

Disaster Management Approaches in Professional College Libraries of South Goa

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DECLARATION

I hereby declare that the data presented in this Dissertation report entitled, "Disaster Management Approaches in Professional College Libraries of South Goa" is based on the results of investigations carried out by me in the Library and Information Science at the D.D. Kosambi School of Social Sciences and Behavioural Studies, Goa University under the Supervision of Dr. Shamin Pereira and the same has not been submitted elsewhere for the award of a degree or diploma by me. Further, I understand that Goa University or its authorities will be not be responsible for the correctness of observations / experimental or other findings given the dissertation.

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This is to certify that the dissertation report "**Disaster Management Approaches in Professional College Libraries of South Goa**" is a bonafide work carried out by **Sumidha Gaonker** under my supervision in partial fulfilment of the requirements for the award of the degree of **M.L.I.Sc.** In the Discipline Library and Information Science at the D.D. Kosambi School of Social Sciences and Behavioural Studies, Goa University.


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CHAPTER 1

INTRODUCTION

CHAPTER 1

INTRODUCTION

1.1. INTRODUCTION

Libraries are referred to as the heart of the institutions, invaluable centre of knowledge, offering access to books, resources and often the community programs also provide digital resources, workshops and even spaces for collaboration and innovation

Disaster are events that cause significant disruption , damage, impacting communities, economies and environments. They can be natural like hurricanes and earthquakes , man made like industrial accidents, terrorism and technological like computer failure , system failure, etc.

A disaster is unpredictable which threatens human safety and damages a library's buildings , collections, contents, facilities or services. Disaster often result in loss of life, displacement of people, infrastructure damage and economic setbacks.

Managing and mitigating their impact requires preparedness, response and recovery efforts fro government, organizations and community.

1.2. DEFINITIONS

1. Baumwoll defines disaster as the occurrence of a hazard or event that may cause harm, and the inability of a society to manage the consequences of the event. (Baumwoll, 2008).
2. Sharma, Deka and Das defines disaster as “unexpected even that may drastically threaten the lives of humans or building which destroy the information infrastructure”. (Sharma, et al., 2018).
3. According to Charlotte defined disaster as “an even that is beyond the powers of the first res-ponder to prevent or control and that result is serious damage and prolonged service destruction at several site and possibly a number of casualties.”(Charlotte, 2003).

4. Eden, Graham and Feather define disasters as “any incidents which threatens human safety or damage library building, collections equipment’s and systems”.
(Eden, et al., 1996).

1.3. RESEARCH QUESTIONS

Libraries are important part of society. It collects serves and preserve the materials for the current as well as future generation. But if in case of disaster it suffer from interruption of services. It is important to preserve the reading materials for future generation because our literature is very ancient, rich and valuable. If these are destroyed then the recovery is impossible. It is necessary for the Libraries to follow the different phases of disaster management.

1. If any disaster happens how it will be tackled by the librarian and staff ?
2. Will the library continue to function during the disaster period ?

1.4. OBJECTIVES

- i. To study whether professional college libraries are fully prepared for disaster management.
- ii. To find the library/ institution has any Emergency Response Team.
- iii. To study if library staff is sufficiently trained to handle the situation.
- iv. To examine the latest available technology tool that can be used during disaster.

1.5. SCOPE

- i. The study is based on the preparation of disaster management in professional college libraries of south Goa.
- ii. The study will include 10 professional college libraries of south Goa.

1.6. HYPOTHESIS

- i. The professional college libraries of South Goa are fully prepared to tackle with any type of disaster in library.
- ii. Most of the professional college libraries of south Goa don't have Emergency Response Team.

1.7. THE POPULATION OF STUDY

The study will include 10 professional college libraries of South Goa as follows:

1.	Shree Rayeshwar Institute of Engineering IT Shiroda
2.	Goa College of Engineering
3.	GVM's Dr Dada Vaidya College of Education (B.Ed.)
4.	St. Joseph Vaz College
5.	Don Bosco College of Engineering
6.	Padre Conceicao College of Engineering
7.	Gomantak Ayurveda Mahavidyalaya & Research Centre
8.	Govind Ramnath Kare College of Law
9.	PES's Rajaram Tarabai Bandekar College of Pharmacy
10.	PES's College of Education, Farmagudi Ponda Goa
11.	Shri Kamaxidevi Homoeopathic Medical College & Hospital
12.	V. M. Salgaocar Institute of International Hospitality Education

1.8. RESEARCH METHODOLOGY

The precise methods used to find, select, process and analyze material on a topic and obtain the desired goals and objectives are referred to as research methodology.

- i. The study, professional college libraries of south Goa will be selected to visualize a clear picture regarding disaster management.
- ii. Survey method will be used and data will be collected using questionnaire, observation and interview.

1.9. FINDINGS

1. The library management inspects their library's disaster fighting equipment on a regular basis. The study showed that of the 12 professional college libraries of South Goa, the library management committee of 2 (17%) libraries examine their equipment on a weekly basis, 1(8%) library on a monthly basis, another 1 (8%) library gets them checked on quarterly bases, and 8 (67%) libraries examine them on a yearly basis. This is a good practice followed by the institution committee to upkeep the safety measures of the library premises.
2. Disasters in the library are also caused by the users, like tearing book pages, damaging library resources etc. To prevent the users from mutilating the books, the libraries were found to implement various actions like giving a warning to the miscreant, demanding the user to replace the damaged book with the latest edition, imposing fine, suspending the user for one month from using the library or issuing a warning letter to the wrongdoer.
3. Almost all the 12 professional college libraries are not using any technological tool to avoid disaster. However, according to them, technology can be used to improve disaster management strategies wherein sensors can provide early warning systems, mobile and social media can be used as practical communication tools, and drones can be used to survey the area, and perform GIS mapping.
4. These institutions provide training to their staff through on-the-job training, conferences, seminars, and online courses. The training was on various aspects

like using the emergency response equipment, first aid box, and basic search and rescue operations.

5. It is seen that of the 12 professional college libraries of South Goa, 8 (67%) libraries have fire extinguishers, 8 (67%) libraries have CCTV, 3 (25%) libraries have fire and smoke alarms, 1(8%) library has fire tracers, 1(8%) library has glass break alarm, 1 (8%) library has fire sprinklers, 1 (8%) library has wet/dry vacuum cleaner for handling immediate disasters in the libraries.

1.10. THE ORGANIZATION OF STUDY

Chapterization of the research study will be done as follow:

Chapter I- Introduction

Chapter II – Review of Literature

Chapter III – Explanation of Concepts

Chapter IV – Disaster Management Approaches at National and International Level

Chapter V – Data Interpretation and Analysis

Chapter VI – Finding, Suggestions and Analysis

Chapter VII – References

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CHAPTER 2

LITERATURE REVIEW

CHAPTER 2

LITERATURE REVIEW

2.1. INTRODUCTION

A review of literature is critical while doing any research work to know and understand the background of the research topic. A literature review summarizes books, scholarly articles, and other sources relevant to your topic and may highlight particular issues, areas of research, or theories. It provides a description, summary, and critical evaluation of these works concerning the research problem being investigated. A literature review is designed to provide an overview of sources referred to while researching a particular topic and to show your researchers how your topic is excellent and helpful for others. A review of the literature is a summary of key sources.

1. This study aims to evaluate the disaster control protocols in the academic libraries of the Federal College of Education Zaria. Five research objectives were developed for the study with the following goals in mind: to identify the types of disasters that happen in academic libraries, to determine the strategies that can be used as preventative measures to prevent disasters, to identify the facilities and equipment available for handling disasters, to learn how the staff and users of the college library prepared for a disaster and to determine the difficulties encountered in implementing disaster management at the Federal College of Education Zaria Library. (Ahmad, 2023).

2. The study examined library security and disaster management in academic libraries in Nigeria's North-East Geopolitical Zone. Every time a calamity occurs, libraries suffer from endemic damage, leaving the impacted library appalling. This study examines the academic libraries' assistance by acquiring, preserving, and disseminating information resources that would satisfy the needs of both present and future users; this determined disaster management and library security in Academy libraries. Specifically, the study aims to identify the nature of the disaster that has affected academic libraries. The awareness and adoption

of modern technologies and the ability to safeguard and preserve their collection should be uppermost in their policies (Mahmood, 2023).

3. In recent years, there has been an increase in the frequency and effect of disasters in secondary schools, hampering the educational process. For example, in addition to fatalities and injuries, school buildings have sustained damage, have had to close, and frequently need students to miss extended amounts of time as they heal. The intensity and frequency of disasters have forced international organizations, particularly the United Nations agencies and other nations, to develop best practice models for institutions that include disaster and risk management training. Kenya continues to face numerous disasters in schools despite the deliberate efforts of the government and other stakeholders to emphasize preparedness. Most secondary school kids witness accidents and disasters regularly (Malemba, et al., 2023).

4. This study aimed to identify potential causes of library disasters and disaster readiness, response, and recovery problems faced by Saint Mary's University Learning Resource Center (SMULRC). The study discovered that natural disasters, including earthquakes, floods, and storm hazards, can occur and harm library materials and the building itself. Damage to library materials is likely due to arson, vandalism, and civil unrest, and regular housekeeping and maintenance methods were established. Overall results indicated no disaster plan in place, and disaster preparedness, response, and recovery procedures still require improvement; additional issues raised were the absence of a crisis response team, library assets and services insurance, and a shortage of equipment. The finding shows that disaster preparedness, response, and recovery practices still need improvement since no disaster plan exists (Orenia & Cabonero, 2023).

5. The study assessed the disaster management procedures used in a few Nigerian university libraries. It was found that different people had different opinions about how librarians handle disasters. Lack of disaster preparedness strategies, low funding for libraries, poor disaster facilities, and outdated technological equipment are a few issues with disaster management. The study

outlined methods for efficient catastrophe management in Nigerian university libraries. These tactics include creating a disaster preparedness plan, conducting routine surveillance to stop book theft and mutilation, evaluating potential risks and vulnerabilities to determine what emergencies could impact library collections, providing staff training, and increasing public awareness of protecting documents from destruction. (Oyeniran, 2023).

6. This study discusses several natural disasters and catastrophes that might affect libraries. The catastrophes endanger the library's equipment, materials, structures, and systems. Libraries are expected to be essential in preventing damage to their holdings and accessories. Thus, careful preparation for disasters is critical to reducing the risk they will have for libraries. The planning, preparing, responding, and recovering from disasters are also covered in this work. The disasters threaten library collection, equipment, buildings, and systems. Libraries are to play a vital role in preventing their collections and paraphernalia. The paper also discusses planning, preparing, responding, and recovering from disasters (Rode, 2023).

7. This speaks about the different types of disasters that can damage the library. There are some strategies for facilitating disaster control practices, but the most prevalent disasters in libraries are book mutilation, negligence of library staff, windstorms, climate, etc. Library facilities that should be available to control disasters are fire extinguishers, smoke detectors, CCTV, emergency exit doors, and fire alarms. These are the best examples of challenges like financial constraints, inadequate policy framework, inadequate power supply, and poor management facilities. Librarians should regularly assess hazards and vulnerability in their libraries (Abdullahi, et al., 2022).

8. The destructive nature of human activity is most evident in the northern regions of Nigeria, where Fulani herders and the terrorist organization Boko Haram have set fire to churches and schools and destroyed property and lives in some of the region's higher education institutions. Libraries and their resources have occasionally also been impacted. Thus, it is appropriate for these libraries to be aware of the negative consequences of disaster. The results show that

calamities have happened to public libraries in the North at some point. The comments indicate they are not nearly ready to handle a catastrophe. (Esse, et al., 2022).

9. The paper is about the effective oversight of the changing roles of universities in the context of these new disaster risk scenarios. Given the growing hazard of extreme weather events and the many disaster exposures resulting from climate change, universities' roles in disaster contexts must be reconsidered. Universities must adopt a more advanced resilience strategy in light of these shifting disaster risk scenarios that go beyond risk management planning or reacting to isolated disaster incidents. To facilitate discussions that take into account the various domains of duty for universities as educators, information producers, and enterprises with numerous stakeholders and extensive societal duties, a proposed framework for disaster-resilient institutions is provided. (Gibbs, 2022).

10. This study evaluates the current status of the disaster preparedness plan, as well as its preventive methods and preparedness. Their aim was to assess the state of three Assamese university libraries that were chosen as the study location. It was found that the selected libraries do not have disaster preparedness plans, they apply preventive measures and are ill-prepared for maintenance. The study also discovered that although all three of the chosen libraries implement disaster preventive measures, they lack resources for maintenance and quick reaction in the case of a disaster. (Phukon, 2022).

11. The purpose of this paper is to identify the kind of calamity that the library faces at the Indira Gandhi National Tribal University (Amarkantak). The survey also discloses the type of preventive actions the library implements. A documented disaster plan is a must for every library. Determining the documented catastrophe plan's exact location is, therefore, essential. It concludes that the library's potential to handle disasters is not thoroughly understood. As a result, this paper outlines the procedural measures that this library has used. The study's findings are beneficial for formulating upcoming regulations (Sahahane, 2022).

12. The study's primary goal is to look into the university library at Tezpur University's state of readiness, reaction, and recovery plans in place for safeguarding and preserving print collections in case of emergency. As part of library management, the study briefly covers disasters' varieties and the significance of disaster management plans in university libraries to raise awareness among library professionals about protecting print holdings. Print information resources are susceptible to damage and loss from fires and floods. Therefore, university libraries need to take disaster planning and management seriously to safeguard library print collections from terrible natural and man-made calamities for future generations (Gohain, et al., 2021).

13. The goal of this study is to evaluate the current level of readiness of academic libraries in Nigeria's southeast geopolitical zone for disasters. The study focused on the state of preparedness covering a range of topics such as the presence of emergency response teams, plans for disaster preparedness among academic libraries in the southeast and significant threats that could potentially trigger a disaster. The study revealed that southeast Nigerian academic libraries are still unprepared for calamity and highlighted the significant threats that could cause disaster, disaster preparedness among libraries, disaster preparedness measures, and the availability of emergency response teams. Also, there should be a written disaster preparedness plan for the libraries (Iroezza, 2021).

14. The current study examines the disaster management plans used nationwide in libraries and investigates the implications of disaster management strategies. Disaster management is a crucial function that reduces the likelihood of hazards occurring in libraries, evaluates the possibility of disasters, and aids in disaster response and recovery. A disaster management strategy helps reduce the risk of financial loss from a disaster and its likelihood of occurring. Regarding this, the National Disaster Management Policy of 2005 is a significant framework that helped libraries create disaster management plans and coordinate with other disaster management agencies. Most university libraries do not have a national disaster management plan in place (Kushwah, et al., 2021).

15. This study aimed to assess digital libraries' readiness and preparation for disasters in light of service sustainability. It took into account the following goals to determine the degree of planning and preparation for disasters, to learn about the training that the library staff has received, the most crucial component of libraries is preparing and planning for disaster from the time of library and information science, there has been a history of catastrophes happening from time to time. The digital library had inadequate disaster preparedness and planning equipment (Oketch, 2021).

16. This study used the Kaduna State College of Education Library in Gidan-Waya as a case study to look into disaster management techniques and policies in academic libraries. Four research objectives served as the main driving forces for the study - understanding the types of disasters that frequently occur in the Kaduna State College of Education, looking into the reasons behind them, determining potential safeguards the library should take, and creating plans to reduce them. The assessment results showed that the Kaduna State College of Education Library has previously suffered from several different types of disasters, including fire outbreaks, pest and insect attacks, theft, mutilation, and roof leaks. Some potential solutions to preventing disasters in the library include proper electrical and security installation, cooperation with multiple agencies, introduction of a disaster management plan and team, and good sanitation practices. Natural causes, poor sanitation, and negligence were likely the major causes of the disasters (Benedict, et al., 2020).

17. The library service assurance policies in colleges and universities were compiled and examined during the novel Coronavirus pneumonia (COVID-19) outbreak by looking through the official websites and We Chat public accounts of 32 public colleges and universities in Hubei Province. This research examined universities' and university libraries' resources' worked during the unique pandemic from three perspectives and attempted to present logical recommendations. When faced with significant public health emergencies, it must provide references and critical thinking for college and university libraries' emergency services. (Chen & Zhang, 2020).

18. The study examined librarians' perception of disaster preparedness and its effect on the practical preservation and conservation of library resources, focusing on university libraries in the Southwest geopolitical zone of Nigeria. The study recommended that libraries employ all preservation strategies to ensure the longevity and sustainability of all information resource considerations. It was also found that university libraries in the investigated region are not using the fundamental digital preservation measures. As a result, efforts were suggested to implement all types of preservation techniques to guarantee the durability and sustainability of all information resources (Ilo, 2020).

19. Libraries are essential and priceless historical archives of culture and society. They have been gathering, conserving, and sharing resources and documentation that are informative for the future. Libraries are continuously in danger of being destroyed because of their magnificent gems. They must thus take the necessary precautions to protect their infrastructure and collections, both in print and electronic format, from all types of calamities, both natural and man-made. Today's librarians may efficiently manage disasters in libraries by utilizing online resources, including databases, information systems, websites, mobile-optimized applications, etc. To improve library services in the future, a coordinated effort to prevent calamities must be launched (Kaur, et al., 2020).

20. This paper examines the preparedness and awareness of the Kwame Nkrumah University of Science and Technology staff, mainly the library, to prevent, fight, or manage disaster. This article looks at how knowledgeable and equipped the staff members of the main library at Kwame Nkrumah University of Science and Technology (KNUST) are to handle, avert, or combat crises. The investigation found that the library has adequate plans for managing, preventing, or combating calamities resulting from staff personnel receiving insufficient training. (Marfo, 2020).

21. Disaster management of university libraries as a disaster can be an unplanned occurrence at any time. The study aims to evaluate Nigerian university libraries' approaches to catastrophe planning and prevention. The study results showed that the following disaster categories happen in the university libraries under

investigation: biological agents, computer viruses, hacking, leaking roofs, and other subpar library building components. The university library's disaster preparedness tools and facilities include air fresheners, fire extinguishers, antivirus software, thunder arrestors, sand buckets, and emergency exit doors. The library under study has adequate disaster facilities, equipment, and disaster information (Patrick et al., 2020).

22. The study intends to compare the insights from the Biblical disaster management plan with an analysis and discussion of specific abilities and principles related to disaster management in libraries and information centers. It focuses primarily on how biblical disaster management principles and plans might be applied to modern disaster management in libraries. It offers a synopsis of biblical understanding and catastrophe management in libraries. It focuses on disaster management plans crucial to the library's survival. It also provides strategies for disaster recovery plans, which are put in place to help things get back to normal after a disaster strikes and disrupts all of the institution's resources, potentially leading to a loss of income (Stephen, et al., 2020).

23. Throughout Hurricane Florence's 2018 path, public libraries in the Carolinas used Twitter to interact with their local communities. To better understand the specifics of the interactions between the libraries and the communities they serve, 738 tweets from 17 libraries with a Twitter presence were examined using the frameworks of crisis informatics, content analysis, and network analysis. Among the conclusions is that the libraries used Twitter to share a variety of content both connected to and unrelated to disasters. Compared to the before or after phases, there was a sharp decline in the quantity of tweets on general libraries (Yang et al., 2020).

24. Events that have disrupted academic libraries have happened throughout history. Case study examples of occurrences, advice on creating an emergency management strategy, and instruction on retrieving or restoring items, particularly those relating to special collections needing specialized handling skills, are the main offerings of academic literature. Academic libraries may require a changing approach to traditional risk management thinking, and increasing consideration

towards resilience-building measures may help these libraries build resilience against disruptive events to protect cultural heritage. An emergency management plan is valuable for building strength and developing staff (Garnett, 2019).

25. This study records the effects of Typhoon Haiyan. The findings showed that although most libraries lacked a disaster management plan, they all had standard disaster management procedures that allowed them to preserve portions of their holdings. Furthermore, the study found that librarians lacked crisis management expertise. All the libraries have disaster management practices, although not enough to lessen the effect of the disaster and save their library and part of their collections where necessary. Libraries don't have library disaster management plans, and staff and even the librarian remain under-trained because they lack support from the administration (Superio, et al., 2019).

26. Marawi City, Lanao del Sur, Philippines' academic libraries are susceptible to natural catastrophes. Most disasters are terrorism, war, civil unrest, flood, earthquake, and fire. Whether the tragedy was small-scale or large, most were unprepared, and only one library had a disaster management strategy. Furthermore, most did not have personnel trained in disaster management and preparedness. A disaster management plan is essential because it can guide library personnel on what to do in a critical time. However, most libraries do not have a disaster management plan and practices that enable them to save part of their collections. They all had a typical disaster management plan due to a lack of knowledge and skills in disaster management. The majority of the library buildings are made of poor materials. Staff training is required, but financial constraints remain challenging (Superio, et al., 2019).

27. Libraries are not immune to disasters and must be well prepared for such eventualities, especially in a disaster-prone area like Assam. The current study was conducted to investigate disaster preparedness in college libraries. The main instruments used to collect pertinent data from the libraries were a questionnaire and a survey method. Most college libraries were found to be highly ill-prepared to deal with emergencies, lacking emergency exits, written disaster plans, fire alarms, emergency power supplies, policies banning smoking, data backup, and

insurance. Most libraries lacked disaster preparedness and were ill-prepared to confront a situation coming out of disaster (Barua, 2018).

28. This study examined disaster preparedness in Australian national, state, and territory libraries. It also looked into creating an integrated disaster plan to coordinate disaster responses across all collecting forms, including digital and physical. In addition to physical assets, they also include expanding collections of digital materials. However, their disaster plans usually concentrate solely on managing tangible assets. I.T. systems employees are typically tasked with disaster planning, and the digital collections are managed independently. (Brown, 2018).

29. To determine disaster readiness and response procedures in university libraries in Southwest Nigeria, the study assessed the degree of catastrophe equipment availability. The study found that fire extinguishers, sand buckets, emergency exit doors, antivirus software, and thunder arrestors were readily available. The libraries lack other essential catastrophe supplies, including dehumidifiers, dryers, dust extractors, plastic sheet coverings, warning alarms, etc. According to the study's empirical findings, the availability of disaster gear and the degree of practice-based preparedness and reaction for disasters are positively and significantly correlated (Ilo, et al., 2018).

30. This study explores disaster preparedness and security measures for conservation and preservation methods in university libraries in southwest Nigeria. The findings revealed that the traditional security method is more used than the electronic security system. The library personnel has adequate training in security and disaster management. The library should adopt proper safety and disaster preparedness to guide against disaster occurrence. A comprehensive insurance scheme is necessary. (Osunrinde & Adetunla, 2018).

31. This study examined secondary schools in Homa-Bay County, Kenya, regarding their awareness of and readiness for disasters. The goals included identifying the different kinds of disasters encountered and how frequently they happen, as well as the degree of planning for disaster response and awareness and

readiness. Since research has shown that the area is prone to flooding, most schools experience rain-related calamities. (Wanjala, et al., 2018).

32. This essay discusses how libraries may help communities become more resilient to disasters by facilitating access to vital information and resources after a calamity. This study reviews the body of research on libraries' crisis response, highlighting the literature's advantages and shortcomings that call for more in-depth analysis. This gives libraries a quick rundown of the data that is currently available to use in the creation of emergency plans. The strengths, weaknesses, and existing academic research on this topic are used to analyze the framework of threats, vulnerabilities, and opportunities (Young, 2018).

33. These days, modern libraries and information centers that serve as cultural repositories are unsafe due to potential risks that might arise from human or natural sources at any time or location. It has been noted that libraries and information centers are currently dealing with threats from human and natural sources. Therefore, professionals working in libraries and information centers must step forward to save these establishments by all means necessary. The authorities should use appropriate disaster management strategies and tactics to protect them from impending dangers (Chakrabharti & Pramanik 2017).

34. In this paper, university libraries were investigated for preservation and disaster management. The study discovered that none of the libraries under investigation had documented policies for conservation and preservation, and in rare instances, they were not followed. Additional research reveals that the academic libraries under investigation have disaster management procedures and preservation issues. The report made several recommendations, including the provision of preservation and catastrophe management policies in academic libraries and the strict enforcement of these policies by the governing organizations of educational institutions (Ishola, 2017).

35. The objective of the present study is to ascertain and suggest the roles a librarian & the supporting staff perform during any disaster or emergency. The paper also aims to spread awareness among library professionals, particularly

regarding their prospective roles in case of an emergency. It may be said that having a formal catastrophe plan and disaster management protocols is crucial for all libraries. In addition, the library and information science curricula need to be adjusted to reflect the significance of disaster management for libraries and information centers. (Mane, 2017).

36. The study examined the staff preparedness level for fire disasters at the University of JOS library. The staff is very aware of fire safety measures and the availability of fire fighting equipment in the library. Different roles should also be assigned to manage disasters based on the outline of the plan. There is also a need to acquire and install more fire fighting equipment, including modern equipment, and staff should be trained on the use of equipment. Most respondents knew about the library's fire safety regulations and precautions. (Nwokedi, 2017).

37. The results of a study on risk management in public libraries are presented in this article. The study aimed to ascertain whether the libraries were in danger and look into risk management and disaster recovery in public libraries. Seven in-person interviews were conducted with librarians and managers in four public libraries. Participants mistook occupational health and safety procedures for risk management and disaster recovery. Not a single participating library has a catastrophe or risk management plan. The risk of a disaster is not rated by the library managers (Velasquez, et al., 2016).

38. Disasters in libraries come in two parts: natural and man-made. Natural disasters include floods, fires, earthquakes, and storms, while man-made disasters include wars, negligence, power failure, armed conflicts, and terrorism. The study seeks to evaluate the preparedness for disasters. The study showed a general absence of security policies and negligence of a disaster plan at a time of urgency. The recommendation is that libraries develop guidelines for disaster management. They required organized training staff to control the disaster and organized programs for staff to increase their awareness about the tragedy (Ayoung, et al., 2015).

39. This study discusses the different calamities and natural disasters that might affect libraries. Libraries and information centers are essential for maintaining their collections. Thus, careful preparation for catastrophes is critical to reducing the risk they will have for libraries. The article also covers disaster planning, preparation, response, and recovery. The staff should be trained, and they must be aware of the contents of the disaster plan and know their role individually. Generating awareness regarding disaster management is crucial and significant (Bansal, 2015).

40. The study examined five public libraries in South West Nigeria's crisis management procedures. According to the survey, all library boards had implemented sufficient steps to reduce the likelihood of disasters and the majority of staff members were completely aware of these procedures and knew how to use the available catastrophe supplies. All face difficulties, including non-functional firefighting equipment, limited facilities, techno-phobia, financial incapacity, and a lack of enthusiasm or casual attitude on the part of library staff. Based on these results, it was suggested that, to improve the presentation and preservation of library materials, more focus and attention be paid to disaster prevention programs in all library boards (Kolawole, 2015).

41. The study examines the different types of disasters in university libraries in South East Nigeria. However, it was found that no significant technical and coping measures were applied in managing disasters in the university libraries. The policy framework or disaster plan and comprehensive insurance policy should be in place to safeguard and preserve library resources. The study suggested that a complete insurance policy and policy framework or catastrophe plan should be in place to protect and maintain library resources. (Ugwuanyi, 2015).

42. In this study, twenty-one heads of academic libraries in northeastern Nigeria were asked about their condition of disaster readiness. The study's conclusions showed that some staff members were not being sensitized, and staff sensitization and understanding of disaster preparedness were at an all-time low. The primary hazards to the security of library materials were termites, insects, rodents, and

roof leakage; libraries lacked an insurance policy for their resources. The study suggested that libraries should have disaster plans or disaster response plans. It is also recommended that regular compulsory awareness training sessions be held for staff (Abareh, 2014).

43. Like any other man-made structures, library structures and contents are vulnerable to natural disasters. Natural phenomena, biological elements, chemicals, insects, animals, humans, and environmental variables can negatively impact libraries and their resources. Certain uncontrollable factors, such as natural disasters, might negatively impact libraries. This research seeks to identify some critical disaster prevention and mitigation elements in libraries. A few topics about risk management in the library industry have been covered (Dharmasiri, 2014).

44. This study aims to examine the significance of disaster prevention and the steps that may be taken to reduce the impact of all-natural catastrophes in libraries. Recently, disasters in libraries and other associated information centers have become widespread worldwide. These catastrophes stem from both natural and human-caused factors. In a real crisis, the staff members should be aware of the risks associated with it and their responsibilities. The importance of disaster management stems from the invaluable resources, services, and potentially compromised security measures found in libraries. Given the destruction of some material goods, physical infrastructure, and human lives caused by various catastrophes, efforts must be taken to reduce the significant losses that disasters can cause (Rehman, 2014).

45. The study sought to assess disaster management practices in school libraries, using Ago Khan Academic Library as a case study. It includes several recommendations, which include institutions of disaster management implementation. It consists of background information on disaster management information centers, especially school libraries, and it was found that school libraries faced number of disaster problems that need to be properly managed by putting the measures in place. Disaster problems faced by school libraries are fire, floods, wars, student riots, negligence, poorly maintained buildings, etc. Disaster

management plans should be practiced in libraries so that they do not affect students and other school members (Waweru, 2014).

46. Water can enter library premises for various reasons, including flooding, leakage, severe rains, hurricanes, and the activation of fire sprinklers due to a fire. It may harm the infrastructure and resources of libraries. The article explains how libraries can be ready for these kinds of incidents and how to handle any damaged materials. Numerous global examples demonstrate how water harms library resources to varying degrees, whether due to human error or natural calamities. It is essential to take preventative action and to treat damaged resources as soon as possible. Damage to libraries due to water highlights that water is not only the most common but also the most potent factor. It damages the library resources and infrastructure (Zaveri, 2014).

47. This report emphasizes using libraries and information centers in disaster and emergency management. The paper's primary goal is to investigate any additional functions that library professionals might play besides their regular or routine work in times of calamity. The role that library professionals play in handling emergencies for the local community in particular, as well as for libraries and information centers in general, is covered in this paper. There has also been a discussion of various ICT (information and communication technology) components that can help reduce the damage caused by natural disasters. It also briefly discusses the steps made by UNESCO to raise public awareness and educate individuals (Rattan, 2013).

48. The paper explores disaster management in terms of its perception, problems, and strategies. The study looked into perspectives, issues, and solutions related to disaster management in university libraries in South Eastern Nigeria. It was found that opinions about disaster management among librarians differ. Inadequate funding for libraries, inadequate facilities, and a lack of enthusiasm for librarians are some issues with disaster management (Echezona, 2012).

49. Even though disaster avoidance issues have been well-researched in the literature and are ingrained in routine library operations worldwide, most Greek

libraries have not created any particular protocols. By examining the findings of a national survey, this paper aims to analyze various approaches to disaster management for academic libraries and offer recommendations for Greek academic libraries. This paper seeks to review various disasters and natural calamities in libraries. Library and information centers have a vital role in preserving their collections. The fearsome economic crisis is further demanding disaster preparedness due to several side effects, including the lack of personnel and equipment maintenance activities, inadequate building, and insufficient funding (Kostagiolas, et al., 2011).

50. The setting discusses how libraries assist North East India in disaster relief efforts. It talks about some major natural catastrophes that frequently occur in the region, like floods, earthquakes, and landslides. It shows how vital the Cachar district library was as a center for exchanging information and as a camp for rescue during the devastating flood in Assam's Barak Valley in 2004. (Satpathy, 2007).

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CHAPTER 3
EXPLANATION OF CONCEPTS

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3.1. INTRODUCTION

There are enormous expectations on libraries as a whole to modify not only how they operate but also what resources and information they offer. Librarians have a tendency to view continuous disarray and feelings of uneasiness when they see the need for change. Libraries' vitality and relevance are coming under more and more threat. Because of the increase in information available through electronic means, faculty and students both on and off campus have higher expectations of the library. The dynamic landscape of higher education has required librarians to play a variety of roles, including those of collaborators, integrators, instructional designers, information consultants, and models of information delivery. These roles have not only led to a need for stronger faculty-librarian relationships, but also for significant transformations in the nature of these relationships. The requirement to comprehend various methods for obtaining content, managing content, access rights, collection development rules, and other related topics, along with the risks involved in managing various activities in collaboration with other librarians, publishers, system professionals, students, faculty, and others has become a challenge. (Rehman, 2014).

3.2. DISASTER

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 where a disaster occurs. Therefore, every library and information center need to have a disaster management system 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. (Abareh, 2014).

3.3. DISASTER MANAGEMENT

Disaster management assists in determining the likelihood of hazards and learning the consequences of risks to library materials. Disaster management aims to look at the precautions by which disasters can be prevented and minimized. It comprises preparation for disasters, prevention and covers other subjects such as risk evaluation, training and funding needed to implement it. (Mahmood, 2023).

3.4. DISASTER IN LIBRARIES

Libraries are centers of learning. They act as repositories of cultural heritage. Libraries collect, stock, process, organize, disseminate and distribute information recorded in documents. Libraries play a vital role in the educational process of formal and non -formal learning, in research and development, cultural activities, spiritual realms, recreation and entertainment. Libraries through their books, journals, and other learning materials enable readers to partake of the wisdom and knowledge accumulated, treasured and enshrined in documents over centuries. Access to existing knowledge and information is essential for research. Libraries cater to the recreational needs of the users. Libraries act as the heart of an academic institution supporting teaching and research. They help to preserve the wealth of knowledge which symbolizes the onward march of mankind on the path of progress and enlightenment from the stage of primitivism to modernism. (Bansal, 3015)

Libraries have stack of books, journals, reports, conference-proceedings, rare materials and antiquities, equipment (computers, photocopiers), furniture which form an integral part of library's material, all of which as well as building is susceptible to disaster. Libraries are the heart of academic institutions and have the sources of information collection in a variety of formats which are required to be protected from disaster through disaster planning. In this new technological era, libraries have modernized and automated their operations and services. Libraries are adopting new technology, formats and contents to better meet service delivery mandates. Changes are accompanied by new risks to library operations and additional challenges to recovery of essential services after a major interruption. Libraries safeguard the tangible as well as intangible products of human intellect. But these repositories of information are amenable to natural process of deterioration. Some of the causes of

natural deterioration include acidity of paper, copper corrosion of miniatures, chemical burning of leather, pest infestation, termite etc. Libraries also face threat from computer viruses. (Bansal, 2015).

3.5. TYPES OF DISASTER OCCURS IN LIBRARIES

When we talk about disasters, the first thing that comes to the mind is the destructive forces of nature. The instances where the equilibrium of nature is disturbed by unforeseen and uncontrollable events are often treated as disasters. They may be termed as “acts of God” which are literally speaking, beyond the control of humans. At the same time disaster may be the result of a reckless or intentional human act and technical difficulties. Three main kinds of Disaster: (Mahmood, 2023)

3.5.1. Natural disasters

Natural disaster is any calamitous occurrence generated by the effects of natural, rather than human-driven, phenomena that produces great loss of human life or destruction of the natural environment, private property, or public infrastructure. A natural disaster may be caused by weather and climate events. (Dharmasiri, 2014).

- **Earthquakes:** An earthquake is a sudden and rapid shaking of the ground caused by the shifting of rocks beneath the earth’s surface, or by volcanic or magma-tic activity in the earth. It strikes suddenly without warning and can occur at any time. They can lead to death, injuries, property damage, loss of shelter and livelihood and disruption of critical infrastructure.
- **Floods:** Floods when water overflows from the normal boundaries of a stream, river or other body of water, or accumulates in an area that is usually dry. There are two main types of floods Inundation floods are slow and develop over hours or days. Floods are also predicted to become even more frequent and severe in future due to climate change.

- **Landslides:** A landslide or landslip is the mass movement of rock, earth mud down a slope. While most landslides are caused by rainfall, earthquakes, volcanic eruptions, groundwater pressure, erosion and snow and gravity melt.
- **Drought:** Drought is a long lasting period of low precipitation resulting in a shortage of water. When communities don't have enough water for drinking, sanitation and agriculture it can lead to food insecurity, the spread of diseases, migration and economic losses.
- **Cyclones:** Cyclones are caused by atmospheric disturbances around a low-pressure area distinguished by swift and often disruptive air circulation.
- **Forest Fire:** Forest fires are as old as the forests themselves. They pose a threat not only to the forest wealth but also to the entire regime to fauna and flora seriously disturbing the biodiversity and the ecology and environment of a region. (Dharmasiri, 2014).

3.5.2. Human/ man-made disaster

Man-made disaster: The difference between natural and man-made disasters is the element of human intent or negligence that leads to human suffering and environmental damages, many may look like natural disasters, yet man has a direct hand in their occurrence. These are the net result of inadequately managed man-made hazards and they typically cost the most in terms of human suffering, loss of life and long-term damage to a country's economy and productive capacity. A disastrous event caused directly and principally by one or more identifiable, deliberate or negligent human action. Popular examples of man-made disaster are civil unrest, fire outbreak, terrorism, biological Infestation, theft and mutilation. (Mane, 2017).

- **Chemical pills:** Chemical, being at the core of modern industrial systems, has attained a very serious concern for disaster management within government, private sector and community at large. Chemical disasters may be traumatic in their impacts on human beings and have resulted in the casualties and also damages nature and property. The elements which are at highest risk due to

chemical disaster primarily include the industrial plant, its employees & workers, hazardous chemicals vehicles, the residents of nearby settlements, adjacent buildings, occupants and surrounding community.

- **Terrorism:** Terrorism is the use of force or violence against persons or property in violation of the criminal laws of the United States for purposes of intimidation, coercion, or ransom. Terrorists often use threats to create fear among the public to try to convince citizens that their government is powerless to prevent terrorism and to get immediate publicity for their causes.
- **Bomb threats:** If you receive a bomb threat, get as much information from the caller as possible. Keep the caller on the line and record everything that is said. Then notify the police and the building management if applicable.
- **Fire outbreak:** Unlike in the case of terrorism and civil unrest where people intentionally set fire. The library can also experience fire outbreaks mostly caused by electric spark, power surges, negligence, smoking, etc. Fire is difficult to control when it turns into inferno, as it has wrath on burning and scorching everything on its path, fire has no respect for man , rich or poor.
- **Poor design and quality building:** It leads to various issues like structural instability, safety hazards and decreased aesthetic appeal. Its crucial role to ensure functionality and longevity.
- **Biological agents:** Biological agents include bacteria, viruses, fungi, other microorganisms and their associated toxins. Almost all book components, be its paper, leather, textile or straw board used for binding are prone to attack by these biological agents. The climatic conditions accelerate the growth and multiplication of living organisms. (Mane, 2017).

3.5.3. Technical Disaster

A technical disaster refers to any unexpected event or incident that disrupts the normal functioning of technological systems, infrastructure, or services within an

organization. This can include events such as server crashes, data breaches, network outages, software failures, hardware malfunctions, cyber attacks, and natural disasters impacting IT infrastructure.

- **Computer system failure:** System failures can occur due to various reasons, such as hardware malfunctions, software bugs, power outages, network issues, human errors, or a combination of these factors. They can also result from insufficient system resources, inadequate maintenance, or security breaches.
- **Power failure:** If a power outage occurs unexpectedly, tape cartridges can remain within a tape drive depending on the state of the library at the time of incident.
- **Telecommunication failure:** Disasters, whether arising from natural hazards or man-made, can have an incredibly adverse impact on societies and economic growth. Being prepared for disasters and managing disaster risk is crucial for saving lives and protecting the economy. Telecommunications and information and communication technologies play a pivotal role in disaster prediction, mitigation and management.
- **Heating the cooling system failure:** It can be frustrating and comfortable especially during extreme weather conditions its essential to troubleshoot the issue promptly to prevent further damage and discomfort.

Effective disaster management requires timely and effective sharing of information between various stakeholders, and telecommunications are essential for that purpose. This report contains some essential information to help countries and regions be prepared for all stages of a disaster – before, during and after the event – through the use of telecommunications. It includes detailed guidelines based on real-life case studies of members worldwide, whose experiences and lessons learned can help save millions of lives. (Patrick, et al., 2020).

3.6. EQUIPMENTS NEEDED IN LIBRARIES TO FIGHT DISASTER

Equipment like fire extinguisher, audible fire alarm, smoke detectors, break glass alarm, fire sprinklers, first aid kits, water detector, 'You Are Here Map' should be made available.

3.6.1. Fire extinguisher

Fire extinguishers are extremely important as they are the most commonly used for fire protection. In many cases they are a first line of defense and often contain or extinguish a fire, preventing costly damage. A fire extinguisher is a portable device designed to quickly and effectively control small fires. It typically consists of a pressurized container filled with an extinguishing agent, such as water, foam, dry chemical, or carbon dioxide. When activated by pulling the safety pin and squeezing the handle, the extinguisher releases the extinguishing agent through a nozzle. Fire extinguishers apply an agent that will cool burning heat, smother fuel or remove oxygen so the fire cannot continue to burn. A portable fire extinguisher can quickly control a small fire if applied by an individual properly trained.

3.6.2. Audible fire alarm

Loud sirens are a requisite part of any fire alarm system. The noise ensures that visually impaired people and those with limited hearing can still detect the need to evacuate. Audible alarms make a loud noise to alert workers and others. An audible fire alarm is a safety device designed to emit a loud and distinctive sound in the event of a fire or emergency. Typically installed in buildings, these alarms are triggered by smoke detectors, heat sensors, or manual activation. The purpose is to alert occupants to evacuate the premises quickly and efficiently. The loud and attention-grabbing sound serves as a clear warning signal, allowing people to respond promptly and follow emergency procedures. Audible fire alarms are a crucial component of a comprehensive fire safety system in both residential and commercial settings.

3.6.3. Smoke detectors

A smoke detector is a device designed to detect the presence of smoke in the air, signaling the possibility of a fire. It consists of a sensor that responds to smoke particles and a built-in alarm system. Properly installed and maintained smoke alarms

are considered to be the best and least expensive means of providing an early warning of a potentially deadly fire could reduce by almost half the risk of dying from a fire in workplaces and homes. A smoke detector, also known as a smoke alarm, is a crucial device designed to alert occupants of a building to the presence of smoke, indicating the possibility of a fire. These devices play a vital role in fire safety by providing early warning, allowing people to evacuate the premises and emergency services to respond promptly.

3.6.4. Break glass alarm

The emergency break glass alarm activates the electrical wiring interconnect system to initiate an evacuation of the building. In some situations, you may not need to contact the fire brigade but do need to evacuate the building. This is where the emergency break glass alarm can help. A break glass alarm refers to an emergency alarm system where a glass panel needs to be broken to activate the alarm. Typically, this type of alarm is encased in a protective box with a glass cover. Breaking the glass triggers the alarm, alerting others to an emergency or security breach. These alarms are often installed in areas where immediate and direct access to an emergency response is needed, such as in fire alarm systems, emergency exits, or security situations. Breaking the glass is a deliberate action that activates the alarm, ensuring that only authorized individuals use this measure in genuine emergencies.

3.6.5. Fire sprinklers

Sprinkler system is designed to control or extinguish fires in early stages. This makes it easier and safer for building occupants to exit the building, and for firefighters to extinguish any fire that remains. Sprinklers reduce the loss due to fire. Fire sprinklers are an essential component of fire protection systems designed to suppress or extinguish fires in buildings. These systems consist of a network of pipes containing water under pressure and strategically placed sprinkler heads. Each sprinkler head is equipped with a heat-sensitive element, typically a glass bulb filled with a liquid that expands when exposed to heat.

3.6.6. First aid kits

A first aid kit is a crucial tool for providing initial care in the event of injuries or illnesses. While the contents of a first aid kit can vary based on individual needs and

specific situations. First-aid kits help you handle medical emergencies as quickly as possible. In an emergency, a delay of just a single minute can cause irreconcilable damage. These kits offer basic and instant care for common medical injuries, burns, cuts, etc.

3.6.7. Water detector

A water detector is an electronic device that is designed to detect the presence of water for purposes such as to provide an alert in time to allow the prevention of water leakage. Water leak detection is an expression more commonly used for larger, integrated systems installed in modern buildings or those containing valuable artifacts, materials or other critical assets.

3.6.8. You Are Here Map

One of the most important purpose and spatial tasks is to guide people to nearest exits in the case of evacuation. In case of emergency situations, spatial awareness of all involved people is really critical. Therefore, 'You-Are-Here' maps could help people to locate themselves in the place and find the way to the nearest exit. which is a common feature in maps found in public spaces, buildings, or large facilities. This indicator is often labeled "You are here" to help individuals orient themselves within the mapped area. (Iroeze, 2021).

3.7. EFFECT OF DISASTERS

In libraries there is likely-hood of fire as the collection or information resources are mostly flammable and organic in nature. When the fire starts, it is difficult to save those materials which caught fire. Collections not directly covered in flames can be charred by soot and smoke. Heat from fire causes bindings to shrink and warp and plastic based materials to melt. And if water is used for the fighting fire, it can cause massive damage on the materials. Aside from fire, other destructive elements like floods, cyclones, high winds, earthquakes are also agents of deterioration for the library collections. These will cause documents to absorb water, warp, swell and become extremely susceptible to physical damage. Ink and dyes may bleed the book

pages glue together. Leather bindings badly warp and change form. Effects of disasters on library resources are too obvious to comprehend. (Abareh, 2014)

- **Preservation of collections:** Disaster management plans help libraries mitigate risks such as fire, flood, or natural disasters, which could potentially damage or destroy valuable books, manuscripts, archives, and other materials. By implementing preventive measures and emergency response protocols, libraries can minimize the impact of disasters on their collections.
- **Ensuring Access to Information:** Libraries serve as repositories of knowledge and information. Effective disaster management ensures that access to these resources is maintained, even in the face of emergencies. By having backup systems in place and implementing recovery procedures, libraries can continue to provide essential services to their communities.
- **Protecting Infrastructure and Facilities:** Disaster management efforts focus not only on protecting library collections but also on safeguarding the physical infrastructure and facilities. This includes measures such as installing fire suppression systems, reinforcing buildings against earthquakes, and implementing security protocols to prevent vandalism or theft during emergencies.
- **Enhancing Preparedness and Resilience:** Through disaster preparedness training, regular drills, and simulation exercises, libraries can enhance their staff's readiness to respond effectively to emergencies. By building a culture of preparedness and resilience, libraries can minimize panic and confusion during crises and ensure a coordinated response.
- **Community Engagement and Outreach:** Disaster management initiatives provide opportunities for libraries to engage with their communities and raise awareness about emergency preparedness and response. By offering workshops, educational programs, and resources on disaster preparedness, libraries can empower individuals and organizations to better protect themselves and their communities.

- **Recovery and restoration efforts:** In the aftermath of a disaster, effective disaster management facilitates timely recovery and restoration efforts. This may involve assessing damage to collections and facilities, coordinating cleanup and restoration activities, and accessing resources for rebuilding damaged infrastructure. (Iroeze, 2021).

3.8. COMPONENTS OF DISASTER MANAGEMENT

- **Clear communication**

In the past, it's often been a natural reaction for to withhold information from the public. This is the wrong approach. Healthcare facilities can prove their worth to their communities by being open and honest. In today's world, information will leak out one way or another, so it's essential the public gets the correct information from the healthcare experts instead of the wrong information from someone else.

- **Comprehensive training**

Your facility may not face an emergency situation for many years. While there is no substitute for the real thing, training is vital to ensuring your staff is as prepared as possible. Another important factor to consider when implementing a training plan is community involvement. Establishing their role during training is essential to emergency management preparations.

- **Knowledge of assets**

Naturally, many people panic in the face of disaster. This places a heavy burden on government agencies and other local resources to provide relief for people dealing with a large-scale emergency. Hospitals cannot depend on outside help. It is imperative that healthcare facilities take stock of their assets in order to understand capabilities and limitations ahead of any natural disaster.

- **Technology fail-safes and protocol**

Every hospital has a medical records department. Those departments need a certain amount of physical space, access to files and software systems to get through every day. A business continuity plan helps to identify the hardware, software, space and

other resources that each area of your facility requires to remain operational. It is crucial to recognize these needs in order to develop alternative solutions before any of the requirements are disrupted by disaster.

- **Healthcare leadership involvement**

Every hospital is focused on patient healing and safety. Occasionally, disaster preparedness is seen as a secondary pursuit, less impact than the demands of day-to-day healthcare. However, the ability to keep your facility open and treating patients during a disaster is an enormous asset to the community, as well as a significant revenue generator. Healthcare facility leadership must understand the importance of a strong emergency management program and devote the proper resources towards disaster preparations. (Healthcarediver, 2017).

3.9. PHASES OF DISASTER MANAGEMENT

This refers to the shaping of public policies and plans that modify the cause of disasters or mitigate their effect on property, people and infrastructure. Disaster management aims to reduce, or avoid the potential losses from hazards, assure prompt and appropriate assistance to victims of disasters and achieve rapid and effective recovery. The process of visualization disaster management as a two-phase cycle with post disaster recovery informing per-disaster risk reduction and vice versa. Disaster management life cycle consists of four distinct stages which aid in either preventing or mitigating the effects of disasters. They are: (Benedict, et al. 2020)

- **Phase 1: Mitigation**

The mitigation phase occurs before a disaster takes place. Here, an organization will take steps to protect people and property, while also decreasing risks and consequences from a given disaster situation. The organization's main goal is to reduce vulnerability to disaster impacts (such as property damage, injuries, and loss of life).

- **Phase 2: Preparedness**

The preparedness phase also occurs before a disaster takes place. Here, an organization attempts to understand how a disaster might affect overall productivity

and the bottom line. The organization will also provide appropriate education while putting preparedness measures into place.

- **Phase 3: Response**

The response phase occurs in the immediate aftermath of a disaster. Organizations must focus their attention on addressing immediate threats to people, property, and business. Occupant safety and well-being largely depends on your preparedness levels before disaster strikes.

- **Phase 4: Recovery**

The recovery phase takes place after a disaster. This phase is the restoration of an organization following any impacts from a disaster. By this time, the organization has achieved at least some degree of physical, environmental, economic and social stability. The recovery phase of a disaster can last anywhere from six months to a year (or even longer depending on the severity of the incident). (Mahmood, 2023).

3.10. DISASTER MANAGEMENT AGENCIES

- **National Disaster Management Authority (NDMA):**-The NDMA, is an apex body for disaster management, headed by the prime minister of India. It is responsible for the supervision, direction and control of the National Disaster Response Force (NDRF).
- **National Executive Committee (NEC):**-The NEC is composed of high profile ministerial members from the government of India that include the union home secretary as chairperson, and the secretaries to the government of India like ministries/departments of agriculture, atomic energy, defense, drinking water supply, environment and forests etc. The NEC prepares the national plan for disaster management as per the national policy on disaster management.
- **State Disaster Management Authority (SDMA):**-The chief minister of the respective state is the head of the SDMA. The state government has a state executive committee (SEC) which assists the state Disaster Management Authority (SDMA) on disaster management.

- **District Disaster Management Authority (DDMA):-** The DDMA is headed by the district collector, Deputy Commissioner or District Magistrate depending on the situation, with the elected representatives of the local authority as the co-chairperson. The DDMA ensures that the guidelines framed by the NDMA and the SDMA are followed by all the departments of the state government at the district level and the local authorities in the district.
- **Local Authorities:-**Local authorities would include Panchayati Raj Institutions (PRI), municipalities, district and cantonment 11 institutional and legal arrangements boards, and town planning authorities which control and manage civic services. (Insight IAS, 2016)

3.11. TECHNOLOGICAL TOOL FOR DISASTER MANAGEMENT

- **Remote sensing technique:** It can be helpful to read possible threats of any weather disturbances through its weather and other observation satellites. It helps in gathering data by means of radiation from electro-magnetic spectrum.
- **Geographic Information System:** Integrates stores, edits, analyzes, and shares geographically referenced data and is helpful during floods, landslides, earthquakes.
- **Global Positioning System :** Is a technology by means of which one can pinpoint the exact place where disaster has struck. The exact damage site then can be visited to start rescue operations. This can be very effective for search and evacuation of displaced People or people buried under debris.
- **Warning and forecasting system:** Plays a vital role in determining the possible action of a disaster. The potentially affected area can be evacuated and people can be moved to safer Places even before the disaster. It is effective for floods, cyclones.

- Earthquake warning system: It is being used these days to warn people against its possible strike. Communication technology is particularly effective in mitigation, preparedness, response and recovery. Internet, fax, mobile phones, e-mail, radio and television can all be used to spread and share information relevant during and before any disaster.
- WWW and Internet: It provide a global platform for instant and automatic sharing of information regarding a disaster and its management. The latest tools, methods, technologies, weather forecasting, satellite images and other relevant data can be put on web for sharing and exchange. (Rattan, 2013).

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CHAPTER 4
**DISASTER MANAGEMENT AT THE
NATIONAL AND
INTERNATIONAL LEVEL**

CHAPTER 4

DISASTER MANAGEMENT AT NATIONAL AND INTERNATIONAL LEVELS

4.1. INTRODUCTION

People need to be literate more than ever because it makes them better readers, writers, and global citizens. Libraries are a nation's information center and the doors to the future as they hold a nation's social and cultural heritage. These resources show a country's level of wealth. It is necessary to maintain and restore the library's physical construction. The world has faced many disasters in recent decades, like floods, cyclones, earthquakes, terrorist attacks, tsunamis, etc. No one knows when and how disasters come. The phrase "disaster management" encompasses various events, including natural and man-made disasters that humans unintentionally or purposely release. Disasters can be classified as either having a slow onset, like famines, or a fast onset, like earthquakes and floods. The library must practice daily maintenance, inspection, cleaning and dusting, and smoking prohibition to prevent natural and man-made calamities. The library should create a disaster preparedness plan to handle calamities, a procedure that outlines the methods of a library's readiness to handle any catastrophe.

Preserving the resources from damage is the primary objective of the disaster preparedness plan. It's always better to prevent than to treat; libraries are no exception. Uncertainty and ideas of perpetual turmoil are jeopardizing academic libraries' vitality and relevance. Because of the proliferation of knowledge, faculty and students on and off campus have higher expectations of the library due to the availability of digital resources. Libraries have done an excellent job preparing themselves to accept any new technology that comes with daily advances. These days, libraries are open around the clock in a networked society. With the advent of the internet, WWW, and other technical innovations in libraries and information centers, librarians have additional responsibilities in running their organizations in the current environment of changing

ways and constantly evolving user behavior related to information searching. (Dharmasiri, 2014).

4.2. DISASTER MANAGEMENT AT INTERNATIONAL LEVEL

4.2.1. NIGERIA

A study on federal and state universities of South Nigeria revealed the different types of disasters that affect the university libraries of Nigeria, such as computer viruses, biological agents, hacking, material theft, leaking roofs, and other library building materials. To control such disasters, the university library disaster preparedness equipment and facilities available for disaster mitigation in library equipment like air fresheners, fire extinguishers, anti-virus software, thunder arrestors, sand buckets, and emergency exit doors are available. The disaster preventive strategies adopted by the university libraries include keeping the library and environment clean to prevent rodent attacks, regular surveillance to prevent theft and mutilation of library books will help to avoid disasters in libraries, installation of good anti-virus software on all university library system, regular fumigation of the library and its environment against insects and other biological agents, staff and user training on disaster management and mitigation (Patrick, et al., 2020).

4.2.2. MALAYSIA

Libraries face significant difficulty in crisis situations due to the need to adapt to new standards and services for patrons. Malaysian academic libraries responded to the crisis especially the Covid-19 pandemic by extending or changing their public service policy. Library have a strategy and their own plans to respond to a disaster crisis. Librarian were perceived to be very active in communicating and serving their users. The library provided input and collaborated to think about what is best to implement during the covid-19 crisis period. Librarians and library management were seen as being very rapid and flexible in implementing digital technology as a replacement service when physical services cannot be offered. The libraries organized many webinars in cooperation with a range of partners to be able to put the idea of open education into practice for its patrons. Consequently as a result of these initiatives, libraries and librarians are more equipped to offer value-added services, particularly in the roles of knowledge assistants, moderators, and facilitators. The ability of the

library to adjust and change was crucial to its ability to continue serving its clients even in situations where it was physically closed (Ismail, et al., 2023).

4.2.3. GHANA

The library has preventive measures as revealed by the study that fight disaster, detecting and managing equipment in the form of fire extinguishers, and smoke detectors. The staff are trained to use equipment to fight against disaster and to handle calamities, which has been highlighted by this study. The library instructs its staff members on how to use the equipment. There is availability of a disaster written control plan, and a disaster management team in the library. Disasters are better managed when there is a management team in place. (Marfo & Borteye, 2020).

4.2.4. CHINA

The outbreak of COVID-19 pandemic resulted the university and college libraries in Hubei to implement new technology and new ideas to open various new way to serve readers. They started online services mode and archived resource integration and sharing. Digital resources have become the first choice for teachers and students to obtain information. The resources are made free to the users for certain time. Many database companies and publishers conducted online lectures for the public for free (Chen & Zhang, 2020).

4.3. NATIONAL LEVEL

4.3.1. SHILLONG

Disaster management plan plays a pivotal role in the disaster management process. Libraries under study have equipment like fire extinguishers, solar power systems, temperature control machines, powerful backup of e- resources, smoke detectors and fire alarms, etc., to prevent significant loss of their collections. The library staff is sufficiently trained to tackle any disaster, but also there is also a lack of training in disaster management. In case of disaster occurs in the libraries, there is sufficient funding. There are emergency/simulation exercises for the staff; thus, they are well prepared if any disaster strikes anytime. (Nongrang & Khongtim, 2021).

4.3.2. ASSAM

Except for high-level professionals, most library employees were unaware of the dangers, threats, and hazards that may spell disaster and seriously harm the libraries' print collections. Top library managers were found to be highly aware of the safety and security of the print collection against theft and vandalism that may occur in the library, as well as the potential risks, threats, and hazards that may be produced by flood water and earthquakes. The Study also discovered that as from the earthquake-resistant library building design, fire suppression systems (such as fire extinguishers), CCTV, and security systems to ward off vandalism and destruction were present. A small amount library employees had received training on how to use these tools in an emergency. Additionally, it was discovered that training sessions and staff orientations were held to raise awareness among library employees. It shows that library lacks a disaster management team and a written disaster control plan. (Gohain, et al., 2023).

4.3.3. LUCKNOW

The disaster management plan not only help the prevention of disaster occurrence but also minimizes the risk of losses from the disaster. Disaster management practice is one of the leading roles in preparedness, prevention, response, and recovery from disaster. The majority of libraries have various disaster management practices in a library. Libraries had emergency kits, flashlights, batteries, alarm systemss and fire extinguishers in libraries. Regular training was provided for library staff on disaster management and organized drills and exercises for trained staff (Kushwah & Sing, 2021).

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CHAPTER 5
DATA ANALYSIS AND
INTERPRETATIONS

CHAPTER 5

DATA ANALYSIS AND INTERPRETATION

5.1 DATA ANALYSIS

The researcher used a survey method for data collection, wherein four questionnaires were printed, data was collected by personally visiting the colleges, and eight Google forms were sent through e-mail and WhatsApp. The study was carried out on 12 professional college libraries in south Goa. The data collected was analysed and presented based on the 12 responses received for the study. The data is presented using charts, tables, and graphs.

Sr. No	Professional College Libraries
1.	Shree Rayeshwar Institute of Engineering IT Shiroda
2.	Goa College of Engineering
3.	GVM's Dr Dada Vaidya College of Education (B.Ed.)
4.	St. Joseph Vaz College
5.	Don Bosco College of Engineering
6.	Padre Conceicao College of Engineering
7.	Gomantak Ayurveda Mahavidyalaya & Research Centre
8.	Govind Ramnath Kare College of Law
9.	PES's Rajaram Tarabai Bandekar College of Pharmacy
10.	PES's College of Education, Farmagudi Ponda Goa
11.	Shri Kamaxidevi Homoeopathic Medical College & Hospital
12.	V. M. Salgaocar Institute of International Hospitality Education

Table: 5.1 Professional college libraries

5.1.1. Physical location of the library

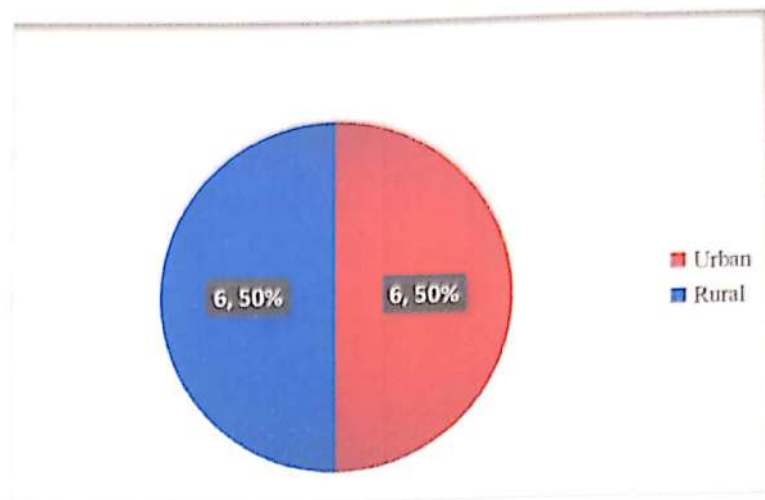


Figure 5.1: Location

The purpose of this question was to find out the physical location of the library. Whether they belong to the urban or rural area, the responses are depicted in Figure 5.1 above. The figure indicates that 6 (50%) libraries are in urban areas, and 6 (50%) librarians said their libraries are in rural areas.

5.1.2. Availability of Disaster Management Planning Policy

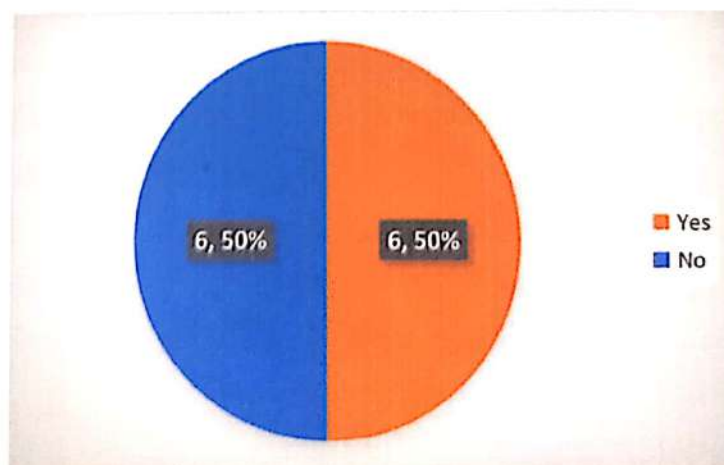


Figure 5. 2: Disaster Management Planning Policy

Disasters may occur at any time, so there is a possibility that disaster can take place; therefore, library management should have a written policy. This question determines whether disaster management planning policy is available in the library. The answer shown in Figure 5.2 is that 50% said their libraries have a disaster management planning policy, and 50% admitted that their libraries don't have a disaster management planning policy.

5.1.3. Availability of Emergency Response Team

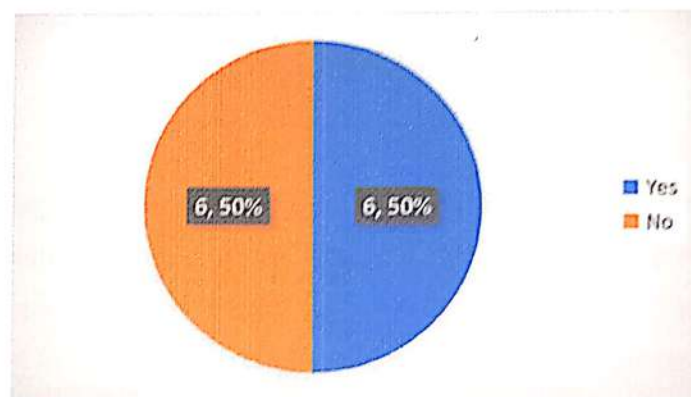


Figure 5.3: Emergency Response Team

The emergency response team plays a crucial role if any disaster occurs. Its role is to prevent, mitigate, prepare, respond, and recover. The purpose of this question is to find out if an emergency response team is available in the library. Figure 5.3 shows that 50% of the libraries don't have an emergency response team, and 50% have an emergency response team. The goal of having an emergency response team is to safeguard their library materials from disaster if occurred.

5.1.4. Timely service during any emergency

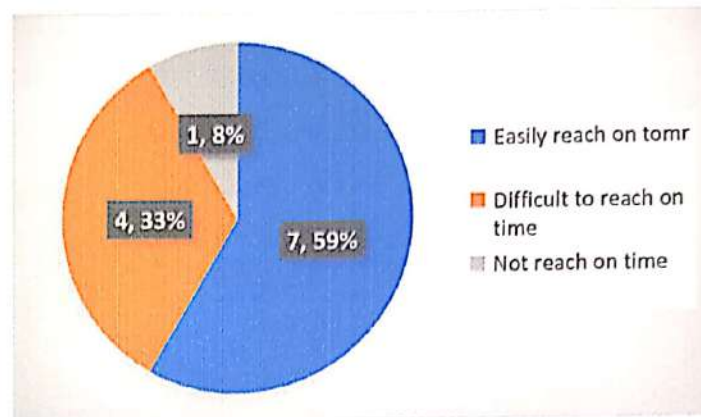


Figure 5.4: Services reach on time

Disasters can happen anytime, anywhere, so services that are available in libraries should be available for users in case a disaster takes place. The services should be available and able to reach the users without a hurdle on time. The purpose of this question was to find out how services reach users during any emergency. Figure 5.4 reveals that almost 59% of librarians said that services quickly reached on time to users, 33% said that it is difficult to provide on time, and 8% responded that the services do not go on time.

5.1.5. Training of Emergency Response Team

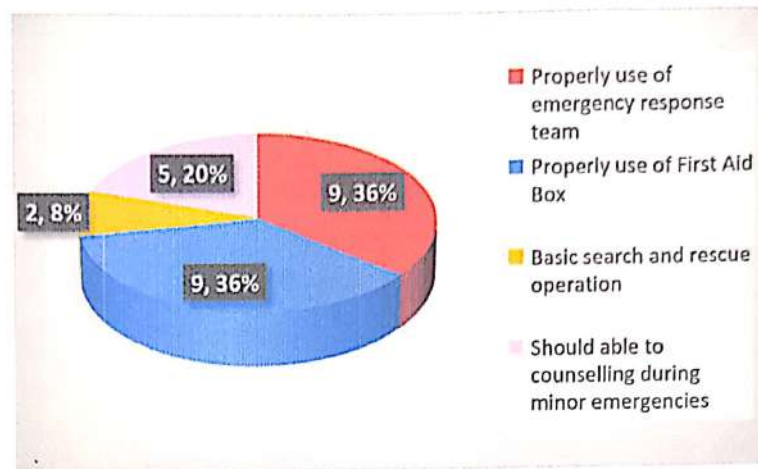


Figure 5.5: Training of Emergency Response Team

Any time any situation arises, the library management must have an emergency response team that is trained. Figure 5.5 is based on how library personnel are trained to respond if any disaster occurs. 36% of respondents replied that training should be given on the proper use of emergency response teams, 20% of respondents answered that the training should be given on the appropriate use of first aid box, 8% of respondents responded that basic facilities like rescue and search operations should be taught and 36% respondents responded that they should be provided counselling during minor injuries.

5.1.6. Servicing of Disaster Management Equipment

If a disaster happens at any time to control it, there is a need for disaster management equipment, and if equipment is available, that equipment should be serviced. For example, if a fire takes place, a fire extinguisher is available but if it is not serviced, it may not function when needed. So, there is a need to service equipment.

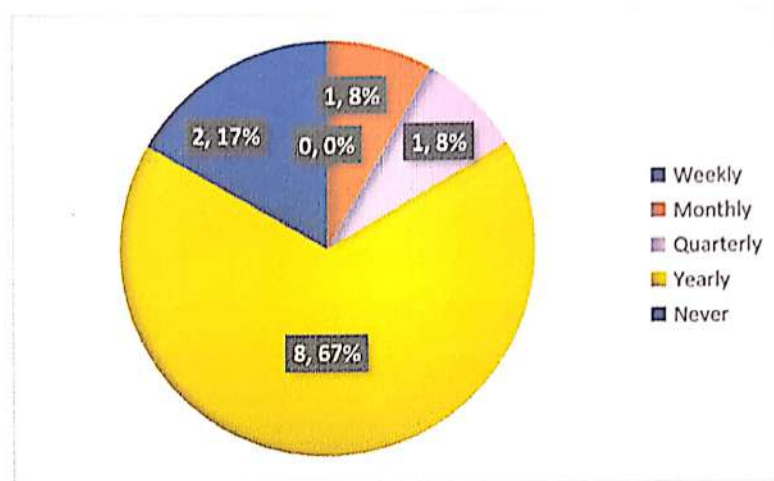


Figure 5.6: Servicing of disaster management equipment

The questions were asked to know how often they service their library disaster management equipment. Figure 5.6 determines that 8(67%) service their equipment every year, 2 (17%) said that they service their disaster equipment weekly, 1 (8%) librarian responded that they service their library equipment every month, 1(8%) said that they service their library materials every quarter and 0% said that they never service their library disaster management equipment.

5.1.7. Training on Disaster Management Preparedness and Security Control

In every library, disaster management preparedness and security control equipment are available, but if they don't know how to operate it, then they will not be used when needed. Therefore, training should be provided for library staff. Training can be provided either online or in a physical mode.

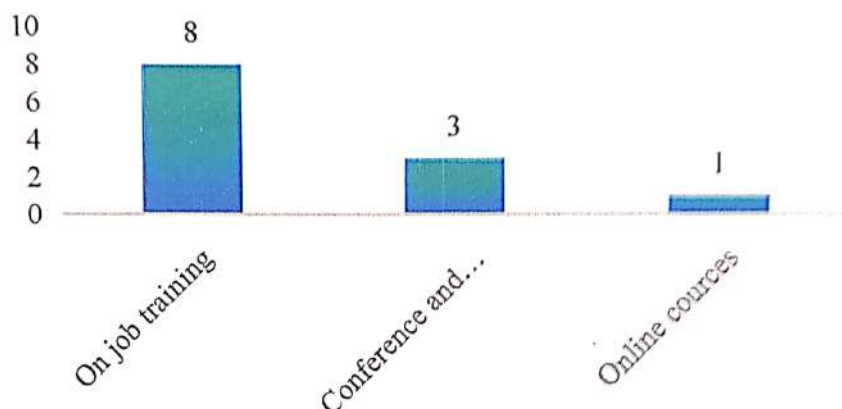


Figure 5. 7: Training on disaster management and security control

This question aimed to know how training was given to the library staff on security control and preparedness. Figure 5.7 shows that 67% of the staff took on-the-job training, whereas 25% said they were trained by attending different seminars and conferences and 8% library staff participated in online courses.

5.1.8. Preventive Measures

The preventive measures reduce the potential damage and suffering that disasters can cause. To minimize this, the library follows the rules and regulations, uses safety equipment in the library, etc. These equipment in the library facilitates efficient and quick response to any emergency, and security by protecting items against theft.

Equipment's	Frequency	Percentage
Fire and smoke alarm	3	25%
Fire extinguisher	8	67%
Fire tracers	1	8%
Water detector	0	0%
Glass break alarm	1	8%
Fire sprinklers	1	8%
Sand buckets	0	0%
CCTV's	8	67%
Wet/dry vacuum cleaner	1	8%

Table 5.2 Preventive Measures

The above table no.5.2 shows the different types of preventive measures equipment used by library personnel and the emergency response team to prevent any disaster that occurs in the library. Most of the librarians responded that out of 12 libraries, 8(67%) libraries have a fire extinguisher, 3(25%) libraries have fire and smoke alarm, 1(8%) library has fire tracers, there is no water detector equipment available in any library, only 1(8%) library have glass break alarm, 1(8%) library have fire sprinklers, not a single library have sand buckets, a majority of 8(67%) libraries have CCTV and 1 (8%) library has wet/dry vacuum cleaners. These equipment are beneficial in every library for controlling disasters.

5.1.9. Library faced any disaster before

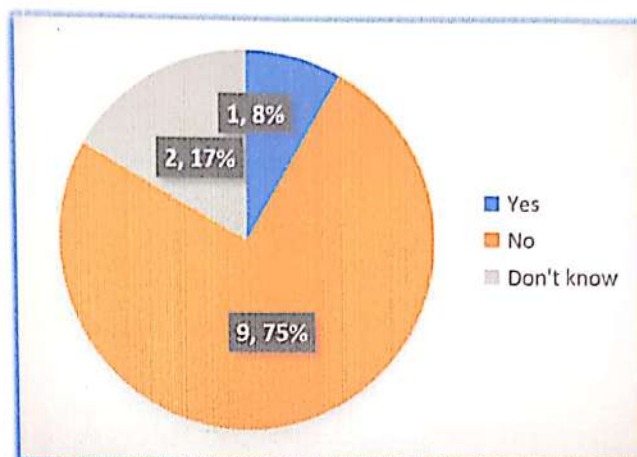


Figure 5.9: Library faced any disaster before

Disasters can occur any time, but tackling them depends on us. The question was asked if the libraries have faced any disasters in the past and the responses given are depicted in figure 5.9. It shows that 9 (75%) librarians responded that they have not faced any disasters so far, 2 (17%) librarians responded "Don't know," that means they were unaware about the past disasters and 1(8%) librarian affirmed that they have faced disasters in their libraries.

5.1.10. Providing services during disaster

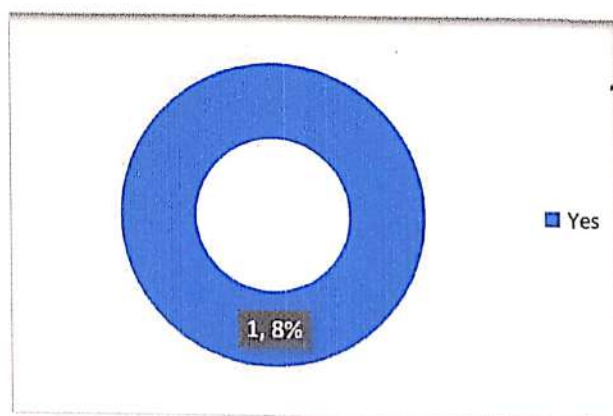


Figure 5.10: Services during disaster

Different types of disasters may occur at any time in the library, but the libraries should continue to provide services even during these times. The purpose of this question was to find out whether the library provides services during a disaster. As seen in Figure 5.10 above, among 12 professional college libraries of south Goa 1 respondent responded that 1 (8%) said "Yes" that they offer services during a disaster.

5.1.11. Does the library suffer any leakage?

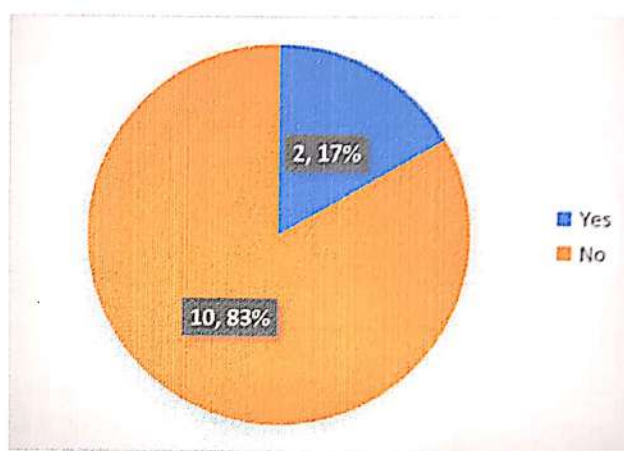


Figure 5.11: Leakage in the library

The question was based on whether the libraries face any leakage problem during the time of monsoons. Leakage commonly affects library buildings, book collections, and different sources. Librarians were asked whether their library is suffering from any leakage. The above figure 5.11 reveals that most of the libraries are not suffering from any disaster. Only 2 (17%) libraries are suffering from leakage, and the remaining 10 (83%) are not facing any leakage in libraries.

5.1.12. Measures to avoid disaster in libraries

Many disasters may occur in libraries, but not all can be controlled. However, some disasters may be controlled, and to overcome them, some measures need to be followed to help the users and staff members protect the materials in library from potential damage.

Measures	Frequency	Percentage
Adequate and appropriate storage	4	33%
Proper security measures	8	67%
Overcoming any environmental conditions	3	25%
Avoid carrying food items in the library	9	75%
Raise an alarm to alert those in the library	5	42%
Regular inspection and maintenance of the building	9	75%

Table 5.3: Measures to avoid disaster in libraries

The above table 5.3 shows the measures taken by libraries to avoid disaster. It is seen that 9 (75%) librarians feel that there should be regular inspection and maintenance of the library building, 9 (75%) librarians responded that users should be prohibited from carrying food items in the library. 8 (67%) librarians responded that there should be proper security measures, 5 (42%) librarians responded that alarm system should be installed in the libraries that can be used to raise alarm and alert those in the library, 4 (33%) librarians said that adequate and appropriate storage measures should be available, 3 (25%) librarians responded that they should be able to overcome any environmental condition. These are some of the measures that can be adopted to avoid or reduce disaster in libraries.

5.1.13. Inspection of library disaster fighting equipment's

Libraries do contain disaster fighting equipment, but they also need to be checked regularly if they are functioning. Because if the equipment are not inspected on time they may expire, and may not function when required.

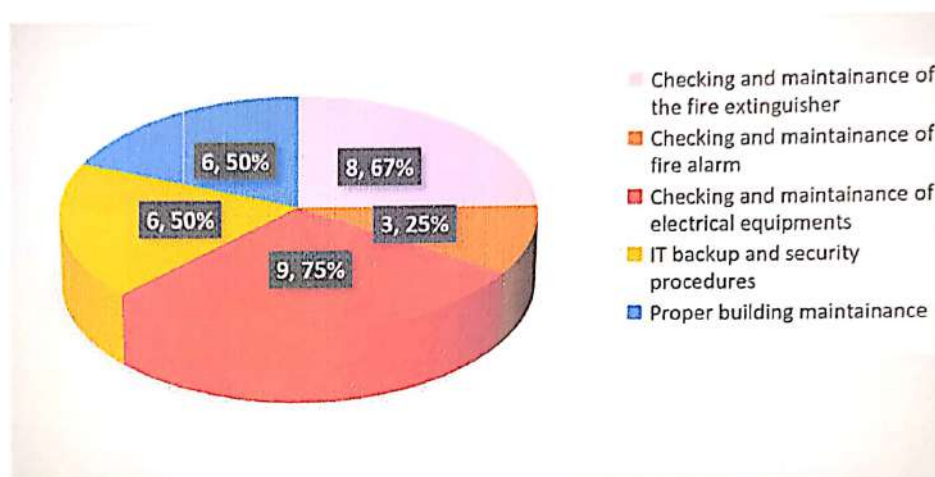


Figure 5.13: Inspection of disaster fighting equipment

The above pie chart 5.13 determines the opinions of the librarians on inspecting the disaster fighting equipment. It can be seen that, 9 (75%) respondents said that electrical equipment should be checked in any type of library, 8 (67%) librarians said that checking and maintenance of the fire extinguisher is essential, 6 (50%) respondents said that maintaining of library building is also important, another 6 (50%) librarians feel that IT backup and security procedures are important in libraries to store digital information and 3 (25%) stated that checking and maintenance of fire extinguisher is significant in library as it protects library from overall fire damages.

5.1.14. Emergency exit

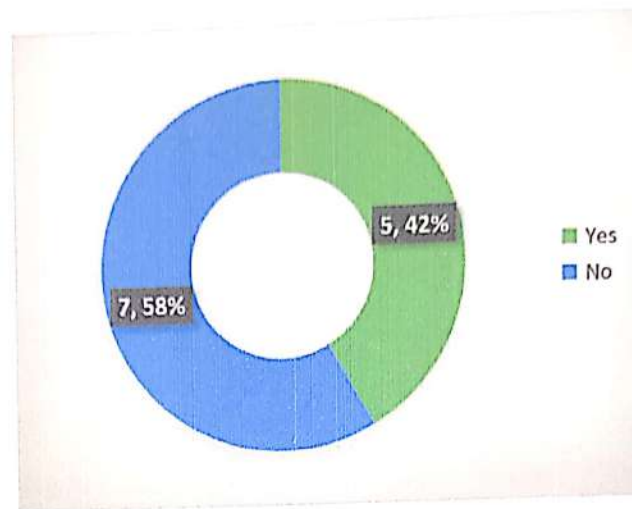


Figure 5.14 :Emergency Exit

There should be a provision of emergency exit available in libraries so that the users can exit the library during any disaster. This question tries to determine whether there is an emergency exit door available in library. Figure 5.14, reveals that 7 (58%) libraries doesn't have emergency exit door and 5 (42%) libraries have emergency exit door provision for the staff and users during the time of disaster.

5.1.15. Mischief action by users

Many users visit the library everyday – either for reading, for borrowing books, for reference purpose, etc. It is commonly seen that during the time of exams most of the books are not available in libraries, or books may be available but their pages are missing, users overwrite on books or books are also misplaced from one shelf to another, etc. thereby causing damage to the library collection.

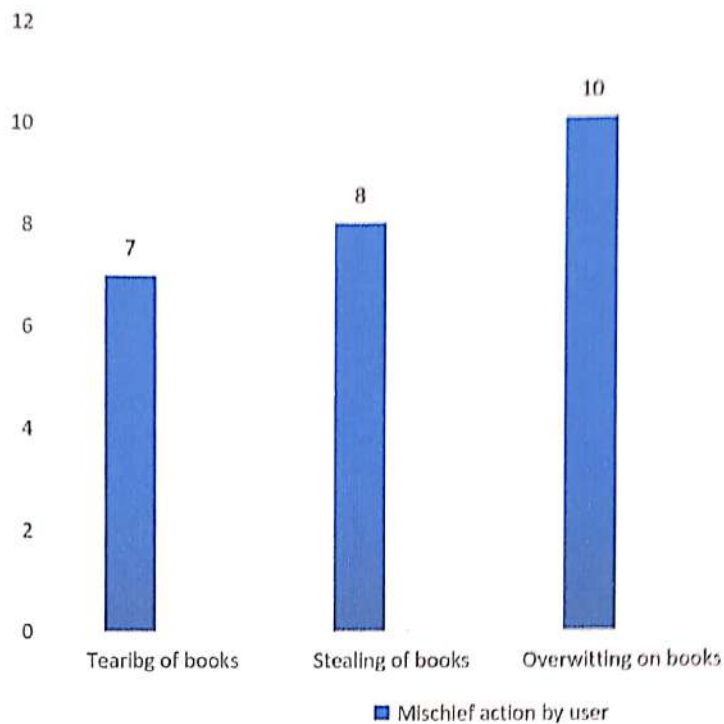


Figure 5.15: Mischief action by user

The purpose of this question is to determine which of the mischievous actions were experienced by the librarians in their libraries. Figure 5.15 describes those 10 (83%) students damages the library material by overwriting on books, 8 (66%) students harm library material by stealing books and 7 (58%) students mutilate books by tearing the book pages. This may cause huge damage to library materials and collection.

5.1.16. Partnership with local emergency management agencies

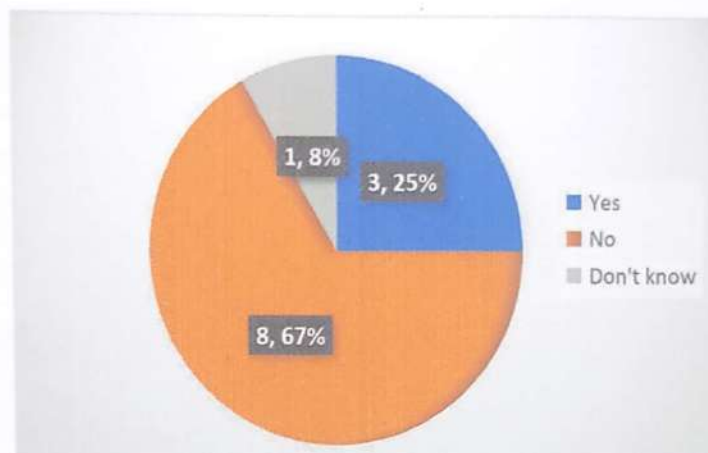


Figure 5.16: Partnership with the emergency agencies

The Figure 5.16 states the responses given by the librarians to the question on whether the libraries have partnership with the local emergency management agencies to tackle any disaster. 8 (67%) respondents responded "No" that they doesn't have partnership with any disaster management agencies and 1 (8%) respondent responded that they "Don't know" if there is any partnership with the local disaster management agencies and 3 (25%) respondent responded "Yes" that they have partnership with the local emergency agencies.

5.1.17. Using of Technology in Disaster Management

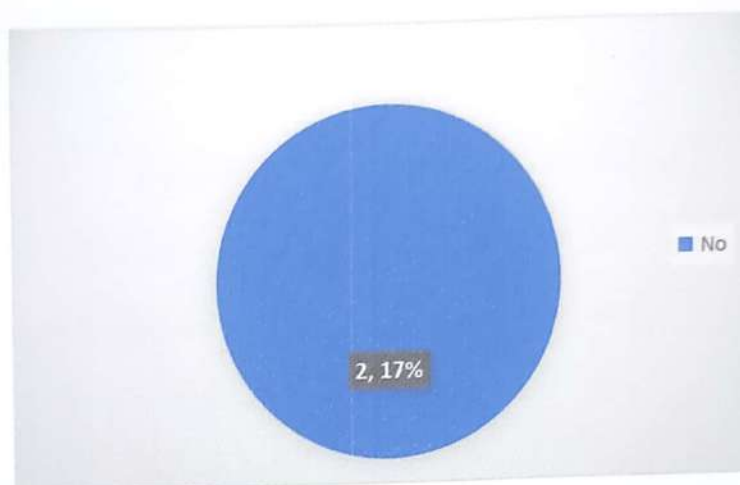


Figure 5.17: using of latest technology

The above question was asked if the libraries make use of any technology to avoid disasters. Figure 5.17 shows out of 12 college libraries only 2 (17%) respondents responded "No" that they are not using any type of technology to avoid disaster in libraries.

5.2. HYPOTHESIS TESTING

Hypothesis I: The professional college libraries of South Goa are fully prepared to tackle with any type of disaster in library.

Equipment's	Frequency	Percentage
Fire and smoke alarm	3	25%
Fire extinguisher	8	67%
Fire tracers	1	8%
Water detector	0	0%
Glass break alarm	1	8%
Fire sprinklers	1	8%
Sand buckets	0	0%
CCTV	8	67%
Wet/dry vacuum cleaner	1	8%

Table 5.2: Preventive Measures

Table 5.2 shows availability of disaster management equipment's in all the 12 professional college libraries of south Goa , all the libraries doesn't have sufficient required equipment's to tackle any disaster if occurs and equipment's which are needed are not available in all the libraries, out of 12 libraries only 8 libraries have fire extinguisher and CCTV. Therefore, the hypothesis "The professional college libraries of South Goa are fully prepared to tackle with any type of disaster in library" is rejected.

Hypothesis II : Most of the Professional college libraries of South Goa don't have Emergency Response Team.



Figure 5.3: Availability of Emergency response team

Figure 5.3 determines that most of the professional college libraries of South Goa doesn't have emergency response team as out of 12 libraries 6 (50%) of the libraries don't have emergency response team and remaining 6 (50%) of the libraries have emergency response team. The hypothesis states that "most of the professional college libraries don't have emergency response team" is rejected.

CHAPTER 6
FINDINGS, SUGGESTIONS AND
CONCLUSION

CHAPTER 6

FINDINGS, SUGGESTIONS AND CONCLUSION

6.1. FINDINGS

1. The study showed that of the 12 professional college libraries, 6 (50%) libraries don't have a disaster management planning policy.
2. In times of any disaster, an emergency exit helps to evacuate users, thereby saving lives, and therefore, libraries should consist of an emergency exit. However, an emergency exit exists in 7 (58%) libraries, and the remaining 5 (42%) libraries don't have an emergency exit.
3. These institutions provide training to their staff through on-the-job training, conferences, seminars, and online courses. The training was on various aspects like using the emergency response equipment, first aid box, and basic search and rescue operations.
4. It is seen that of the 12 professional college libraries of South Goa, 8 (67%) libraries have fire extinguishers, 8 (67%) libraries have CCTV, 3 (25%) libraries have fire and smoke alarms, 1(8%) library has fire tracers, 1(8%) library has glass break alarm, 1 (8%) library has fire sprinklers, 1 (8%) library has wet/dry vacuum cleaner for handling immediate disasters in the libraries.
5. The study showed that only 2 (17%) libraries suffer leakage problems during monsoon season due to poor maintenance of library buildings which could damage the library resources.
6. The library management inspects their library's disaster fighting equipment on a regular basis. The study showed that of the 12 professional college libraries of South Goa, the library management committee of 2 (17%) libraries examine

7. their equipment on a weekly basis, 1(8%) library on a monthly basis, another 1 (8%) library gets them checked on quarterly bases, and 8 (67%) libraries examine them on a yearly basis. This is a good practice followed by the institution committee to upkeep the safety measures of the library premises.
8. Disasters in the library are also caused by the users, like tearing book pages, damaging library resources etc. To prevent the users from mutilating the books, the libraries were found to implement various actions like giving a warning to the miscreant, demanding the user to replace the damaged book with the latest edition, imposing fine, suspending the user for one month from using the library or issuing a warning letter to the wrongdoer.
9. Out of 12 investigated libraries, only 2 (17%) libraries have a partnership with local emergency management agencies.
10. All the libraries follow different types of measures to avoid disasters in their libraries like following proper security measures, preventing the users from carrying food items in the library, adequate and appropriate shelving and storage to avoid damage to the books, maintaining proper temperature and humidity to preserve books, regular maintenance of the library and the various equipment and conducting routine inspections of electrical systems.
11. Almost all the 12 professional college libraries are not using any technological tool to avoid disaster. However, according to them, technology can be used to improve disaster management strategies wherein sensors can provide early warning systems, mobile and social media can be used as practical communication tools, and drones can be used to survey the area, and perform GIS mapping.

6.2. SUGGESTIONS

1. The library should provide an awareness program on disaster management for users as well as library staff, which will help them tackle any emergency that occurs.
2. Disaster management courses need to be incorporated into the library and information science course curriculum to make LIS professionals aware of possible disaster management techniques and measures and to face the challenges and overcome the emergency.
3. The emergency exit should be available in every library if any emergency occurs so that the users and staff can quickly exit in times of disaster.
4. The roof of the library building should be checked before the monsoon arrives, and the leakage spots should be repaired so that it can protect library material from damage.
5. The library staff should voluntarily participate in different programs like seminars, online conferences, and online tutorials to get themselves trained on disaster management to learn how to use equipment and computer system management.
6. The library management should provide sufficient funds to implement new technologies, equipment, and facilities to handle any disaster situation.
7. Library management should collaborate with government bodies like fire stations, rescue teams and other professionals to guide the library personnel in handling disasters in the libraries.
8. Disasters can be well managed and even prevented if member staff are trained and equipped adequately on how to use equipment. They should be trained on a timely basis on what action to be taken in which situation and different aspects of response and recovery.

9. Digitization is an essential means of preservation of information. Libraries should digitize priceless heritage and cultural information by taking into consideration the copyrights of the sources.

6.3. CONCLUSION

A disaster control plan for disaster management is not only indispensable but also paramount and everyone should follow it and never neglect it. The current study revealed that the selected professional college libraries are aware about disaster management but not prepared for it. They are not mindful of the planning policy. Preventive measures like fire extinguishers, glass break alarms, CCTV, wet/dry vacuum cleaners, fire and smoke alarms, and first-aid-box are available. There is a need to follow some measures to overcome the disaster which may take place. The emergency exit, which is very important, is not available in all the libraries, and hence there is a need for it.

Some libraries face water leakage during monsoon time, which causes damage to library materials. Most libraries have disaster-fighting equipment. There are also mischievous actions done by users like tearing down books, stealing books, and overwriting books, which damage the library collection. Also, most of the libraries collaborate with disaster management agencies to control if a disaster takes place.

There is a need for the latest technological tools that help to detect disaster that occurs in libraries. When physical services cannot be provided, library management, and librarians should be very quick and adaptable in applying new technology as a replacement service. Librarians should be very active in providing services to the users. Educating people and generating awareness among them regarding disaster management is crucial and has immense significance. All libraries follow different types of measures to control disaster-like situations that occur, and to prevent it, the needed advanced technology is necessary.

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ANNEXURE

QUESTIONNAIRE

Disaster Management Approaches In Professional College Libraries Of South Goa

I am Miss Sumidha Sadashiv Gaonker, a student of Goa University pursuing degree in Masters of Library and Information Science. As a part of my studies, I have undertaken a minor research on the topic entitled "Disaster Management Approaches in Professional College Libraries of South Goa" under the guidance of Dr. Shamin Pereira, Assistant Professor , Library and Information Science program. In this regard I have to collect primary data through survey method . I assured you that your response will be treated with secrecy and be use for academic purpose only.

Thank you for taking the time to answer this questions.

1. Name of the Institution

2. Name of the Librarian

3. Qualification

4. Experience

5. Physical location of the library

Urban ☐

Local ☐

6. Is there Disaster Management Planning Policy available in the library?

Yes ☐

No ☐

7. Does your library have Emergency Response Team?

Yes ☐

No ☐

8. During the time of any disaster/emergency do the services reach to the users without any hurdle on time?

Easily reach on time ☐

Difficult to reach on time ☐

Not reach on time ☐

9. How emergency response team are trained?

10. How often you service your disaster fighting equipment's?

Weekly ☐

Monthly

Quarter

Yearly

Never

11. How is the library personnel trained on disaster preparedness and security control?

On job training

Conference and seminar attendance

Online courses

12. What type of preventive measures do you have in your library?

Fire and smoke alarm

Fire extinguisher

Fire tracers

Water detector

Glass break alarm

Fire sprinklers

Sand buckets

CCTV

WE/dry vacuum cleaner

Others:

13. Any time your library faced any disaster before?

Yes

No

Don't know

14. If yes then, Did your library provide services during disaster?

15. During disaster does your library suffer from water leakage/water clogging?

Yes ☐

No ☐

16. What measures do you take to avoid disasters in your library?

☐

Adequate and appropriate storage

☐

Proper security measures

☐

Overcoming any environmental condition

☐

Avoid caring food items in library

☐

Raise alarm to alert those in library

☐

Regular inspection and maintenance of building

17. How your library inspect the disaster fighting equipment's and devices to protect library from overall damages in the cause of natural disaster?

Checking and maintenance of fire extinguisher

☐

Checking and maintenance of fire alarm

☐

Checking and maintenance of electrical equipment's

☐

IT backup and security procedure

☐

Proper building maintenance ☐

Others: ☐

18. Does your library have provision for Emergency Exit?

Yes ☐

No ☐

Don't know ☐

19. Is there any mischief action by users which can harm library documents?

Tearing of books ☐

Stealing of books ☐

Overwriting on books ☐

20. What action you will take if the user found harming the library document?

21. Has library established partnership or collaboration with external agencies such as local Emergency management agencies or fire department to enhance disaster response capabilities and success additional resources if needed?

Yes ☐

No ☐

Don't know ☐

22. Do you make use of any technology in disaster management in your libraries?

Yes ☐

No ☐

23. According to you, how can technology be used in improving management in strategies?
