

## DISASTER MANAGEMENT OF PRINT COLLECTIONS IN ACADEMIC LIBRARIES OF ASSAM: A STUDY

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### ABSTRACT -

The main objective of this study was to find out the disaster management of print collections in academic libraries of Assam. In this connection, the study tried to investigate staff awareness about disaster and the availability and role of a disaster management plan, the challenges faced by the library professionals and their preparedness for various disaster threatening their respective libraries. For this study, the researchers used the survey method, with a Google form of questionnaire as the chief tool of data collection. The study is limited to few college and university libraries in Assam. Findings revealed that most of the library staff members of academic libraries in Assam are well aware about the potential disasters that may happen in their libraries. It was also found that except for top level library professionals of college and university libraries (25.58%) other staff members such as supporting library staff are not well aware about the role and importance of disaster management plan which serves as a guide in an emergency situation. Findings also revealed that most of the academic libraries are not well equipped to fight flood and fire disasters, though Assam is vulnerable to both floods and fires. Non availability of a formal disaster management plan is a common problem in all the academic libraries under study. Lack of appropriate knowledge on disaster management, lack of trained library staff to plan and implement and lack of a model to serve as a guide are the key factors that affect disaster management in many academic libraries in Assam.

**Keywords:** Academic Libraries; Disaster; Disaster Management; Disaster Management Plan; Disaster Preparedness.; Print Collections.

### INTRODUCTION

Assam is multi-hazard state prone to floods, earthquakes, fires, storms and landslides, besides many manmade disasters. The state of Assam falls under the seismic zone “V” making the entire state prone to earthquakes of moderate to very high intensity. The state has experienced two major earthquakes in the years 1897 and 1950.

Further, during the period of January 03, 2017, to July 07, 2022, Assam experienced more than 67 earthquakes, of which intensities ranged from 4.7 to 6.0 on the Richter scale. Similarly, floods and fires are two of the greatest potential threats to Assam. The mighty Brahmaputra and the Barak are the two major river systems in the state of Assam. These two rivers and their tributaries in Assam are liable to flooding every year, mainly because they receive heavy rainfall which causes widespread casualties such as loss and damage to properties, infrastructures, environment and disruption of essential services, besides huge loss of crops. According to the Assam flood report of Assam Disaster Management Authority, during the last five years, from 2017 to 01 July 2022, due to floods and landslides in Assam, approximately 48.07 lakhs people have been affected and more than 52 people lost their lives. Further, storms, cloudbursts, droughts, and cyclones, are annual features in Assam. In addition to these, it is also observed that socio-political unrest, and regional tensions have become regular features in recent years, in Assam. In view of all this, it is believed that the likelihood of hazards to academic libraries in Assam is fairly high. Inadequate protection against disaster may cause serious loss and damage to libraries and their print collections. Of course, the type of disaster may vary according to the geographical area and region in which the library is situated. However, the most common disasters such as floods and fires are not necessarily limited to specific geographical areas. Even in areas that are particularly dry, flash floods do occur. Similarly, fire is also a possible threat to libraries and their print collections. Human negligence, faulty electric system and short circuit, thunderstorm and social or political

unrest, such as bombings or rioting, and malicious vandalism or arson are the possible sources of fire. There are other threats in the form of insects, rodents, fungus, roof leakages dust, light and darkness to the safety of library print collections. Keeping in view the vulnerability to these potential disasters, each academic library of Assam must treat disaster preparedness and management as an important and integral part of routine library management.

At present there are 338 academic institutions in Assam, which include two central universities, nineteen state universities and six state private university, 295 Provincialized Colleges affiliated to Gauhati and Dibrugarh University, 7 engineering colleges affiliated to Assam Science and Technology University and 9 Govt law Colleges in Assam. Apart from these institutions, there are many institutes of higher learning in Assam. All these academic libraries invest a huge amount of money every year to develop balanced print collections to meet the needs of various categories of users. These print sources of all academic libraries are very susceptible to disasters. Print resources may get lost and damaged at any time because of disasters like floods, fires etc. Therefore, it is the prime duty and responsibility of all library professionals to keep these print resources safe for future generation. Each library, irrespective of size must take precaution to prevent disasters and must have disaster control plan to cope with the consequences of disasters, whether they be natural or man-made. Review of related literature revealed that the preparedness of academic libraries in Assam to counter the problem of disasters arising out of sudden natural calamities is poor. In addition to this, review of existing

literature revealed that except for very few research articles and conference papers, the researcher has not been able to find any evidence of an investigation on disaster management of print collections in academic libraries of Assam. This study tries to assess the present situation of disaster management in academic libraries of Assam and to impress upon stakeholders the importance of a disaster management plan for print collections in academic libraries of Assam.

### **OBJECTIVES OF THE STUDY**

To identify the types of disaster and other possible threats to print collections in academic libraries of Assam.

To investigate staff awareness about potential disasters to print collections in academic libraries of Assam.

To find out the availability of disaster management plan in academic libraries of Assam.

To find out disaster preparedness of academic libraries in Assam for prevention of disasters.

To identify the challenges associated with planning and implementing disaster management in academic libraries of Assam.

### **REVIEW OF LITERATURE**

Morgan and Smith (1997) revealed that lack of adequate resources and the apathetic attitude of library staff were the main reasons for non-availability of a formal disaster management plan and preparedness for any potential disaster while studying issues and report of a study that investigated the disaster planning in research, academic and public libraries in the Greater Cape Metropolitan Area.

Echezona et al., (2012) identified the lack of disaster preparedness and recovery plans as the striking problems affecting disaster management in university libraries in South-eastern Nigeria.

A study conducted by Zaveri (2012) found that most of the libraries in India are not well prepared to prevent disasters as they do not have any formal disaster management plans. Lack of interest, policy awareness and lack of technical knowledge of handling disasters and salvaging damaged materials are some of the key factors for this dismal situation on disaster preparedness in India.

Rattan, (2013) while discussing disaster management, revealed that lack of planning at all levels, lack of mitigation planning, lack of coordination and networking, delayed response and lack of trained manpower were some reasons for not having a proper disaster management action plan and therefore suggested for making a disaster reduction plan with cooperation and coordination between all the stake holders, i.e., government agencies, NGOs and library and information professionals.

Ottong and Ottong (2013) examined the occurrences of disaster, availability of disaster control plan and preparedness, response and recovery strategy followed to protect library materials from disaster in the University of Calabar and University of Uyo, Nigeria. Findings revealed that the University of Calabar and University of Uyo were aware of occurrences of disaster, but these institutions had not experienced any major catastrophes therefore, the preparedness response and recovery strategies in these libraries were low. In order to manage

disaster effectively in these institutions authors recommended for a comprehensive disaster plan.

Abareh (2014) stated that that except for one, most of the academic libraries don't have disaster response team and structured staff training programme on disaster preparedness and insurance policy to protect library materials from disasters while studying the state of disaster preparedness of academic libraries in North-Eastern Nigeria.

Kostagiolas et. al., (2014) studied the level of risk and disaster preparedness in Greek academic libraries. Findings revealed that most of the academic libraries in Greece are not well equipped to prevent disasters.

Khalid and Dol (2015) studied the disaster preparedness among the academic libraries in Malaysia. Findings revealed that most of the academic libraries of in Kuala Lumpur and Selangor do not have written disaster management plan and therefore the authors recommended for further research to find out the factors affecting disaster management among the academic libraries in Malaysia.

Bhade and Aute (2016) studied the concept, types of disaster and different aspects of disaster management. The paper highlighted the major accidents or hazards faced by libraries in and outside India and discussed how mitigation, preparedness, response and recovery help to manage any kind of disaster in the libraries.

Chakrabarti and Pramanik (2017) stated that lack of awareness, non-observance of regulations and insistence on violation are responsible for disaster. Preparedness can reduce a great amount of distress and hardship to large number of

people and prevent economic loss while investigating disaster management methods and techniques for library and information centers.

Sinha and Mandal (2018) while studying the disaster management initiatives and planning in academic libraries of North East India with special reference to Assam, revealed that that majority of library staff were aware about the probabilities and possibilities of earthquakes and fires that may happen in academic libraries but the preparedness to counter the problem of disasters arising out of sudden natural calamities is poor and therefore they recommended to review the plan for maintenance of library buildings and overall security measures to be taken to keep libraries safe from disasters. In addition to these, the authors suggested to college and university library management and authorities to take disaster seriously and allocate sufficient funds to implements disaster management plan in libraries.

Sharma et al., (2018) mentioned that the preparedness of universities to handle a situation coming out of the disasters was negligible while examining about the present disaster management plan, contribution of librarian and library committee in planning of disaster management, preventive measures used, and the problems faced by the librarian and library committee during implementation of disaster management planning in eight (8) university libraries of Assam.

Similarly, Barua (2018) revealed that most of the college libraries of Assam are found to be very ill prepared to confront situations arising out of disasters, though Assam is prone to many disasters. Except for fire extinguishers,

emergency kit, regular pest control, CCTV etc. most of the college libraries under the study do not have fire and smoke alarm, emergency power supply, data backup, temperature control and insurance policy to protect library collections.

Sharma et al., (2018) mentioned that financial constraints and non-supportive administration and lack of trained staff, are the major challenges, which always stand as hindrance while implementing disaster management planning in university libraries of Assam.

Further, Barua (2018) and Sharma et al., (2018) in their study recommended to conduct further studies so that major factors for poor disaster management in academic libraries of Assam can be brought into focus.

Hussain (2019) while studying the different facets of disaster preparedness in ten prominent libraries of Jammu & Kashmir found that most of the libraries in Jammu & Kashmir do not have disaster preparedness plan and disaster preparedness team, although libraries in Kashmir are susceptible to disasters like floods, fires etc. Therefore, they recommended for framing a disaster preparedness plan and constitution of a disaster preparedness team which is very

essential to minimize the impact of disasters like floods, fires etc.

Rasaki (2019) mentioned that poor management vision, negligence of management, lack of skilled manpower and training for library personnel were the major factors affecting disaster management in university libraries in Nigeria.

### METHODOLOGY

For this study, the researchers used survey method with Google form of questionnaire for collection of relevant data. This research study is limited to the academic libraries of Assam. The sample for the study were a few colleges and universities located in different parts of Assam. Other academic institutes of national importance were left out from the study due to communication problems, remoteness, and time constraints. The respondents in this study comprised library professionals and library supporting staff working in college and university libraries in Assam. Researchers also used primary and secondary sources relating to disaster management published so far. Further, the data collected through the questionnaires was organized, tabulated, analysed, and interpreted by using simple statistical method.

### DATA ANALYSIS

**Table 1: Target population of the study**

Sl. No	Popula tion	Questionnaires Distributed		Total No of Questionnaires Distributed	Responses Received		Total No. of Responses Received
		Library Profession al	Non- professi onal/ Support		Library Professional	Non- professional / Supporting	

			ing library staffs			library staffs	
1	Colleges	30	15	45	24	07	31(68.89%)
2	Universities	8	7	15	05	07	12 (80%)
Total		38	22 (57.90%)	60	29 (76.32%)	14 (63.64%)	43 (71.67%)

In order to conduct the survey, a questionnaire was prepared in Google form and served among the 60 library professionals and supporting library staff working in different college and university libraries of Assam. Out of 60 questionnaires 40 served among the library professionals having bachelor’s degree and master’s degree in library and information science and 20 among the non-professional or supporting library staff with 10<sup>th</sup> or 10+ 2

standard, without any formal certificate or degree in library and information science working as supporting staff. Response rate was 71.67%. Highest response 12 (80%) received from the universities of Assam followed by college libraries with 31(68.89%) respondents. Response rate of library professional and non-professional supporting library staff was 76.32% (29) and 63.64% (14) respectively.

**Table 2: Staff awareness about disaster management plan and its role**

Sl. No	Staff Awareness	Aware	Not Aware	No Response	Total Respondents
1	A disaster plan is a written document which enables an institution/Library to respond efficiently and quickly to an emergency situation and minimize loss and damage to the building, its resources and services.	23 (53.49%)	11 (25.58%)	09 (20.93%)	43

Findings revealed that 23 (53.49%) respondents were aware of and agreed that a formal disaster control plan helps an institution/library to respond efficiently and quickly to an emergency

situation and minimizes loss and damage to the building, its resources and services. Further it is also observed that 11 (25.58%) respondents were not aware about a formal disaster control plan.

**Table 3: Types of natural disaster that may occur in academic libraries in Assam.**

Sl.No	Natural Disasters	No. of Responses Received	Percentage(%) of Responses
1	Flooding, following heavy rain or an earthquake	13	30.23
2	Earthquake	11	25.58
3	Fire	13	30.23
4	Storm	06	13.96
	Total	43	100

Table 3 revealed that library staff members of academic libraries of Assam were well aware about the natural disasters that may affect libraries. 13 (30.23%) respondents revealed that flood and fire are the greatest threats to academic libraries of Assam, followed by earthquake and storm with 11 (25.58%) and 06 (13.96%) respondents respectively.

**Table4: Other possible threats that lead to disaster in academic libraries in Assam.**

Sl. No	Other Possible Threats	No. of Responses Received	Percentage (%) of Response
1	Water leakage (plumbing defect, Water from burst pipes, Roof leakages, water from faulty air conditioning system etc.)	32	74.42
2	Biological Agents (rodents, fungi and insect)	05	11.63
3	Deliberate vandalism /Arson	02	4.65
4	Destruction due to rioting and political social unrest	02	4.65
5	Power failure/Faulty electric system, short circuit and human negligence	02	4.65
	Total	43	100

In addition to natural disaster, water leakage. (For example, plumbing defect, broken pipes, leaking roofs, water from faulty air conditioning system etc.), biological agents (rodents, fungi and insect) deliberate vandalism /arson, destruction due to rioting and political social unrest and power failure/faulty electric system, short circuit and human negligence are the other possible threats to library and their print collections. 32 (74.42%) respondents mentioned that apart from flood, fire and earthquake, water leakage is another possible threat/risk to library print collections. Further, 05 (11.63%) respondents counted biological agents (rodents, fungi and insect) as threats to print collections.

**Table 5: Availability of formal disaster preparedness plan**

Availability	Yes		No	Can not Say	No. of Responses Received	Percentage (%) of Response
Disaster Preparedness Plan	Formal Or written	0	31	8	39	90.70
	Informal	3	0	0	3	6.98
	In preparation	1	0	0	1	2.32
Total					43	100

Table 5 revealed that disaster management is still not recognised as an important and integral part of library management in academic libraries of Assam. None of the academic libraries under study were found equipped with a formal or written disaster management plan and non availability of a formal disaster management plan is a major problem in most of the academic

libraries of Assam. 39 (90.70%) of respondents revealed that they do not have a formal or written disaster management plan. 3 (6.98%) of respondents revealed that they have disaster management plan but informal and 1 (2.32%) informed that their disaster management plan is under preparation.

**Table 6: Disaster preparedness in academic libraries for prevention of fire disaster**

Sl. No	Disaster preparedness for prevention of fire disaster	Yes	No	Cannot Say	No. of Responses Received
1	Flame/Smoke detector	0	30 (69.77%)	13 (30.23%)	43
2	Portable extinguishers	38 (88.37%)	5 (11.63%)	0	43
3	Water Sprinklers	0	38 (88.37%)	5 (11.63%)	43
4	Thunder arrestors /lighting Protectors	37 (86.05%)	0	6 (13.95%)	43
5	Automatic tripping of electrical system in case of fire or short circuit.	37 (86.05%)	0	6 (13.95%)	43
6	Emergency contact details of key services (e.g., fire station, police station, hospitals)	28 (65.12%)	15 (34.88%)	0	43
7	Emergency exits	21	15	7	43

		(48.84%)	(34.88%)	(16.28%)	
8	Provision of dust extractors, air Purifiers	0	43(100%)	0	43
9	Face masks	0	43 (100%)	0	43
10	Band on smoking in the library	43 (100%)	0	0	43
11	Sand bucket.	37 (86.05%)	6 (13.95%)	0	43

Table 6 show that most of the academic libraries under study are not well equipped to prevent fire disaster. Except for portable extinguishers, thunder arrestors /lighting protectors, automatic tripping of electrical system in case of fire or short circuit, and emergency exits, none of the academic libraries under study were found to be equipped with flame detectors or smoke detector, water sprinklers, face masks and dust extractors, air purifiers/air fresheners. 38 (88.37%) of respondents informed about the availability of portable extinguishers, followed by thunder

arrestors/lighting protectors, automatic tripping of electrical system in case of fire or short circuit and sand bucket with 37 (86.05%) respondents. Further, 28 (65.12%) respondents revealed that they have contact details of key agencies and services such as fire station, police station, hospitals etc. in their respective libraries, to contact immediately for an emergency situation. Ban on smoking inside the library is a common preventive measure against fire disaster in most of the academic libraries in Assam.

**Table 7: Preventive measures to minimize the impact of flood in academic libraries.**

Sl. No	Preventive measures to minimize the impact of flood /water leakage in academic libraries	Yes	No	No Response	No. of Responses Received
1	Automatic water detection system	0	34 (79.07%)	9 (20.93%)	43
2	Effective building design against water intrusion	26 (60.43%)	17 (39.53)	0	43
3	Waterproof the building walls, floors, ceiling, basement	26 (60.43%)	6 (13.95%)	11 (25.58%)	43
4	Checking & pitching the roofs of library building properly for possible water leakage	31 (72.09%)	12 (27.91%)	0	43
5	Water pumps to remove water from the library in case of emergency situation.	0	43 (100%)	0	43

6	Kits containing plastic sheets to cover stack area and bucket to remove water.	5 (11.63%)	38 (88.37%)	0	43
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Table 7 shows that in many of the libraries under study, there is provision for effective building design against water intrusion, waterproof building walls, floors, ceiling, basement and regular checking and pitching the roofs of library building properly for possible water leakage. However, most of the academic libraries under study don't take any preventive measures to minimise the impact of flood and water

leakage. 31 (72.09%) respondents revealed that they are checking and pitching the roofs of their library buildings regularly and properly to prevent possible water leakage in the library. 26 (60.43%) respondents stated that their library building walls, floors, ceiling and basement are waterproof and library building design is against water intrusion.

**Table 8: Major challenges faced by the academic library professionals while planning for disaster management**

Sl. No	Major challenges	No. of Responses Received	Percentage (%) of Response
1	Lack of model to serve as guide	09	20.92
2	Lack of trained staff to plan and implement	10	23.26
3	Lack of sufficient funds to plan and implement	5	11.63
4	Authority does not consider it a priority	5	11.63
5	Lack of appropriate knowledge	14	32.56
	Total	43	100

In Table 8, 14 (32.56%) of respondents mentioned that lack of appropriate knowledge is a major challenge that academic libraries are facing while planning for disaster management. On the other hand, 10 (23.26%) respondents viewed that lack of trained library staff and 09 (20.92%) respondent stated that lack of a model to serve as guide are the main challenges faced by the library professionals while planning and implementing disaster management in their respective libraries.

## FINDINGS OF THE STUDY

i. Findings revealed that staff are aware about the potential disaster in the region that may cause damage to print collections in libraries. But most of the professional library staff and supporting library staff are not aware about the methods and techniques to be applied at the time of disaster. It is also observed that 11 (25.58%) supporting staff were not even aware that a formal disaster control plan helps to reduce loss and damage to

the library and its valuable resources from any kind of disaster.

- ii. None of the libraries were found equipped with a formal disaster management plan which can enable library staff to respond efficiently and quickly to an emergency situation and minimize the impact of loss and damage to library and its resources.
- iii. Library staff of the academic libraries under study is well aware about the natural disasters that may affect their libraries, specifying that floods and fires are the greatest threats to academic libraries of Assam, followed by earthquake.
- iv. Most of the academic libraries do not have formal disaster management plan, disaster response team, structured staff training programme on disaster preparedness and insurance policy for their resources to prevent, fight, and manage disasters.
- v. Findings revealed the availability of portable extinguishers, thunder arrestors/lighting protectors, automatic tripping of electrical system in case of fire or short circuit. and sand bucket in the libraries under study. Further 28 (65.12%) respondents revealed that they have emergency contact details of key services (e.g., fire station, police station, hospitals) to fight fire disaster in their respective libraries.
- vi. 31 (72.09%) respondents revealed that they are checking and pitching the roofs of library buildings regularly and properly for possible water leakage. 26 (60.43%) respondents stated that their library building walls, floors, ceiling and basement are waterproof and library building design is against water intrusion.
- vii. 14 (32.56%) of respondents mentioned that lack of appropriate knowledge is the major challenge that staff of academic libraries are facing with

regard to disaster management. On the other hand, 10 (23.26%) respondents viewed lack of trained library staff and 09 (20.92%) respondent stated lack of a model to serve as guide as the main hindrances faced by the library professionals while planning for disaster management in their respective libraries.

## SUGGESTIONS

In view of the inadequacies in disaster management observed by this study, following are suggestions that have emerged both from the respondents as well as the researchers:

Periodic vulnerability analysis and risk assessment of the region in which the library is located is essential for disaster preparedness. Therefore, each academic library of Assam irrespective of size, type and collections must carry out periodic vulnerability analysis and risk assessment to identify risks in the area.

Each academic library, irrespective of size, type and collections must take initiative to develop a disaster preparedness plan on the basis of vulnerability analysis and risk assessment of the area so that during disaster it can be used as step-by-step guide.

In addition to the disaster control plan each academic library must constitute a disaster management team for immediate response and recovery during and after the disasters.

Authorities of each college and university should allocate separate budget for better disaster preparedness and management.

Insurance allows the library to recover the cost of damages and loss. Therefore, each academic library should take initiative to insure the library's valuable resources.

For better awareness and to gain first-hand knowledge on disaster management methods and techniques, heads of each academic institution should allow library staff to attend seminars, conferences, workshops and training programmes on disaster management.

Inspections and maintenance of structure of the library building and other factors that constitute a potential hazard should be carried out regularly.

Each academic library must take initiative to procure more functional firefighting equipment and fire suppression system such as portable fire extinguishers, water sprinklers etc. in the library to respond immediately to fire disaster.

### CONCLUSION

Disaster is a global phenomenon that can strike any place at any time and may cause serious loss and damage to life, properties, infrastructure and essential services, paralysing the normal life of the society. Libraries are also victims of disasters, and no library is entirely free from risk and disaster. Disaster may cause serious loss and damage to the library and its valuable print resources. Therefore, each library professional must treat disaster management as a part of routine activity of library management. Disaster management is vital for any library, be it academic, public or special. It helps library professionals to minimize loss and damage to library and its valuable resources through a cyclic process of prevention, preparedness, response and recovery. By nature, natural disaster cannot be stopped. But we can minimize its impact, if we plan and prepare well in advance. The library professionals under this study were found to still be ill prepared for disaster, despite being aware about the obvious natural and manmade threats to the state of Assam. Hence steps must be taken to

devise suitable disaster control plans to manage and minimize the impact of loss and damage to libraries and their print resources caused by any disaster.

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