

# Disaster Planning and Preparedness of Amir Ud Daula Public Library, Lucknow, Uttar Pradesh, India: A Case Study

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**Abstract:** Disasters are events that cause sudden disruption to the day-to-day functioning of a Library system. It is a bad star that happens naturally or is human-made and has a potential to cause catastrophic loss and harm not only to holdings, but also to buildings, staff, and users, and disrupt normal services for a considerable period. This study is conducted to examine the disaster management system of Amir Ud Daula Public Library, Lucknow, Uttar Pradesh. The library building is over 75 years old and has collections of more than 2 lakh books in various languages, including Hindi, English, Urdu, Arabic, Persian, Bengali, and Sanskrit. The library is in the process of digitization; it has 75000 digitized books, 2300000 digitized pages, 27000 e-journals, 300 manuscripts, and 50000 e-books. The study employs the survey method with a structured questionnaire sent to the librarian to gather comprehensive data. After analyzing data, it was found that the librarian has a high level of knowledge about disaster management plans and their implementation. Moreover, the library has an insurance policy that covers the library from earthquakes, fires, floods, and so on.

**Keywords:** Amir Ud Daula Public Library, Disaster Management, Disaster Preparedness, Disaster Planning, Disaster Mitigation, Digital Library, Public Library.

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## I. INTRODUCTION

"By failing to prepare you are preparing to fail" (Franklin, n.d.). The world faces various disasters, either natural, such as earthquakes, cyclones, storms, landslides, and others, or man-made, which include fire, terrorist attacks, short circuits, theft, etc. Disaster causes a catastrophic loss of life, property, buildings, and holdings. It happens at any time, and its result is in the form of serious destruction.

Any disaster is a bad omen for libraries and information centers, which have the potential to disturb their day-to-day functioning. Paul & Graham (1996) referred to disaster in libraries and information centers as "any incident which threatens human safety and/or damages, or threatens to damage, a library's buildings, collections (or item(s) therein), equipment and systems."

The government of India introduced the Disaster Management Act 2005 as a framework for effective and efficient response and management of the situation of disaster. The only basic motive is to minimize the impact of disasters, coordinate relief efforts, and enhance preparedness at various levels of government. In general, disaster management is a practice and process of preparedness for dealing with emergencies to ensure timely assistance and

make necessary adjustments for the most vulnerable community nation wide. "Disaster means a catastrophe, mishap, calamity or grave occurrence affecting any area, arising from natural or man-made causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area" (Bansal, 2015).

### ➤ Disaster Management

Disaster management is a critical area that requires efficient methods and techniques to address various challenges. This comprehensive assessment offers an in-depth overview of disaster management systems, methods, obstacles, and potential future paths.

According to the International Federation of Red Cross, Disaster management is "The organization and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies, in particular, preparedness, response, and recovery to lessen the impact of disasters. To understand disaster management, it is necessary to understand the concepts of vulnerability, risk, hazard, and disaster that are embedded in the process of disaster management".

➤ *Types of Disaster*

Natural disasters stem from natural processes on earth and are often preceded by natural hazards. These events, such as earthquakes or hurricanes, can cause widespread

destruction and loss of life. On the other hand, man-made disasters arise from human actions, whether intentional or unintentional, leading to significant harm to both people and property due to intent, negligence, or errors.

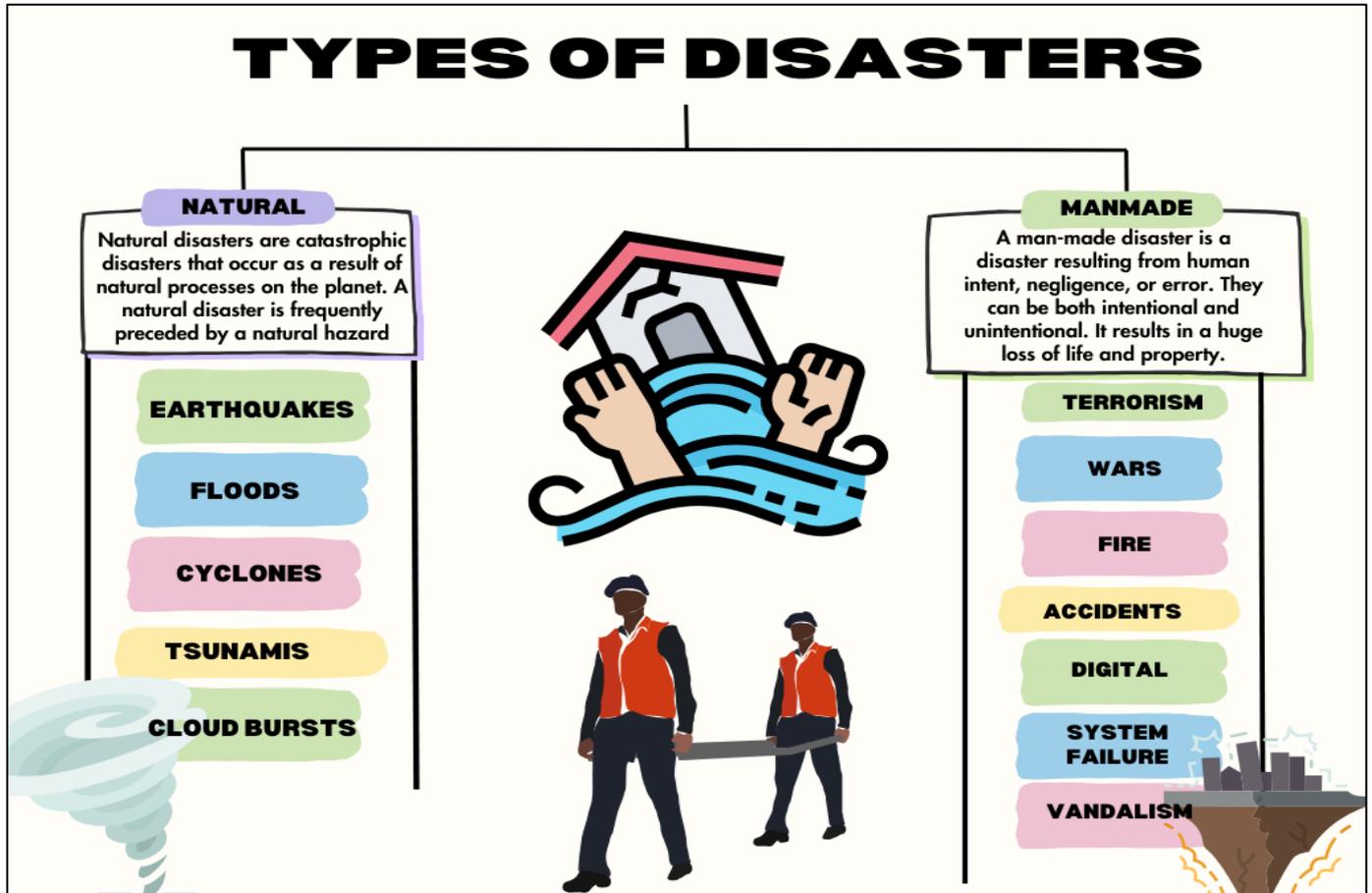


Fig 1 Types of Disaster

➤ *Cycle of Disaster Management Library*



Fig 2 Cycle of Disaster Management Library

Figure 2 represents the disaster management cycle, which shows a continuous process of Disaster, Response, Recovery, Mitigation, and preparedness. These represent the main stages of almost all current forms of disaster management frameworks aimed at reducing the impact of disasters, saving lives, and restoring affected communities to normalcy.

• *Disaster:*

Planning for disaster in the Public Libraries is one of the complex tasks. It involves quick decision-making to implement proactive measures to mitigate the vulnerable impact of hazards to ensure the safety and security of the library building, collection, staff, and users.

• *Response:*

The primary step involves protecting lives and library assets, swiftly mitigating potential harm through effective recovery initiatives. This requires activating emergency responders to evacuate staff, patrons, and materials. Library management must establish a detailed protocol for all personnel to follow during the event of a disaster.

• *Recovery:*

The recovery phase starts when the danger to human life diminishes. Its main motive is to swiftly restore the affected area to its pre-disaster state. In the reconstruction process, it's advisable to consider the property's location or the materials used in its construction.

• *Mitigation:*

It includes making quick decisions to reduce the impact of potential hazards. This stage involves assessing risks, implementing structural reinforcements, and developing emergency response protocols. Mitigation efforts aim to minimize damage to library facilities, collections, and personnel, ultimately ensuring continuity of services and preserving valuable resources in the event of a disaster.

• *Preparedness:*

It involves reading equipment and protocols for deployment during a disaster. These resources and procedures serve to lessen susceptibility to disasters, alleviate their effects, or enhance responsiveness during emergencies.

➤ *Libraries and Information Centers Affected by Disasters*

• *Chakrabarti & Pramanik (2017) have Listed Various Incidents That Affected Libraries and Information Centers, Such as:*

- ✓ The damage inflicted by Hitler on the Berlin Library.
- ✓ The Bhandarkar Oriental Research Institute in Pune suffered severe damage to thousands of manuscripts and rare books at the hands of the Sambhaji Brigade.
- ✓ The theft of Rabindranath Tagore's Nobel Prize from the Viswabharati Rabindranath Sangrahasala is another significant loss.
- ✓ The Nandigram Pataspur Library in Medinipur (East) district of Bengal.
- ✓ The Balpai Library of Hooghly.

• *Libraries Affected by Disasters*

Table 1 List of Some Libraries that are Affected by Disasters

S. No.	Name of Libraries	Cause of Disaster	Year
1	Alexandria Library	War	300 BC
2	Library of Nalanda University	Fire (Manmade)	1193
3	Library of Congress	Fire (Manmade)	1813
4	Pot Mouth Public Library	Fire (Accident)	1988
5	National Library of Iraq	Fire (Manmade)	2003
6	Libraries in Sri Lanka	Tsunami	2004
7	Hurricane Libraries, USA	Strom	2005

➤ *Amir Ud Daula Public Library*

The Amir Ud Daula Public Library, originally gifted by the Taluqdars of Awadh, has a rich history in Lucknow. It evolved from being part of the State Museum in 1882 to its establishment as the Public Library in 1910, finally moving to a purpose-built structure in 1926, inaugurated by Sir Harcourt Butler.

Amir ud Daula Public Library is situated in the Urban Residential area of Lucknow, Uttar Pradesh, India, and the library building is over 75 years old, and is made even more attractive by its multi-storied design. The library has collections of more than 2 lakh books in various languages including English, Hindi, Urdu, Arabic, Persian, Bengali, and Sanskrit. The library is in the process of digitization, it has

75000 digitized books, 23000000 digitized pages, 27000 e-journals, 300 manuscripts, and 50000 e-books.

Lucknow capital of Uttar Pradesh, is located within the Ganga-Yamuna doab region, with the Gomti River coursing through its heart. According to Dutta et al. (2010) in the year 1960, a severe flood struck Lucknow due to heavy monsoon rains and the floodwater inundated the city, causing widespread devastation to homes, infrastructure, and livelihoods, leading to significant loss of lives and assets. In view of the potential threat of disaster.

## II. REVIEW OF LITERATURE

Zaveri (2015) conducted a study on digital disaster management and its issues with little attention to libraries in India. A survey method of data collection has been used and a questionnaire was distributed among 276 libraries in the western region of India to find out the digital data protection measures taken by them. The result from the collected data indicates a lack of knowledge about handling of digital data, and inadequate digital infrastructure setup in organizations. Thus, the chances of loss of digital data are high.

Barua (2018) studied the importance of disaster management in the library and information science discipline. To find out the general awareness and general preparedness about disaster management in the college library, a survey was conducted and a structured questionnaire was distributed randomly in the selected ten colleges of Assam. The study found that the majority of the college libraries lacked disaster preparedness such as emergency exits, written disaster plans, fire alarms, and emergency power supply. The library has taken a few steps for prevention such as data backup and insurance.

Arora (2015) identified various needs and gaps in the progress made towards disaster prevention and planning in the libraries of national importance in Delhi. The study highlights that if library professionals and administrators are well aware and trained with complete support from government and international bodies, then it is possible to control any event of emergency in any library.

Sharma et al., (2018) studied the aspect of disaster management in the university libraries of Assam. The study utilized a survey method and used questionnaires and interviews as tools to collect data. The study attempted to find out the planning of libraries, the contribution of librarians and library committees in planning disaster management in libraries, preventive measures, and problems faced while implementing. The study found that the majority of the university libraries have written plans for disaster preparedness but some of the libraries indicated that they are less prepared to handle a situation during disasters.

Osaze et al., (2020) studied the disaster preparedness and prevention strategies of the University libraries of Nigeria. A questionnaire-based survey was conducted for 185 librarians of federal and state university libraries in South Nigeria to find out the types of disasters, preparedness plans of libraries, types of equipment, strategies, and challenges faced by them during the occurrence of disaster. The study revealed that 167 of the respondents indicated inadequate disaster facilities and equipment, 152 indicated inadequate implementation and enforcement of plans, 147 indicated insufficient funding, and 97 indicated there is no disaster preparedness plan available in their university library.

Superio et al., (2019) studied the disaster preparedness and management of the academic libraries of Marawi City, Lanao del Sur, Philippines. A quantitative-qualitative study of the disaster-preparedness of academic libraries in disaster-prone communities was conducted through an open-ended set of questions to find out the strengths and weaknesses of the libraries in dealing with disasters. The result showed that 77% of the city libraries were prone to disasters such as an earthquake, floods, typhoons, and termites.

## III. OBJECTIVES OF THE STUDY

➤ *The Objectives Formulated to Conduct This Study Successfully, are as Follows:*

- To identify the Amir Ud Daula Public Library ever affected by the disaster.
- To know the disaster vulnerability of the library.
- To know about the present disaster management planning of the library and the availability of its written plan.
- To know about the preventive measures used in the libraries.
- To know if the library has an insurance policy.
- To know about measures taken to protect the digital library.
- To recommend some steps to be taken in reducing vulnerability to disasters.

## IV. RESEARCH METHODOLOGY

The present study used a survey method to address the outlined objectives of the study and utilized a structured questionnaire sent to the librarian to gather comprehensive data. The study attempted to gather information regarding the disaster management system and preparedness of Amir Ud Daula Public Library, Lucknow, Uttar Pradesh, to tackle potential disasters. The study covers different issues that are related to disasters, like disaster management, disaster preparedness, disaster planning, problems faced by libraries during the implementation of disaster management planning, etc. The study was dependent on the Librarian's response.

## V. DATA ANALYSIS AND INTERPRETATION

Data analysis is the process of extracting and summarizing the essential information from data by reviewing the features and characteristics of data (Dodge, 2010). In the present study, data were collected from the Librarian of Amir Ud Daula Public Library, Lucknow. The data are presented in the table and interpreted.

➤ *Probability of Disaster Occurrence*

Table 2 Causes of Disaster that can Happen in the Library

Cause of Disaster	Less than 20%	21% to 59%	60% and above
Lightning/ Heavy rains	✓		
Collapse of whole or part of building			
Terrorism/ Bombing/ Riots			
War			
Fire		✓	
Industrial disaster			
Digital disaster		✓	
Termites/ Molds/ Fungus	✓		

Table 2 provides a breakdown of the probability of various disasters occurring within the library environment, categorized into three levels: less than 20%, 21% to 59%, and 60% and above. The table indicates that certain disasters have a high probability of occurring, with earthquakes, lightning/heavy rains, and termite/mold/fungus infestations falling into the category of less than 20%. On the other hand, causes of disasters like fire and digital disaster lies in the category of 21% to 59%, suggesting that these events are

considered significant risks and require heightened preparedness measures. On the other hand, disasters like floods, the collapse of buildings, terrorism, war, and other events may not have a chance of occurring. Whereas this interpretation underscores the importance of assessing and prioritizing disaster preparedness efforts based on the probability and potential impact of different hazards.

➤ *Potential Cause of Disaster*

Table 3 Potential Causes of Disaster Can Occur

Cause of Disaster	Yes	No
Flood	✓	
Shot Circuit		✓
Earthquake		✓
Terrorism		✓
War		✓
Fire		✓
Digital Disaster	✓	
Termite or mold or Fungus	✓	

Table 3 states potential causes of disaster that can disturb the library's functioning, highlighting that the library is susceptible to a certain extent to disasters such as, Flood, Digital Disaster, Termite or mold, or Fungus. Whereas, Shot Circuit, earthquakes, terrorism, war, and fire are not currently vulnerable at all. This assessment indicates, library has

identified and acknowledged certain risks; it may need to further assess and address vulnerabilities to other potential hazards to ensure comprehensive disaster preparedness.

➤ *Disaster Vulnerability of the Library*

Table 4 Disaster Vulnerability of the Library

Disaster Vulnerability	Yes	No
Waterproofed	✓	
Earthquake Resistant	✓	
Emergency exit	✓	
Fire Extinguisher	✓	
Fire Alarm	✓	

Table 4 portrays the disaster vulnerability assessment of the library based on predetermined parameters. The table shows the library is well-prepared and already made proactive decisions like waterproofing walls, earthquake-resistant building, emergency exits, fire extinguishers, and fire alarms. These measures suggest a proactive approach to mitigating potential risks and ensuring the safety of occupants

in the event of a disaster. By implementing these measures, the library demonstrates a commitment to disaster preparedness and resilience, thereby reducing its vulnerability to various natural and man-made hazards.

➤ *Disaster Preparedness Done by the Library*

Table 5 Disaster Preparedness of the Library

Disaster Preparedness	Yes	No
Fire Extinguishers	✓	
Fire and smoke alarms	✓	
Lightning Arrestors		✓
Smoking is not permitted in the library	✓	
Data Backup System		
Regular Pest Control	✓	
Emergency Connection to key agencies/services (Fire Station, Police Station, etc.	✓	
Waterproofing the building walls, floors, ceiling, basement, etc.	✓	
Water Sprinklers	✓	
Grills on Window	✓	
An emergency kit	✓	
Uninterrupted Power Supply	✓	
Insurance	✓	
Metal Detectors/CCTVs	✓	
Automatic tripping of electrical systems	✓	

Table 5 underscores an extensive outline of the measures taken by the library administration for the preparedness of any disaster. The majority of essential measures are presented in the list, which covers Fire Extinguishers, Fire and smoke alarms, Smoking is not permitted in the library, Data Backup System, Pest Control, Emergency Connection, Waterproofing, Water Sprinklers, Grills on Window, An emergency kit, Uninterrupted Power Supply, Insurance, Metal Detectors/CCTVs, and Automatic

tripping of electrical systems. These initiatives suggested that library administration is actively involved in mitigating potential risks and ensuring the safety, security, and daily functioning of the library. Whereas, a lack of Lightning Arrestors, which could potentially leave the library vulnerable to damage from lightning strikes.

➤ *Insurance Covered by Library*

Table 6 Insurance Covered by Library

Library Insurance Policy Covers	Yes	No
Fire	✓	
Earthquake	✓	
Floods	✓	
Riots and Vandalism	✓	
Terror Attacks	✓	
Building Collapse	✓	

The checklist of the risks covered in the insurance coverage policy is mentioned under the table 6, which reveals that the policy covers a wide range of risks like fire, natural calamities (earthquake & floods), riots & vandalism, terror attacks, building collapse, Indicating a proactive & comprehensive approach towards risk mitigation in the event

of unforeseen emergencies. By addressing a spectrum of potential risks, the library's insurance policy provides a robust safety net, enhancing its resilience and ability to recover from adverse events.

➤ *Disaster Management Activities Important for Library*

Table 7 Disaster Management Activities Important for Library

Name of Activity	Not Important	Somehow Important	Very Important
Availability of equipment/supplies			✓
Condition of Buildings			
Insurance	✓		
Preparation for Terrorist Threats	✓		
Training in Disaster Control			✓
Precautions Against Vandalism/Riots			✓
Digital Backups			✓
Termite/Mold/ Fungus Checking			✓

Every library either public, academic or special in nature must have certain documented and active plans for disaster management. Various type of plans are the deciding factors that play role in library’s robustness in handling the catastrophes. Amir-Ud-Daula public library too has some preparedness program regarding disaster handling shown in table 7. However, the perception of the personals regarding the different activities varies significantly. Some of the precautions taken such as availability of equipment/ supplies, training in disaster control, precautions against vandalism,

digital backups, and checking for biological factors like fungus and molds are considered very important by the administration while insurance and prepared for human led malice such as terrorist nuisance are marked less important for the public library. Insurance is an important precaution to be taken by any institutions neglecting which can imprint negative impact on damage control policy of the library.

➤ *Measures Taken for the Data Protection of Digital Library*

Table 8 Measures Taken for the Data Protection of Digital Library

Digital Data Protection	Tick (✓)	Digital Data Protection	Tick (✓)
Antivirus software & upgradation	✓	Firewalls & its upgradation	✓
Manual Backup	✓	Automatic Backup	
Backup on the same computer	✓	Backup on a daily basis	
Backup on a different computer in the library	✓	Backup on a weekly basis	
Backup on another computer outside the library		Monthly backups	✓
Backup on an external medium	✓	Occasional backups	

Data protection is essential for the survival of any institution. Without backed-up data, an institution seems to be paralyzed after any said catastrophe. The public library, being a custodian of local, indigenous culture and traditions, are the important pillar of societal development and cultural safeguarding. In this regard, Table 8 reflects the response of library administration for data protection. Which revealed that there are several measurements such as antivirus software and firewall upgradation to curb digital threats. Data backup is done on main computer as well as other sectional computers too, and is done manually. The nature of data backup is monthly, which is a common precaution taken by any institution. These measures act as a protective layer in library data security.

➤ Organize orientation programs or mock disaster drills under the administration of the library and information center association to educate library professionals about disaster preparedness and response protocols.

**VI. SUGGESTIONS**

With reference of present study, various suggestions were formulated that have a potential for enhancing the disaster management system of the public library.

- There is a need for a formal agreement between the urban local government body and the library to manage rainwater disposal in the vicinity, mitigating potential flood risks.
- The disaster management policy or framework has to be frequently updated and should be in alignment with national disaster policy guidelines..
- Conduct routine checks to verify the functionality and readiness of safety equipment such as fire extinguishers, emergency exits, and measures against fungal infestation.
- Address issues of fungal growth, termite infestation, and mold through the enforcement of stringent maintenance guidelines by library authorities.
- Equip the library with the necessary tools and resources to effectively combat disasters.
- Allocate funds towards enhancing security measures within the library premises.

**VII. CONCLUSION**

The public library is a social institution that has been created and maintained by society and for society to efficiently utilize its benefits and contributions to the growth and development of the nation. When any kind of disaster strikes the public library, its effect can be felt for the long term. Therefore, it becomes essential that public libraries take the issue of disaster preparedness and management very seriously. It has been revealed in this study that librarians have a high level of knowledge about disaster management plans and their implementation, also the library has an insurance policy that covers the library from earthquakes, fires, floods, and so on. Amir Ud Daula Public Library has prioritized the sections of manuscripts, digital server room, office records, other books and documents, and rare and old books/magazines to save them from the disaster in the beginning. Librarian has confidence in their staff in managing the situation during the disaster.

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