholders, such as NEMA, NITDA, local governments, and community organisations, these strategies ensure a coordinated and sustainable approach to safeguarding Nigeria's libraries and information resources against diverse threats.

8. Challenges in Disaster Risk Management (DRM) by Libraries

Despite advances, libraries and Information centres face significant obstacles in DRM implementation:

- Lack of Awareness: Many librarians underestimate disaster risks, neglecting preparedness plans due to inadequate plans and policy (Rutto & Otike, 2016).
- Insufficient Funding: Budget constraints limit investments in protective infrastructure and training for libraries and information centres due to library policy for information provision. Libraries are not business-oriented organisations that generate revenues to manage their resources and infrastructure, but rather, they await budgetary allocation from the parent organisation, which is often insufficient (Velasquez e*t al.*, 2016).
- Inadequate Training: Some staff working in libraries often lack the skills to respond to emergencies due to a lack of disaster preparedness plans and policies, as noted in Nigerian university libraries (Ebijuwa & Oyelude, 2016).
- Technological Dependence: There is an over-reliance on digital systems without adequate measures to curb insecurity and theft, which increases vulnerability to cyberattacks and power failures (Han *et al.*, 2016).
- Policy Gaps: Most libraries and information Centers have inadequate formal Disaster Risk Management (DRM) policies, which hinder coordinated efforts, particularly in developing nations like Nigeria (Falcao *et al.*, 2024).
- Human Factors: Library management and staff exhibit strong apathy and resistance to planning, which is driven by competing priorities that undermine DRM efforts (Robertson, 2015).

9. Conclusion

Disaster risk management (DRM) is indispensable for libraries and Information centres to protect their resources and maintain service continuity. By understanding disaster risk and adopting tailored disaster risk management (DRM) strategies—preventive, reactive, or integrated—libraries and information centres can mitigate threats. Measures such as risk assessments, physical safeguards, and digital backups are critical; however, challenges persist, including funding shortages and inadequate training. Implementing the proposed recommendations can strengthen library resilience, ensuring they remain vital community assets in the face of disasters. Future research should investigate the effectiveness of integrated DRM in various library settings, particularly in under-resourced regions.

Strengthening disaster risk management in libraries and information centres is not merely a protective measure but a strategic investment in societal resilience. By embracing a culture of preparedness, libraries can minimise service disruptions, safeguard cultural heritage, and continue serving as

critical knowledge hubs during and after crises. Building strong collaboration networks, enhancing technological infrastructure, and institutionalising DRM policies will ensure that libraries remain steadfast pillars of community support in the face of growing disaster risks.

Recommendations for Effective Disaster Risk Management (DRM) in Libraries and Information Centers

To address these challenges, the paper proposed the following recommendations:

- Raise Awareness: The Nigerian Library Association, in collaboration with the Librarians Registration Council of Nigeria (LRCN), is organising in-house workshops and Seminars to educate librarians across Nigeria on disaster risks and DRM benefits.
- Secure Funding: The Nigerian Ministry of Education and major stakeholders, such as the Library Association in Education and Libraries, could advocate for government and institutional support to finance DRM initiatives in libraries and information centres across Nigeria.
- Promotion and Enhancement of Training Programmes: The Nigerian Ministry of Education partners with libraries, such as the British Library, to promote and develop regular, practical training sessions on disaster response and recovery for libraries and Information Centres in Nigeria.
- Diversification of Technology Use: Libraries and University Management should prioritise balancing digital and physical preservation strategies to mitigate single-point failures when necessary, particularly in Libraries and Information Centres in Nigeria, to ensure the preservation of intellectual content.
- Formulate Policies: The Ministry of Education, in partnership with collection development professionals, manages libraries and information centres to develop and establish mandatory DRM policies tailored to library contexts.
- Foster Collaboration: Strong partnerships should be formed between emergency organisations, such as the Nigerian Environmental Management Agency (NEMA), and libraries to provide emergency services and share resources and expertise. These recommendations aim to establish a proactive and resilient DRM framework for libraries.

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