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# Disaster Management of College and University Libraries in Shillong: A Survey

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**Abstract:** *This study intends to find out (i) how many libraries of higher education institutions in Shillong have a disaster management plan, (ii) whether the libraries understudy are prepared for any disaster if it happens suddenly without any warning, (iii) what are the measures for prevention, recovery, and mitigation undertaken by the libraries. A total number of 25 colleges and 4 universities formed the population of the study. A questionnaire was prepared and used for data collection from the respondents. Out of 25 college libraries, only 12 responded, and out of 4 university libraries, only 2 responded to the questionnaire. The results of the study revealed that none of the investigated libraries have a disaster management plan. The libraries are unprepared for any disaster. There is no awareness program or training conducted for the staff on this topic. That is why most of the staff in the libraries understudy are not aware of what disaster management is.*

**Keywords:** Academic Libraries in Shillong, College Libraries in Shillong, University Libraries in Shillong, Disaster Management in Higher Education Institutions Libraries, Disaster Management in Academic Libraries, Higher Education Institutions Libraries in Shillong, Academic Libraries in Shillong and Disaster Management.

## **0. Introduction**

Disaster can occur anywhere at any time without any warning, and libraries are no exception. It is always important to stay alert and be prepared for any coming disaster to prevent any significant loss, making it difficult to recover. Disaster management is an important issue nowadays in libraries and information centers. These organizations must protect their collections, their users, and their staff when a disaster occurs. Therefore, every library and information center needs to have a disaster management plan in place. The libraries' authority must get their library professionals and staff aware, trained, and fully equipped on different disasters that can happen in the libraries. When the library staff are aware and prepared for any disaster that can occur suddenly, they will be able to handle it during the emergency.

Shillong is a capital of Meghalaya, which is one of the eight states in the North-Eastern part of India. The North Eastern Space Applications Centre compiled and prepared the Shillong City Disaster Management Plan in 2018 for the State Disaster Management Authority of Meghalaya. According to this plan, the growth of the city is increasing both horizontally and vertically, thus, making it at high risk of many natural and man-made disasters such as earthquakes, floods, landslides, thunderstorms associated with strong wind and cloudbursts, cold waves, fire, and climate change. And as per the BMTPC (Building Materials & Technology Promotion Council) Atlas, 2006, Ministry of Housing & Urban Affairs, Government of India, Shillong is located in

the highest seismic zone V which is a very high earthquake risk zone category (North Eastern Space Applications Centre , 2018).

Thus, considering the city's vulnerability to different types of disasters, the disaster management plan was prepared by the competent authorities and put in place for action. However, do the library professionals and library staff of the higher education institutions in Shillong are aware of it? Do they strictly follow the rules and regulations provided by the state disaster management authority regarding the library building? Whether the disaster prevention equipment and facilities are adequately in place or not? Hence, the present study is motivated to precisely know the current situation of the higher education institution libraries in terms of their disaster management procedure.

## **1. Definitions**

**1.1 Disaster :** According to Baumwoll (2008), disaster is the occurrence of a hazard or event that may cause harm and the inability of a society to manage the consequences of the event.

Rehman (2014) defined disaster as an event whose timing is unexpected and whose consequences are seriously destroyed. Sharma, Deka and Das (2018) defined disaster as an unexpected event that may drastically threaten the line of humans or building which destroy the information structure. Patrick, Ferdinand and Efe (2020) defined disaster as an unplanned occurrence that can cause unprecedented damage to humans, the environment and every facet of society if not promptly curbed.

### **1.2 Disaster from a library perspective**

Eden and Mathews (1996) described a disaster “as any event which not only puts human safety at risk but also can damage or threatens to damage the resources of a library including its collection, equipment and system”.

In libraries, disaster is an unpredictable action that can cause damage to the library as a whole. It can be a natural disaster or a man-made disaster. A natural disaster is a disaster that occurs naturally, like climatic weather, which can occur without any warning, earthquake, landslide, cyclone, floods, rodents and termites, insects, etc. It can destroy the library building and its collection entirely. A man-made disaster is a disaster caused by human beings either intentionally or accidentally, like fire, thieves, war, terrorism, computer viruses, etc. These disasters are harmful to the library collections, library staff, and library users.

“Libraries’ work aims at preserving of human creativity and ideas, and further to inform and inspire the future generations, but their collections are all often at risk if damage or destruction if or when happen, thus, dealing with this risk is a core element of library work” (IFLA, 2020).

### **1.3 Disaster Management**

IFLA (2020) in the Sendai Framework for Disaster Risk Reduction (2015-2030) set out four priorities for managing the disaster, (i) Priority 1- understanding disaster risk, (ii) Priority 2- strengthening disaster risk governance to manage disaster risk, (iii) Priority 3- investing in disaster risk reduction for resilience, and (iv) Priority 4- enhancing disaster preparedness for effective response, and to build back better in recovery, rehabilitation and reconstruction.

According to Rattan (2013), disaster control plan consists of four stages:- (i) Prevention (ii) Preparedness, (iii) Reaction and (iv) Recovery. One more stage can be added to the above four stages, that is, Mitigation. Disaster preparedness plays a vital role that any library should take into consideration. It is crucial in order to manage any disaster when it strikes. Disaster

preparedness should consist of a disaster management plan to have control over any disaster that can occur at any time and reduce the extent of damage caused by a disaster. In order to prevent the serious damage of a disaster, the library building and collection have to be routinely checked to see whether the fire extinguisher, fire alarms and exit point are operational or not. The reaction stage is how the library professionals and staff respond to a disaster when it strikes. Recovery is the process to see or check whether they have any backup if any of the library's resources got damaged or corrupted by the virus in case of electronic resources. It is the process of reconstruction, rehabilitation i.e. to recover any resources in the library which have been damaged. Mitigation is the process of reducing the impact of a disaster in the library. Thus, disaster management involves all the five stages mentioned above in order to manage a disaster effectively.

## **2. Review of Literature**

Disaster management plan plays a pivotal role in the disaster management process. Two decades ago, Eden and Matthews (1996) highlighted the central role of a written disaster control plan. They emphasized the need for these plans to be managed and supported by risk assessments and regular inspections of buildings and equipment, identifying and using of reliable expert advice, staff training programs and contingency planning for temporary services, accommodation and storage. They also underline the importance of personnel issues such as the careful selection of those responsible for disaster management and staff counseling following a disaster, and also the need to investigate insurance cover and to consider the installation of fire detection and suppression systems. They further stress that “Disaster control planning” is concerned with the formulation of a written plan which gives details of preventive and preparatory measures intended to reduce potential risks and also indicates reactive and recovery procedures to be taken in the event of a disaster to minimize its effects. When a disaster management plan is in place it reveals the preparedness to confront a disaster. Preparedness includes creating and periodically updating contingency plans, insuring collections, allocating restore priorities, identifying alternatives storage sites, providing adequate fire protection, and providing opportunities for staff to be aware of their responsibilities in the event of disaster (Lyall, 1996). One of the major crises facing by libraries throughout the world is the rate of deterioration of their collections; since library materials are composed of organic materials, they are subject to natural deterioration (National Library of Australia, 2004). Gillian (1996) conducted a study on an exploration of disaster management in libraries in the greater cape metropolitan area. This study was undertaken to explore and evaluate the situation regarding disaster planning among the research/ academic and public libraries in the Great Metropolitan area. Questionnaire and interview were used for data collection. The result of the study showed that the situation in the Greater Cape Metropolitan area varies considerably from library to library. However, majority of the libraries investigated in this study were lacking of disaster management plans and were made to facilitate the improvement of this situation and a model disaster management plan was proposed. Morgan and Smith (1997) carried out a research on the role of a disaster plan in managing disaster in libraries. From the result of the study, it was found that majority of the libraries investigated were lacking in formal disaster management plans. In 2002, Sidney conducted a study on how technology and planning save the library at ground zero at the Borough of Manhattan community college. She said that “what saved the library from total disruption was technology. She just followed the disaster management plan and keeping the web small creating redundant paths for communication and to keep the internet sources on different

hosts i.e keeping a list of the staff members with their phone numbers and email address and the website back-up”.

McIlwaine (2006), in IFLA Disaster Preparedness and Planning: A Brief Manual could identify risks and issues pertaining to disasters that libraries must be aware of, that is, the risk from outside the building (example, library location, prevailing climatic and geologic conditions, potentially damaging human activities such as commercial or industrial premises, pollution, potential risk of civil disturbance or terrorist attack, etc.), the risk from the building's structure and library services (building structure such as roofs, windows, skylight or areas below ground level, fire risk from internal issues such as electrical circuits, equipment or flammable substances, flooding risks from water transfer installations such as rains, water pipes, air conditioning system etc), risk from human interference (arsons, vandalism, civil disturbance, terrorist attack, and other security issues, etc.). Even though libraries are vulnerable from any type of disaster but it was found that disaster management is still a neglecting area in these organizations. Ngulube and Magazi (2006) found that libraries in South Africa did have disaster management practices. Their finding revealed that fire extinguishers were available in all libraries, at the same time, some had fire detection system an updated telephone tree, regular building inspection and maintenance, disaster drills, and collaboration or cooperation with other libraries, cultural institutions, and the fire department. These form of disaster management practices could be vital for protecting of the libraries and their collections should a disaster befall them. However, the overall findings of the study revealed that the libraries were not adequately prepared for protecting documents against disaster and theft. It was found that most of them did not have a disaster plan, an adequate procedure for disaster response. Kaur (2009) discussed disaster planning in university libraries in India and reports that disaster planning in the university libraries in India remains a neglected area. She suggested that the library and information professionals need to change their attitude and take cognizance that disaster can happen anywhere anytime, and they have to be prepared to deal with them. The University Grants Commission and the Indian Library Association should give this neglected area more importance at the national level and help various higher education institutions formulate guideline for disaster plans. A survey was conducted on disaster management planning in Middle East libraries & archives, the research is based on a survey and interview of managers from the Middle East, and the objective of the study is to find out if libraries have disaster plan or not. It was found that most of the libraries do not have a disaster management plan (Moustafa, 2015). Another study was done by Khalid and Dol (2015) on Disaster preparedness for academic libraries in Malaysia: an explanatory study. This study has been conducted to assess the status of preparedness in disaster management among Malaysian academic libraries. The researchers used a questionnaire for data collection, and the questionnaires were distributed to chief librarians or their assigned in-charge of disaster or emergency preparedness to 40 academic libraries. The study was conducted to see the current status of preparedness on various issues, including disaster experience by the academic libraries, funding, risk assessment activities, and involvement of library staff in disaster management. From this study, it was found that some of the academic libraries in Malaysia experienced one form of disaster or the other. It was also found that most academic libraries do not have a written disaster preparedness plan.

According to Satpathy (2007), every disaster has three phases: before, during, and after. Thus, every library must have a variety of disaster plans which can cope with each of these phases, and every disaster plan must apply to the whole library and all its contents including people, collections, records and equipment, and that the plan must be prepared by a team rather than an

individual. Ahenkorah-Marfo and Borteye (2010) carried out a study on disaster preparedness in academic libraries: the case of Kwame Nkrumah University of Science and Technology library, Ghana. In this study, the researchers use questionnaire, interview and personal observation for the collection of data. Fifty respondents were selected for the study i.e. the junior staff, senior staff, and senior member categories of the KNUST library. Their target is to see whether this university is prepared or not if any disaster occurs at any time. The result of the study revealed that the library is not prepared to prevent, fight or manage disaster due to inadequate training for staff members. Hasenay and Krtalic (2010), from their study on disaster and after: what have Croatian libraries learned about preservation and disaster management after war experience found that even though Croatian libraries have experienced direct and indirect consequences of disasters caused by the war in the 1990s, but this did not sufficiently change their collections preservation and disaster management practice. Lindtveit (2011) reinforced the necessity for employee participation. He declares that to create an operational emergency plan, it must first change the culture of a workplace. Education and training are crucial for any person responsible for the safety and first aid. Once trained, a team of employees can evaluate the current safety program to verify that it covers the possible hazards in the workplace. Kostagiolas (2011) said that the most prominent disaster factors are mainly related to “collection damage” (32%), followed by “data loss” (19%), “system damage” (15%), “equipment damage” (14%) and “building damage” (14%) while only 3% is related disasters to “injury (death) of employee” and “injury (death) of user”. Rattan (2013) found that the lack of special budgetary provisions in the government libraries in Chandigarh in India is the cause of concern because, without finances at the discretion of the library administrator, immediate action to tackle the emergency cannot be taken up. Further, it was also found that many library professionals in the libraries under study are not aware if there is any disaster management plan in their libraries. Abareh (2014) undertook a survey of disaster preparedness by the head of academic libraries in North-Eastern Nigeria. This study has been conducted to investigate the disaster preparedness by 21 head of academic libraries in North Eastern Nigeria. The researcher used a questionnaire tool for data collection. From the study, it was found that the level of preparedness for disaster is very low, and even the staff are not aware of how to handle when any disaster strikes. In the study the researcher strongly recommended that there should be awareness and training sessions for the staff in the libraries and the establishment of a disaster response team. Rehman (2014) conducted a study on importance and measure of disaster management in libraries. The aim of this study is to explore the importance and measure that can be taken to avoid man-made disaster and minimize the effect of all types of natural disasters in the library. The researcher found that some of the material, physical facilities are destroyed by the various disasters. Ayoun, Batil and Baladi (2015) led a study on disaster preparedness of polytechnic libraries in Ghana. This study has been conducted to see the preparedness of Ghana polytechnic libraries towards disaster. The researcher used interview for data collection and have interviewed 5 head librarians and 25 other staff, and even security guards. It was found that a general absence of security policies and disaster plans in the libraries under investigation. Bansal (2015) said that disasters are not uncommon events and can take many forms and play havoc to mankind, inflicting irreparable damage to the rhythm of life, leaving behind the trait of huge devastation and scars of heart agony, destitution and desolation. Ugwuanyi, Ugwu and Ezema (2015) could ascertained that the University Libraries in the South Eastern State of Nigeria have experienced severe material damage caused by biological agents, mutilation by library users, rain storms and water leakage. It was also found that the preventive measures adopted by the libraries were repairing of a

leaking roof, training of staff, provision of sand-buckets, fire extinguishers, cleaning the library regularly, having disaster plan, disaster team, upgrading of the library system, provision of a freezing facility, fumigation, and provision of a comprehensive insurance policy. Zaveri (2015) attempted a study on Digital Disaster Management in Libraries in India, where the data were collected through questionnaires distributed and collected back from 276 libraries of three states of India that is Gujarat, Maharashtra and Goa. The result of the study revealed that due to the lack of knowledge in handling digital data and lack of infrastructure in the organization, therefore, the chances of loss of digital data are high. Further, it was found that the most common measure followed by the majority of the libraries understudy was by taking back up manually of the digital data. Nwokedi, (2017) accomplished a study on Disaster management and preparedness: A case study of university of JOS library. The study has been conducting to see the level of preparedness of library towards disaster. The authors used both questionnaire and interview for data collection. From the questionnaire, it was found that majority of the staff have knowledge about the rule and safety of fire extinguisher, but they do not know how to operate them, and it was also found that the staff are not aware of what to do towards damaging library resources in print and digital media. But the interview revealed that the library has a disaster management plan, but some of the staff did not know that such plans are available in the library. Thus, the researcher recommended that the library staff should be informed by the library management of the availability disaster management plan in the library. Wani and Ganaie (2017) did a study on Impact of Kashmir floods on the libraries. Data were collected through questionnaire, interview and observation tools. The findings of the study showed that even though libraries in Kashmir are prone to disasters like a flood but they are still not yet prepared to protect their collections from such disasters when they happened. Sharma, Deka and Das (2018) conducted a study on disaster management in university libraries of Assam- an important aspect. This study has been undertaken to investigate disaster preparedness in university libraries. The present study was done using a survey, through a well-defined questionnaire, and personal observations interaction with the librarian is used for the data collection. The result of the study revealed that the majority of the university libraries have disaster preparedness such as written disaster plans, emergency exits, fire alarms etc, but some of the libraries understudy also indicated that they are less prepared to handle a situation for coming out of a disaster. Hussain (2019) executed a study on disaster preparedness in libraries of Kashmir. The study was based on the disaster preparedness in ten (10) prominent libraries of Jammu & Kashmir. It was found that the level of staff sensitization and awareness on disaster preparedness is at their lowest, as none of the libraries were found to be prepared enough to face a disaster. From a study in Philippines, Superio, Alayon and Oliveros (2019) found that the majority of the libraries were affected by the typhoon Haiyan and sustained damage in their buildings and collections to different extents, mainly because the library buildings are made of poor materials, disaster management plans do not exist in a majority of the libraries understudy and library personnel were untrained and lacked knowledge on disaster management. Patrick, Ferdinand and Efe (2020) conducted a study on disaster preparedness and prevention strategies of university libraries in Nigeria. In this study, the researcher used a questionnaire for the collection of data, where 185 copies of questionnaires were distributed to the respondent, and only 167copies filled in questionnaires were received back. The study revealed that the types of disasters in university libraries are mutilation of library materials, computer viruses, biological agents, theft of library materials, etc. From the result of the study, it was found that there is no disaster preparedness plan available in the library.

Thus, from the review of the available literature it can be understood that disaster management is still a neglecting area in libraries and unfortunately, most of the libraries does not have a disaster management plan (Gillian, 1996; Morgan and Smith, 1997; Kaur, 2009; Ngulube and Magazi, 2006; Ayoung, Batil and Baladi, 2015; Khalid and Dol, 2015; Moustafa, 2015; Patrik, Ferdinand and Efe, 2020). One of the interesting observation is that the library staff are not aware about disaster management and they do not know whether a disaster management plan is there or not in their library and to some of them, they are not aware even when the disaster management plan is already exist in their library (Lintveit, 2011; Rattan, 2013; Nwokedi, 2017). Thus, many studies showed that the level of preparedness for disaster in libraries is still very low (Ahenkorah-Marfo and Borteye, 2010; Abareh, 2014; Ayoung, Batil and Baladi, 2015; Zaveri, 2015; Nwokedi, 2017; Wani and Ganaie, 2017; Hussain, 2019).

### 3. Objectives of the study

The present study is carried out with the following objectives:-

1. To know what types of disasters have occurred in libraries of higher education institutions in Shillong.
2. To find out whether the libraries understudy are prepared for any disaster or not.
3. To know whether the libraries have a disaster management plan or not.
4. To determine whether the libraries have adequate facilities for disaster response or not.
5. To identify the measures adopted by the libraries for recovery and to reduce the impact of a disaster.

### 4. Scope

The scope of the present study is limited to the libraries of higher education institutions in Shillong. It covers the disaster management of library collections, both print and electronic, the preventive measures undertaken by the libraries for the safety of the library users as well as of the library staff.

### 5. Research Methodology

**5.1 Research Site:-**The present study is conducted in the college and university libraries that present in Shillong.

#### 5.2 Instrument used for data collection

The data collection instrument adopted for this study is a questionnaire. The data for this study were collected in the month of February to May of 2020. The respondents in this study comprised the librarians of college and university libraries in Shillong.

#### 5.3 Population

Particulars	Colleges		Universities		Total
	Deficit	Private	Central Government	Private	
Population	10	15	2	2	29
No. of Response	4	8	2	0	14
Percentage (%) of Response	40	53.33	100	0	48.27

Out of 25 colleges, only 12 (48%) of them responded to the questionnaire, and out of the 4 universities, only 2 (50%) answered the questionnaire distributed. Because of the nationwide



lockdown due to the covid-19 pandemic, the questionnaires were distributed and collected using online mode. The questionnaire is made up of various sections - (1) About the library, (2) Awareness, (3) Preparedness (4) Prevention (5) Response (6) Recovery, and (7) Mitigation.

## 6. DATA ANALYSIS

The collected data were analyzed with the help of percentages, tables, and charts. The interpretations and discussion were presented below:-

### 1. ABOUT THE LIBRARY

**Table 1: Types of collection**

Types of Collection	No. of Respondents	Percentage (%) of Response
Books	14	100
Journals	11	78.57
E-resources	10	71.42
Rare Collections	6	42.85
CD	7	50.00
Others	4	28.57

The above table 1 reveals that every college and university library in Shillong has a books collection, 78.57% of the libraries have a collection of journals, followed by E-resources with 71.42%, CDs with 50% and 28.57% with other collections. Some of the colleges and university libraries have rare collections with 42.85%.

**Table 2: Used of Library Software**

Library software	No of respondent	Percentage (%) of Response
Yes	11	78.57
No	3	21.43
Total	14	100

From table 2 above, it was found that 78.57% of the libraries are using library software, and 21.43% of the college and university libraries are not using any library software.

**Table 3: Types of library software used by the Libraries**

Library Software	No of respondent	Percentage(%) of Response
KOHA	7	63.64
E-Granthalaya	2	18.18
Others	2	18.18
Total	11	100

From table 3, it is seen that the majority (63.64%) of the libraries are using KOHA, followed by E-granthalaya with 18.18% and 18.18% use other library software.

## 2. AWARENESS

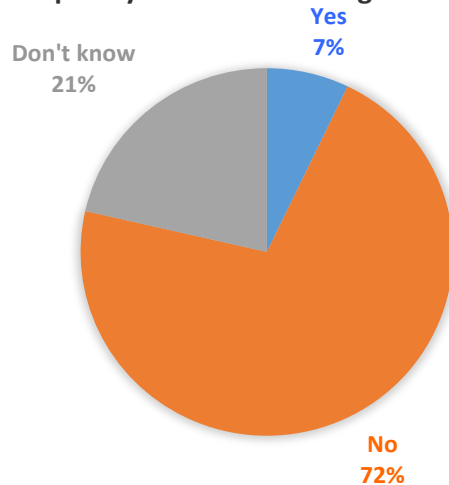
**Table 4: Awareness about Disaster Management**

Awareness about Disaster Management	No of respondent	Percentage(%) of Response
Very well	4	28.57
No idea	2	14.28
Can't say	8	57.15
Total	14	100

Above table 4 shows that only 28.57% of the librarians have high knowledge about disaster management. At the same time, 14.28% of them have completely no idea about disaster management. The majority of the librarians, 57.15%, have heard about the term disaster management but can not say or understand it well.

**Chart 1: Having a Disaster Management Team in Library**

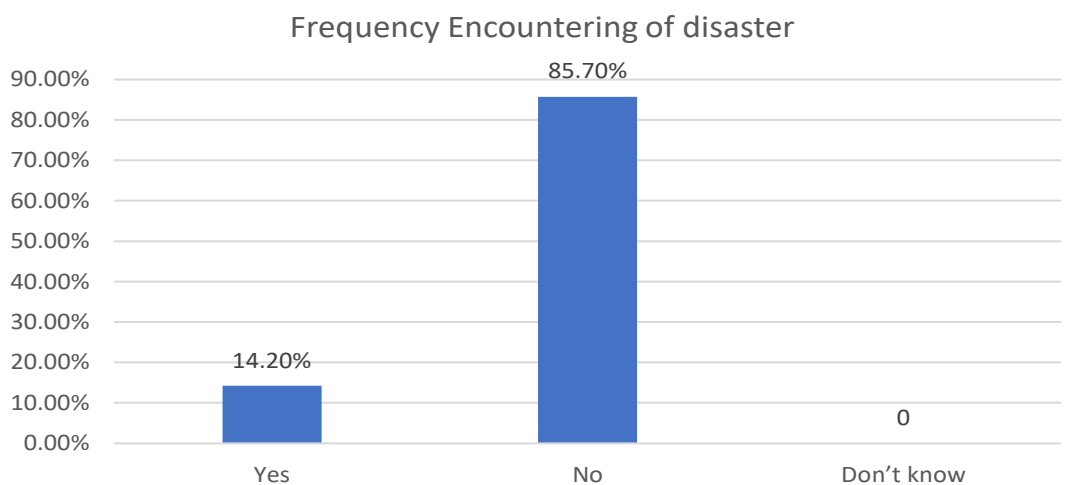
**Frequency of disaster management team**



Every college or university library should have a disaster management team to manage when any disaster occurs. This question was to determine or seek to know from the respondents i.e., librarian, the presence of disaster management team in the library.

From the above pie chart 1, it was found that the majority (10, 72%) of the libraries do not have a disaster management team, and some of the libraries (3, 21%) don't even know about it. Out of the total number (14) of libraries that responded to the questionnaire, only one library (7%) has a disaster management team. Even though most libraries do not have a disaster management team, but they still know how to encounter or handle the situation if any disaster occurs in their library at any time.

**Chart 2: Encountering of Disaster**



From chart 2, it can be seen that majority of the colleges and universities in Shillong, i.e., 85.70% (12), have not encountered any disaster like floods, earthquakes, tornadoes, landslides, terrorism, fire, etc in their library. But, 14.20% (2) of the libraries understudy have encountered mild disasters like E-disaster or a computer virus attack because they lack a data backup system, leading to data loss.

### 3. PREPAREDNESS

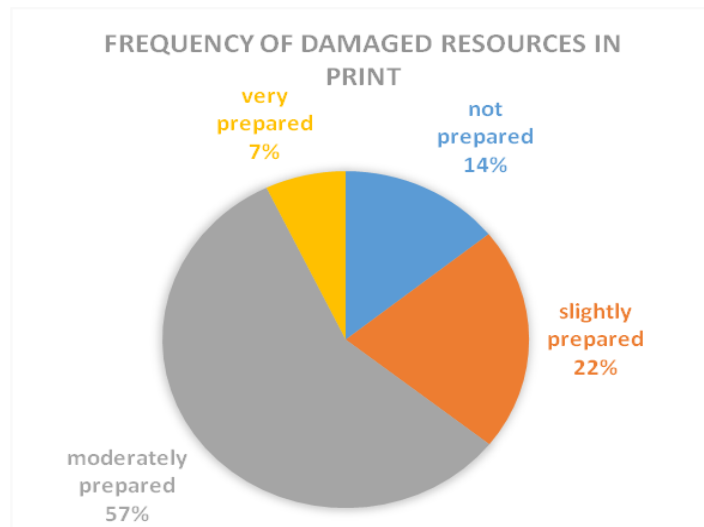
**Table 5: Disaster Preparedness**

Disaster Preparedness	No of Response	Percentage(%) of Response
Very prepared	1	7.14
Prepare	3	21.43
Not prepared	8	57.14
Don't know	2	14.29
Total	14	100

Preparedness is the precautionary measures undertook for any potential disaster that can occur in the library. Being prepared can prevent from any serious damage or lost caused by a disaster. The question is asked to the librarians of different college and university libraries to determine how the library is preparing for any disaster based on facilities and equipment available, staff training, availability of disaster management plan, etc.

It can be seen from Table 5 above that most of the libraries of colleges and universities in Shillong are not prepared for any disaster. But some of them are prepared for disaster like fire by having fire extinguishers, e-resources keeping back up, loss of book (i.e., photocopy of the book), thief, availability of CCTV camera, keeping of insecticides, etc. Some of the libraries of higher education institutions in Shillong do not know how to prepare for disaster.

**Chart 3 (a): Preparedness of Damaged Resources in Print**



Resources in print like books, journals, magazines, newspapers etc. at one point or the other get damaged by various disasters like fire, insect, termites, loss of book, thief, etc. and non-print resources i.e which are available in digital media such as computer memory, optical disc and magnetic tape get damaged by viruses. Therefore, the librarians are asked to indicate how well prepared the libraries are towards the damage of resources in print and in digital media.

From the above chart 3(a), it can be seen that as in the case of print resources majority (57%, 8) of the libraries are moderately prepared for the disaster, 22% (3) are slightly prepared, and 14% (2) of the total respondents are not prepared. This implies that the resources are not stored properly in a proper place to avoid any mild disasters like theft, fire, insects, etc.

**Chart 3 (b): Preparedness of Damaged Resources in Digital Format**

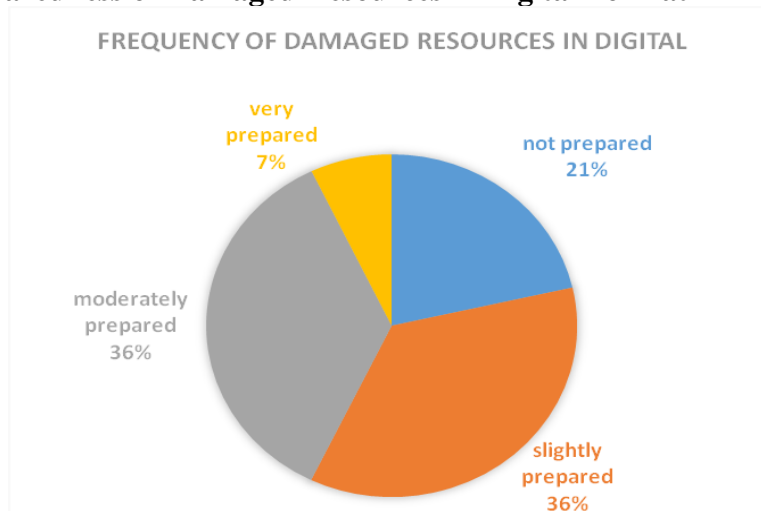
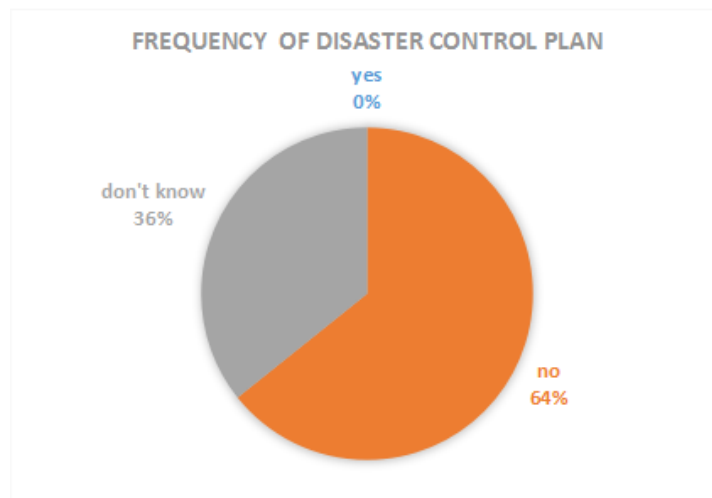


Chart 3(b) above shows that 36% (5) of the college and university libraries are moderately prepared to protect their digital resources. 36% (5) of them are slightly prepared, and 21% (3) of the libraries are not prepared if any disaster occurs or damaged the resources in digital media like

an eruption of the file or document due to viruses. Most libraries face this disaster because they don't have any backup if the resources get damaged or corrupted and haven't installed the anti-virus in their computer system.

So, the result shows that 50% of the college and university libraries in Shillong are moderately prepared, but 50% are not well prepared if any disaster occurs that could damage either print resources or digital resources.

**Chart 4: Disaster Control Plan**



This question was asked to determine whether the libraries have a disaster control plan. A disaster control plan is essential in every organization, as it tells the staff member what to do and what not to do when any disaster strikes at any time.

From pie chart 4, it is seen that 36% (5) of colleges and university libraries in Shillong do not know about disaster control plan, or what is it all about and what are the plans, whether such plan exists or not. About 64% (9) of the libraries don't have disaster control plans in the library. It implies that none of the college and university libraries understudy have a disaster management plan.

**Chart 5: Disaster Management Funds**

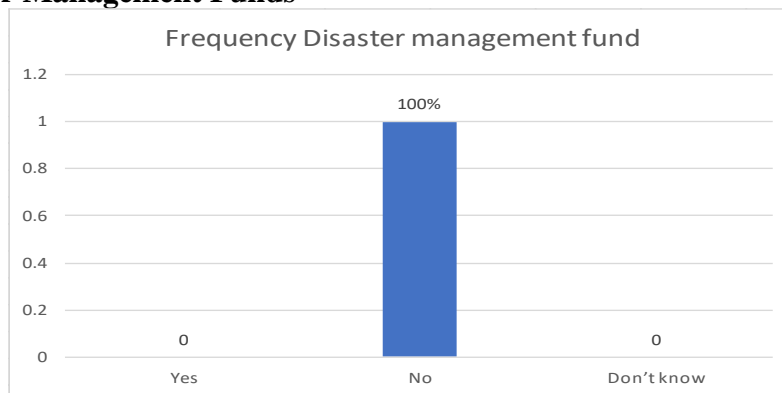
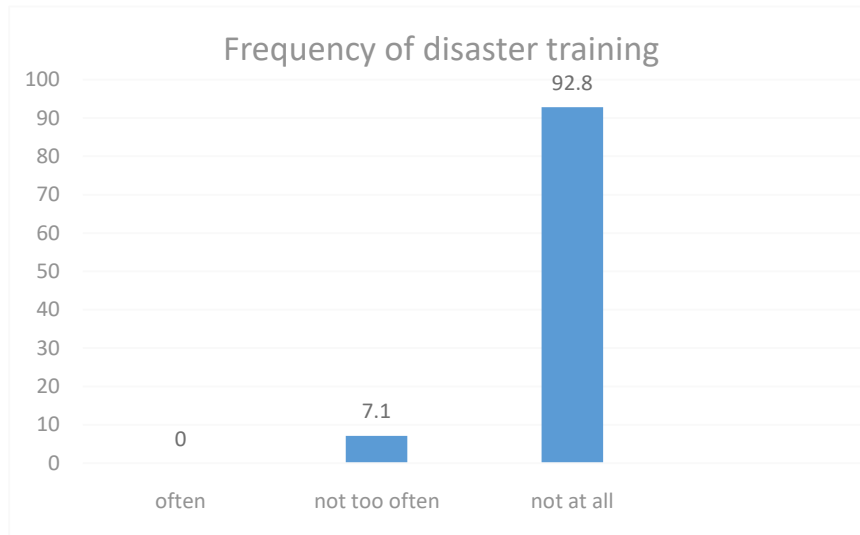


Chart 5 reveals that none of the libraries of colleges and universities understudy have disaster management funds. This implies that most libraries lack equipment or facilities because they don't have funds under disaster management.

#### 4. PREVENTION

**Chart 6: Disaster Management Training**



Disaster management training is essential as it makes the staff well equipped to handle and respond to a disaster when it suddenly strikes. It helps them to perform their task in a coordinated manner. Disaster can be managed efficiently when the staff are properly trained with the do(s) and don't(s) when there is a disaster. This question is asked to know whether the staff members are being trained for disaster or not.

From chart 6 above, it is seen that 92.8% (13) of the libraries understudy have not conducted any training for their staff members, which means that they haven't trained their staff to be prepared for any kind of disaster. Only one college library was found to have conducted training for staff members, but that also not too often.

Training the staff members beforehand is good because they will know what to do when they encounter any disaster. Trained staff members know how to handle situations and know how to be prepared for different disasters in different forms.

**Table 6: Availability of CCTV**

Availability of CCTV	No. of Response	Percentage(%) of Response
Yes	11	78.57
No	3	21.43
Total	14	100

From table 6 above, it was found that 78.57% of the colleges and universities in Shillong have CCTV for security purposes to protect the library materials either from theft or miss placing the document by the users. But, some colleges and universities don't have CCTV in their libraries, so losing of book and other materials are at very high risk. Having CCTV in the library will record all the things done inside the library, whether by the staff or the users.

**Chart 7: Temperature Control Method**

Frequency of Temperature control method

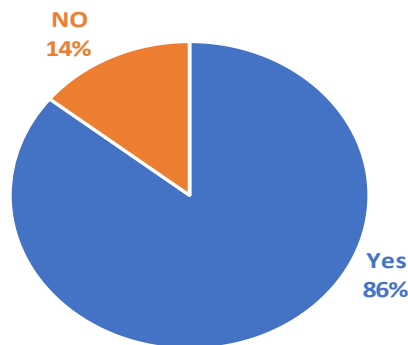
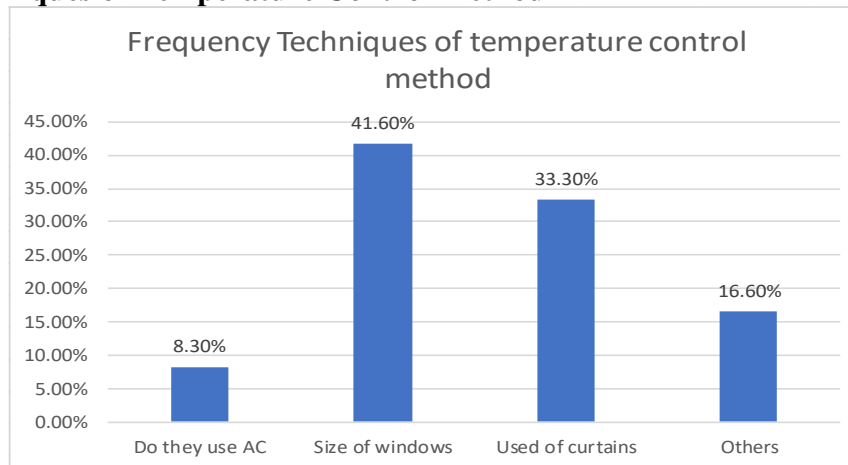


Chart 7 reveals that 86% (12) of the libraries use the temperature control method in the library, while 14% (2) of the libraries do not use any temperature control method.

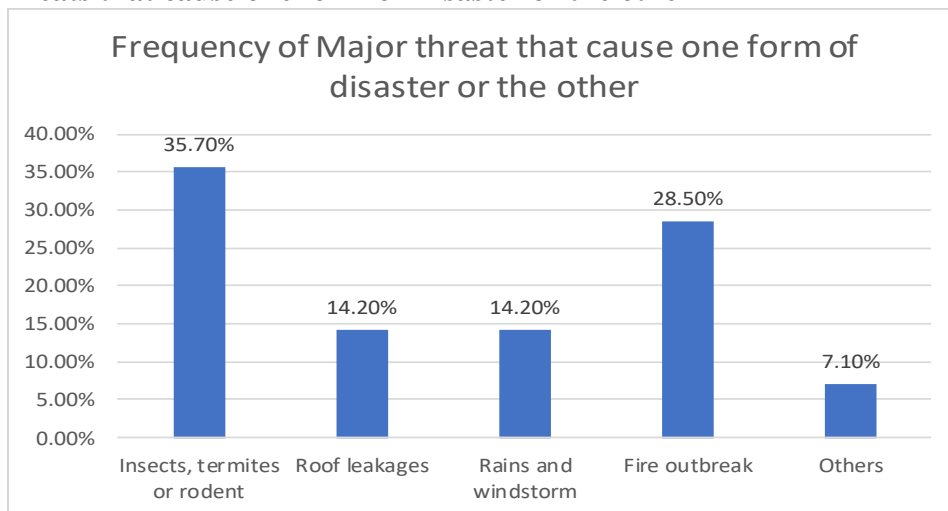
**Chart 8: Techniques of Temperature Control Method**



From chart 8, it is seen that among the libraries that use the temperature control method, 41.6% (5) of them use the size of a window as a temperature control method, followed by the use of

curtains with 33.3% (4). Some also used fans for controlling the temperature, and 8.3% (1) of libraries used AC for temperature control.

**Chart 9: Threats that cause one form of Disaster or the other**



From the above chart 9, it was found that there are also other possible causes of disaster in libraries that constitute or pose major threats or risks to the collections. 35.7% (5) of the libraries agreed that the major forms of disasters in libraries are insects, termites, or rodents, followed by fire outbreaks with 28% (4), roof leakages with 14.2% (2), rains and windstorms with 14.2% (2) and other like E-factors, etc. with 7.1% (1).

## 5. RESPONSE

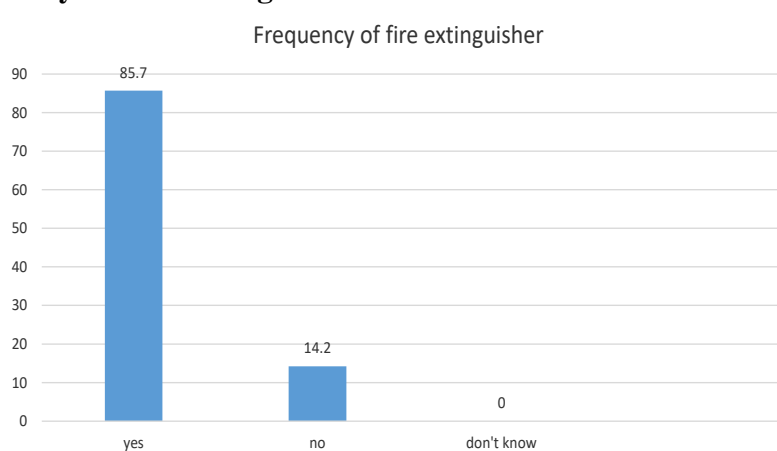
**Table 7: Fire Disaster**

Fire disaster	No. of response	Percentage(%) of Response
Yes	10	71.44
No	2	14.28
Don't know	2	14.28
Total	14	100

The librarians were asked whether they know the do(s) and don't(s) when a disaster such as fire strikes. It can be seen in above table 7 that 71.44% of them know what to do and what not to do during a fire disaster. 14.28% of them don't know what to do when a disaster such as a fire encounters their library. And another 14.28% of them said that they don't exactly know whether they will be able to do something or not when such a disaster happened in their library.



**Chart 10: Availability of Fire Extinguisher**



A fire extinguisher is an essential kit that every library or any organization should have. Their presence ensures a quick response to fire outbreaks.

It is seen from chart 10 above that 85.7% (12) of the libraries have a fire extinguisher in their respective building, but 14.2% (2) of the college and university libraries don't have them. Having a fire extinguisher in the library building will help the staff member protect the library's resource materials or quickly respond to fire outbreaks. Also, some libraries don't have them because there is no fund to buy the fire extinguishers, or the library lacks facilities or equipment because the college was just established.

**Table 8: Know how to operate the Fire Extinguisher**

To operate the fire extinguisher	No. of Response	Percentage(%) of Response
Yes	8	66.66
No	2	16.67
Don't know	2	16.67
Total	12	100

Above table 8 reveals that the majority (66.66%) of the libraries' professionals know how to operate the fire extinguishers, but 16.67% don't know how to handle them. It is useless to have fire extinguishers if they are not functioning or not ready for use. If the fire extinguishers are working, it will be easy for the staff to handle the mild fire. Staff should be well trained on how to use the fire extinguisher.

**Table 9: Other Facilities available for Fire Prevention**

Facilities for fire prevention	No of Response	Percentage(%) of Response
Fire extinguisher	12	85.71
Sand in a bucket	0	0
Chemical reagent	0	0
Others	2	14.29
Total	14	100

From table 9, it is seen that 85.71% of the college and university libraries used a fire extinguisher as equipment or facilities for fire prevention. 14.29% of the libraries used other equipment or facilities for fire prevention. No library used sand in a bucket and chemical reagent as fire prevention.

**Chart 11: Availability of Fire Alarm**

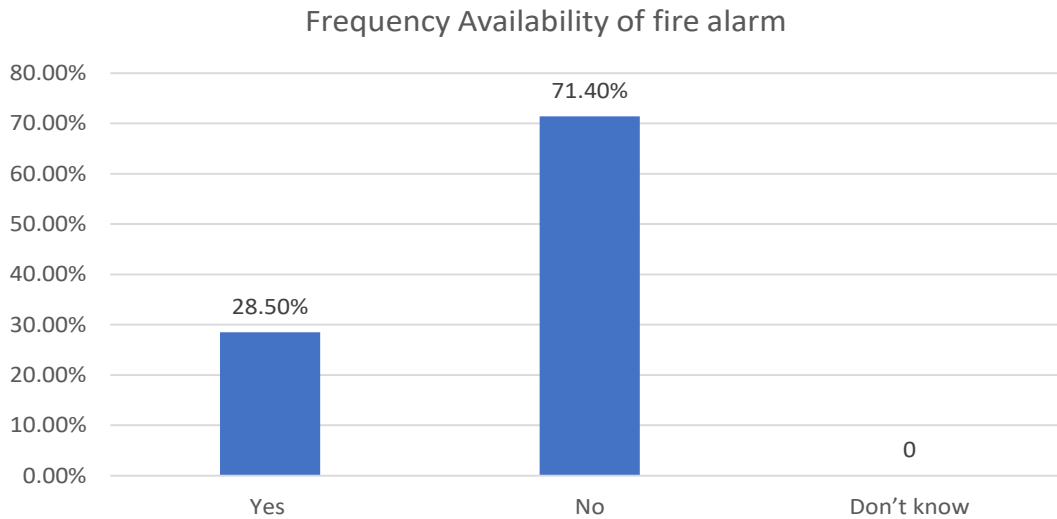


Chart 11 reveals that the majority of the libraries understudy did not have a fire alarm when a fire broke out, which represent a percentage of 71.4% (10) and this will lead to a difficulty for the staff and even the user in the library not to know when there is fire. But, it is also seen that some of the libraries, i.e., 28.5% (4), have a fire alarm in their library. The people there in the library will know when there is a fire by hearing the fire alarm.

**Chart 12: Functioning of Fire Alarm**

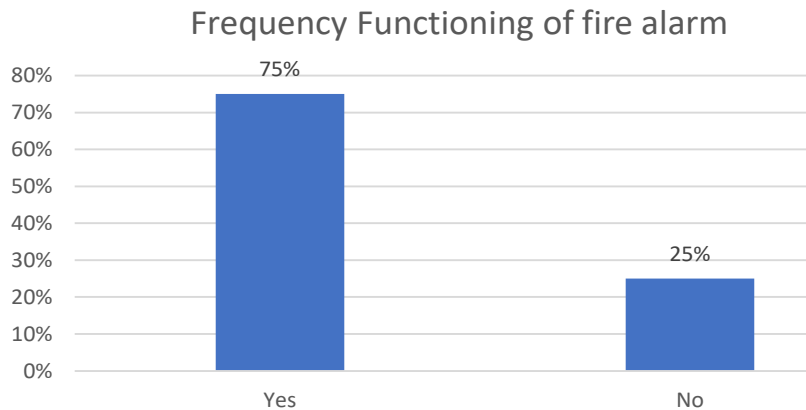


Chart 12 reveals that among the libraries that have a fire alarm, only 75% (3) of them have fire alarms that are functioning, while 25% (1) of the libraries have fire alarms that are not working at all. This result implies that most colleges and universities in Shillong lack equipment or facilities in their libraries for disaster prevention.

**Chart 13: Rate of Roofing of Library Building**

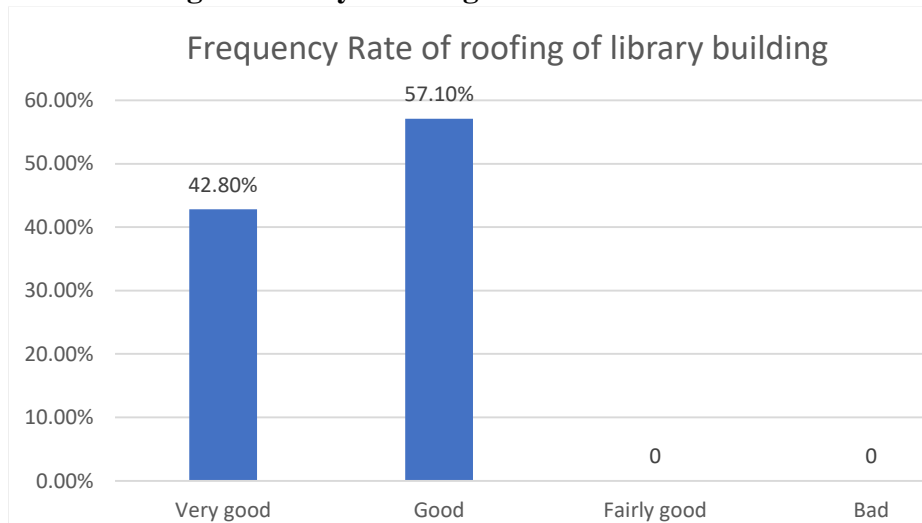


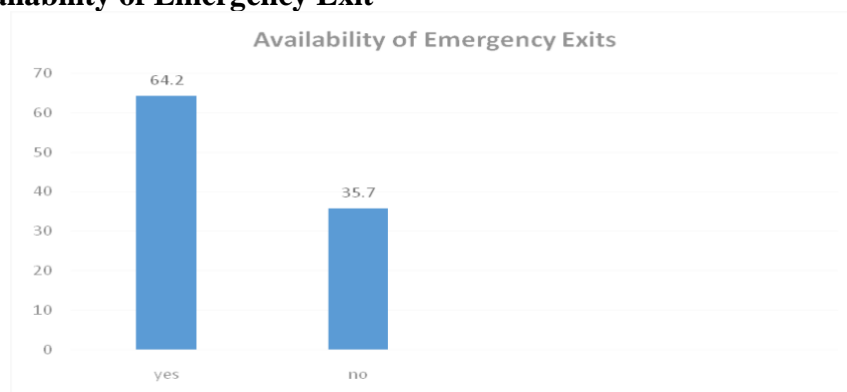
Chart 13 above reveals that 57.1% (8) of libraries rate their roofing of library building as good, and 42.8% (6) rate the roofing of the library building as very good.

**Table 10: When Earthquake Strikes**

When Earthquake Strikes	No of Response	Percentage(%) of Response
Yes	12	85.71
No	0	0
Don't know	2	14.29
Total	14	100

The librarians under study were asked whether they are aware or not of the Do (s) and Don't (s) when there is an earthquake. Table 10 shows that 85.71% of the librarians know what to do when an earthquake strikes and know how to overcome it. 14.29% of the librarians do not know what to do when there is an earthquake.

**Chart 14: Availability of Emergency Exit**



Emergency exits are critical in any library, either a college, university or even a public library. These emergency exits help to safely evacuate staff members or even the library users during any disaster. Having one emergency exit is good, but having two or more is way better. If there are many people or users in the building, it will be difficult to leave the building at once when

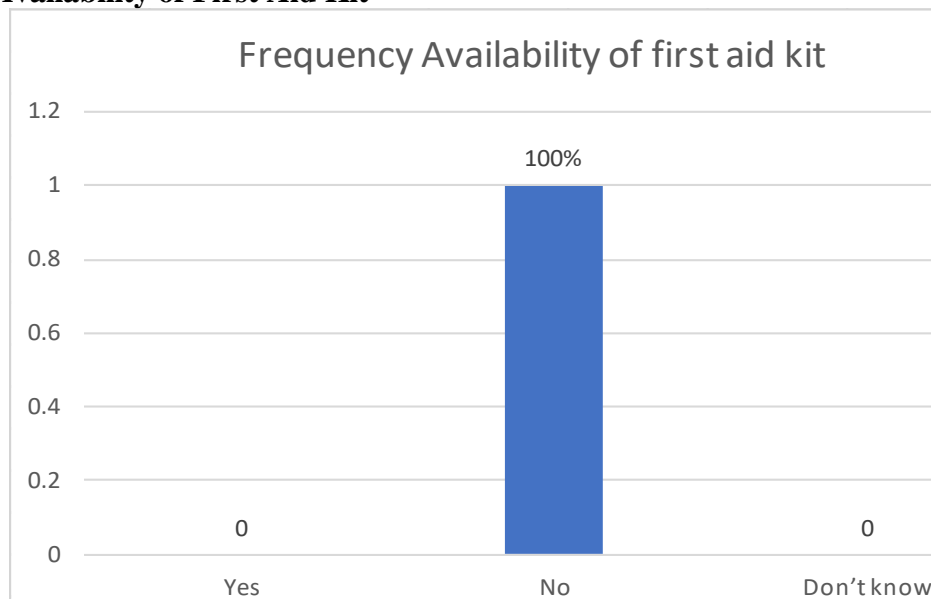
disaster strikes and may lead to some injuries. The question here is asked whether the library has an emergency exit or not, and if it has, how many emergency exits does the library have. So, from Chart 14 above, it was found that 64.2% (9) of the libraries understudy have emergency exits, and 35.7% (5) they don't have any emergency exits, this implies physical infrastructure of the library building in some colleges and universities are not good.

**Table 11: No of Emergency Exits**

No of emergency exist	No of Response	Percentage(%) of Response
One	7	77.77
Two	2	22.23
More than two	0	0
Total	9	100

Here, it was found that those libraries who have emergency exits, most of them, i.e., 77.77% (7) has only one emergency exit, while 22.23% (2) have two, but none of the libraries have more than two emergency exits, so the result shows that most of the college and university libraries lack a good physical building infrastructure. This will lead to difficulty for the staff members and even the users to get out of the building when any disaster happened, which is risky for their lives.

**Chart 15: Availability of First Aid Kit**



From chart 15, it was found that 100% of the respondents do not have a first aid kit in the library, i.e., none of the libraries under study have a first aid kit. This reveals how the college and university libraries in Shillong lack equipment or facilities like a first aid kit, which is essential that help to handle medical emergencies as quickly as possible when there is any injury in the library.

**Table 12: Maintenance of Electrical Appliance**

<b>Maintenance of electrical infrastructure</b>	<b>No. of Response</b>	<b>Percentage (%) of Response</b>
Yes	10	71.43
No	4	28.57
Total	14	100

Electrical maintenance involves the routine servicing and repair of electrical components of a library building. In this section, the librarians were asked whether there is an electrician to routinely maintain or check the electric service in the library or not, as the faulty electrical appliance may lead to fire outbreak or data loss during important work.

So, from the above table 12, it is seen that most libraries have an electrician to maintain the library's electrical wiring and other appliances. It is essential to routinely check the electrical power in the library so that the library will not be affected by a disaster such as a fire outbreak and power cut when some important work is carried out, which can lead to data loss. The present study also found that almost all of the college and university libraries in Shillong are doing or checking the electrical components once a year.

## 6. RECOVERY

**Table 13: Automatic Power Back-up System**

<b>Automatic power back up</b>	<b>No of Response</b>	<b>Percentage (%) of Response</b>
Yes	4	28.57
No	10	71.43
Don't know	0	0
Total	14	100

From the above table 13, it was found that the majority of the college and university libraries in Shillong, i.e., 71.43% they don't have an automatic backup system in the libraries. 28.57% of them have an automatic backup system that helps in backing up and storing data from a local network/system to a backup facility.

**Table 14: Library Material Installation**

<b>Library material</b>	<b>No of Response</b>	<b>Percentage(%) of Response</b>
Yes	14	100
No	0	0
Don't know	0	0
Total	14	100

Above table 14 shows that all the college and university libraries in Shillong, i.e., 100% of them have properly stored/installed the library materials to protect from theft.

**Chart 16: Back-up of the Damaged E-resources**

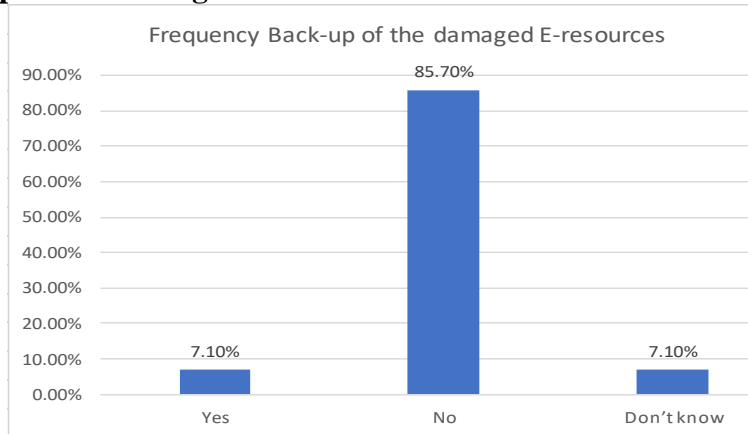


Chart 16 portrays that 85.7% (12) of the libraries understudy don't have any backup of the damaged E-resources, Only 7.1% (1) have a backup of the damaged E-resources. Only North Eastern Hills University (NEHU) central library has a backup of the damaged E-resources.

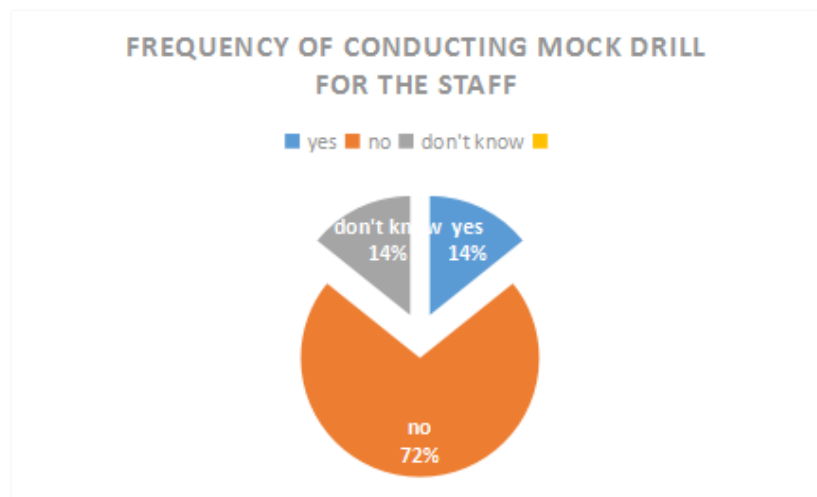
**Table 15: Installation of Solar Power System**

Installation of solar power system	No of Response	Percentage (%) of Response
Yes	6	42.85
No	8	57.15
Don't know	0	0
Total	14	100

From table 15 above, it is seen that 57.15% of the college and university libraries have no installation of the solar power system as a backup, which will lead to data loss during some critical work. About 42.85% of college and university libraries have shown that they have installed the solar power system as a backup during the power cut.

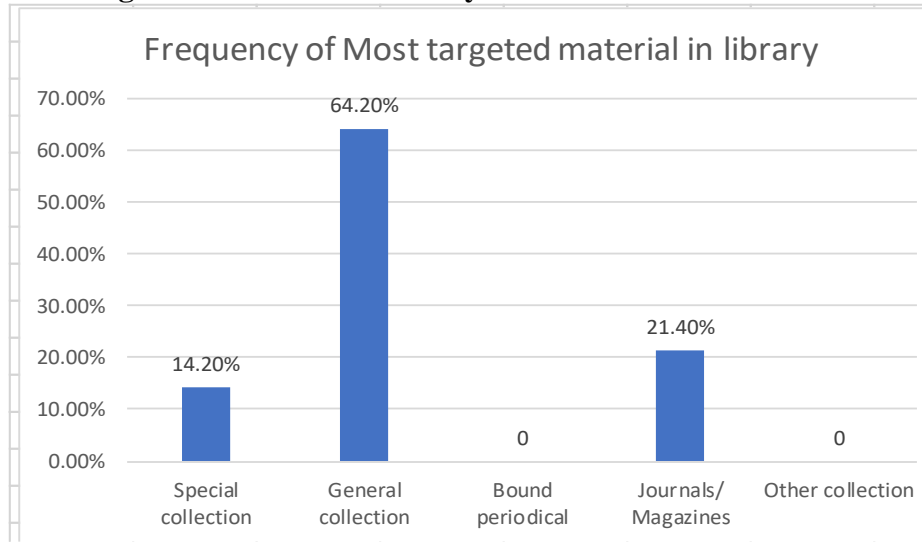
**7. MITIGATION**

**Chart 17: Conducting of Mock Drill for the Staff**



From chart 17 above, it is seen that 72% (10) of the college and university libraries in Shillong have never conducted any mock drill for the staff for preparedness of any disaster, but 14% (2) of them don't know whether any mock drill has been conducted or not. And only 14% (2) of them are conducting mock drills for the staff, so this implies that preparedness for disaster in college and university libraries in Shillong is very low. By conducting mock drills for the staff or giving training to the staff, they will know what to do and what not to do after the disaster occurs. So, conducting mock drills or exercises for the staff members in the libraries is very important.

**Chart 18: Most Targeted Materials in Library**



From the above chart 18, it was found that general collection was the most targeted materials which due to missing theft or misplacing of the materials by the users in the library with a percentage of 64.20% (9), followed by journals/magazines with 21.4% (3) and special collection with 14.2% (2).

**Table 16: Services provided to avoid Damaged of Collection**

Services provided	No. of Response	Percentage (%) of Response
Photocopying	11	78.57
Microfilming	2	14.29
Provided electronic resources	1	7.14
Total	14	100

From the above table 16, it was found that most of the librarians of different colleges and universities are providing more photocopying service with a percentage of 78.57% (11), followed by microfilming with 14.29% (2) and electronic resources with 7.14% (1) to avoid damage of collection in the library.

**Table 17: Availability of Emergency Telephone in the Library**

<b>Emergency phone</b>	<b>No. of Response</b>	<b>Percentage (%) of Response</b>
Yes	12	85.71
No	2	14.29
Don't know	0	0
Total	14	100

Availability of telephone in the library or different library sections will help the staff and even the user to use when there is an emergency contact during the library hours. Table 17 above reveals that 85.71% (12) of the libraries in colleges and universities understudy have a telephone in their library, but there are some colleges and universities with 14.29% (2) that don't have a telephone in their library or any section of the library for the staff or users to use it when there is an emergency.

**KEY FINDINGS:**

The followings are the key findings of the present study:-

1. None of the investigated libraries have a disaster management plan.
2. Not a single library has a disaster management team.
3. None of the libraries are prepared for any disaster.
4. Not a single library has adequate facilities for disaster response if any disaster occurs in the library.
5. None of the libraries understudy have a disaster management fund.
6. Most of the investigated libraries have not trained or lack of training on disaster management for their staff members.

**DISCUSSION AND CONCLUSION:**

This study focuses on the current status of disaster management of college and university libraries in Shillong. Three aspects are involved in determining the status of disaster management. The first aspect is related to having a written disaster management plan within each college and university library and whether they have a disaster management team or not. The second aspect is, based on the equipment and facilities available in the library to prevent mild disasters like a fire extinguisher, smoke detector, audible alarms, emergency kits, etc. The third aspect is whether the library management has disaster training like mock drills, fire evacuation drills, awareness programs, and exercises for the staff so that they are aware and know the do(s) and don't(s) when any form of disaster strikes.

The findings of the present study showed that the majority of the college and university libraries do not have a disaster management plan. This indicates that disaster preparedness in college and university libraries in Shillong is low. In addition, 57.15% of the college libraries don't even know about the plan. This implies that most college libraries in Shillong will not be able to manage disasters efficiently in case they happen anytime.



The second aspect is based on the equipment facilities available in the library for the prevention of mild disasters, i.e., whether the library has a fire extinguisher, emergency kits, audible alarms, etc. From the study, it implies that 85.7% of the college and university libraries in Shillong have a fire extinguisher, but some of the colleges they do not even have a fire extinguisher, and if they have, they don't know how to operate them, 71.40% of the libraries don't have a fire alarm, and 100% they do not have emergency kits or first aid kits. This implies that equipment facilities for disaster response in these libraries are still deficient.

The third aspect is based on disaster management training for the staff. Previous studies suggested that staff with sufficient training can manage and even prevent disaster effectively. From the present study's findings, it was found that 92.8% of the college and university libraries in Shillong do not train their staff to be prepared for any disaster. There were no emergency/simulation exercises for the staff. Giving them simulation exercises, as in the case of conducting mock drills for the staff, will give them awareness and readiness of disaster, which can happen anywhere and anytime. The results of the present study revealed that the college and university libraries in Shillong never conduct training for library staff, and thus they are not well prepared if any disaster strikes anytime.

The present study discovered that it is an alarming situation for the libraries of higher education institutions in Shillong in this aspect. The north-Eastern part of India is prone to natural calamities, especially earthquakes, humidity, etc., and not to exclude computer viruses. Therefore, the present study is an eye-opener for the stakeholders of higher education institutions to consider the importance of disaster management in libraries seriously. And actually, this issue is the need of the hour which should not be delayed; immediate actions are required.

### **RECOMMENDATIONS:**

Based on the findings of the study, the following recommendations have been put forward:-

1. Libraries, especially in higher education institutions in Shillong, should have a well-framed disaster management plan.
2. Libraries under study should have a disaster management team.
3. The libraries under study should have a special fund for disaster management.
4. Libraries under study should have adequate equipment, facilities, and infrastructure like fire extinguishers, solar power systems, temperature control machines, powerful backup of e-resources, smoke detectors, and fire alarms, etc., to prevent from major loss of their collections in case the disaster occurs.
5. Libraries under study should regularly train their staff members to prepare for any disaster by conducting training, mock drills, simulation exercises, etc.

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