CHAPTER 7
DISASTER PLANNING IN LIBRARIES

7.1 Introduction

“By failing to prepare, we are preparing to fail” - Benjamin Franklin

Prevention is always better than cure. This is also true of disasters. While many disasters cannot be prevented, being prepared for disasters helps mitigate both the risk and the damage and also builds up resilience to face it. Prevention involves risk assessment, taking mitigating measures and disaster planning including rescue and recovery operations. The focus of disaster prevention is generally a disaster plan in which policies, procedures and practices to cope with a disaster are spelt out.

The need for disaster planning is sometimes questioned. “Proponents of this view take the attitude that disaster will occur whether we like it or not. Therefore, it is better to let nature take its course, and use all available means of assistance to build a better tomorrow. The vast majority of international experience indicates that where plans did not exist, or where planning was inadequate, then the effects of disaster on countries and their peoples have been worse than would have otherwise been the case”. (Carter, 1991, p.41)

“Plans minimise risk, maximise the speed of recovery and help the organisation to get back into business quickly”. (Mansell, 2003, p.14) An additional advantage of a disaster plan is that it provides a common reference and assigns clear allocation of responsibilities. Further it provides a setting against which to review and evaluate current and future disaster management requirements. (Carter, 1991)

A variety of terminology is used to refer to disaster plans namely Disaster Control Plan, Disaster Response Plan, Disaster Management Plan, Emergency Operations Plan, Disaster Preparedness Plan, Library Disaster Plan, Collection Disaster Plan, Disaster Recovery Plan or simply Disaster Plan. These plans are fairly similar in contents although there are differences in the details given. As McIntyre (1988) points out, “there is some variety in the nature and contents of the plan. For example while one organisation details step-by-step procedures, another emphasises the contact list.
The literature emphasises that there is no right or wrong format of the plan. It must be driven by individual institutional needs”. (As cited in Muir & Shenton, 2002, p.119) In the present study report, the term ‘Disaster Management Plan’ or ‘Disaster Plan’ are used generically to include all these.

A disaster plan provides a clear and coherent approach to dealing with disaster. It is advised that a disaster plan should be:

- Written- or it will not be remembered.
- Simple- or it will not be understood.
- Disseminated- or it will not be in the hands of those who need it.
- Tested- or it will not be practical, and
- Revised- or it will not be up-to-date. (Carter, 1991)

Even in the case of library disasters it is better that staff accepts and understands the advantages of emergency preparedness rather than learn through hard experiences. Disasters not only damage the library collections, the library building, and harm the library staff and the readers but also disrupt the services. If libraries are prepared, it will help the library to minimise the impact of a disaster and restore collections and resume services at the earliest. As in national disasters, so also in library disasters it is better to be defensive and preventive rather than taking action only when disasters strike. It may be too late by then. According to Eden and Matthews (1996) disaster control planning is concerned with “the formulation of a written plan which gives details of preventive and preparatory measures intended to reduce potential risks, and which also indicates reactive and recovery procedures to be taken in the event of a disaster in order to minimize its effect”. (p.2) A similar thought is expressed by Henson (2000). According to the author, the disaster response plan is a written document that describes in detail the steps a library would take to prepare for and prevent a disaster and, if a disaster occurs, the procedures that will be followed to respond to the disaster and recover from it.

LIS professional literature provides several guidelines and checklists for the use of disaster planning in libraries. Further, in the last two decades many libraries have developed and put on the web, their disaster management plans which can also be referred by other libraries seeking to develop their own plans. However, there are hardly any guidelines developed for Indian libraries, nor have Indian libraries shared their disaster plans if any.

Disaster plans of five libraries- Ellen Clarke Bertrand Library at Bucknell University, USA, (Bucknell..., 2005), University of Delaware Library, USA, (The University..., 2010), University of Toronto Library System, Canada, (Toyonaga, 2010), Robinson Library at University of Newcastle upon Tyne, UK (Newcastle..., 1998) and National Library of Australia (National..., n.d.) were compared with reference to their contents. The content analysis and advice presented in the general guidelines were combined and their essence is presented in Section 7.2. In Section 7.3 based on questionnaire responses, interviews of librarians and experts, observations, guidelines, published literature and the contents of specific plans, guidelines and checklists have been developed by the researcher for Indian libraries. A sample disaster plan for an Indian college library follows.

7.2: General Library Scenario
Guidelines are a statement or indicator of policy or procedure by which to determine a course of action. They are by their very nature general and allow some discretion or leeway in their interpretation, implementation, or use. Many articles and chapters in books are published advising libraries how to prepare a disaster plan. Guidelines usually cover how and what factors should be taken into account when preparing a disaster plan.

7.2.1: Planning Process
Patkus and Motylewski (2008) advised that “disaster planning is complex; the written plan is the result of a wide range of preliminary activities. The entire process is most efficient if it is formally assigned to one person who acts as the disaster planner for the institution and is perhaps assisted by a planning team or committee. The institution's director may play this primary role or may delegate the responsibility, but it is important to remember that the process must be supported at the highest level of the organization if it is to be effective”. The team should comprise of all stakeholders like, librarian, security officer, building supervisor/engineer, computer specialists,
maintenance staff and conservation specialists. “Having a single individual working on the plan can miss significant components; thus, a team is advisable since it provides access to more opinions and input. For smaller organizations, the team can consist of two or three individuals. For larger ones, the group should be no larger than eight to twelve people”. (Fleischer & Heppner, 2009, p.5)

Once the plan is produced the entire staff needs to be convinced of its importance. This means not only the professional staff, but also all the support staff (cleaners, porters, doorkeepers, etc.) and the senior management of the parent institution and funding body. A plan can only have a chance of being effective if all these groups believe, and continue to believe in its importance. (McIlwaine, 2006)

The disaster planning team should “consult guidelines, talk to colleagues with relevant experience, look at other libraries’ plans and read the literature; each plan needs to be building specific and to work within a unique organizational context”. (Eden & Mathews, 1996, p.3)

The phases of writing the disaster response plan have been categorised in different ways. Fleischer and Heppner (2009) have divided the process into three phases namely, gathering information, creating and implementing the plan and training staff and maintaining the plan. Henson (2000) identified four phases of disaster plan writing.

- Survey the library building and grounds.
- Outline the disaster response plan.
- Write the plan.
- Revise, revise, revise.

7.2.2: Risk Assessment

The first step in disaster planning is to undertake the risk assessment of the library. “A risk assessment of building, equipments and utilities is the first and most important step in disaster preparation”. (Eden & Mathews, 1996, p.3) For this step, expert advice is often required. The end result of the survey would indicate the key risk factors and potential hazards.

A large number of checklists have been used to help in the risk assessment study. A checklist is a list of items to be noted, checked, or remembered. It is an aid to ensure that critical steps have not been overlooked either due to haste, forgetfulness or inexperience. It helps to ensure consistency and completeness in carrying out a task. Libraries should use checklists as a toolkit for periodic self-evaluation.

Checklists can be presented as small questions or as statements. They are sometimes graded and presented as benchmarks.

7.2.3: Elements of a Plan

Almost all guidelines suggest outlines for the disaster plans. Fleischer and Heppner (2009) specify that at the minimum a good disaster plan would include following sections:

- Introduction and Statement of Purpose
- Scope of the Plan
- Distribution, Review, and Update
- Emergency Information
- Telephone Tree and Procedures for Contacting the DRT (Disaster Response Team)
- Collection, Equipment, Office Files, and Other Salvage Priorities
- Prevention and Protection Measures
- Disaster Response Instructions and Plans
- Disaster Recovery Instructions and Plans
- Disaster Rehabilitation after Recovery
- Appendices
  - DRT Roles and Responsibilities, Floor Plans
  - Temporary Collections, Records, and Service Operation Relocation
  - Internal Emergency Equipment and Supplies
  - External Emergency Equipment, Facilities, Supplies, and Services
  - Bibliography

(p. 135)

Other authors such as Henson (2000), Kahn (2009), and Mansell (2003) also provide similar outlines, though they use varying terminologies.
7.2.3.1: Disaster Management Team

The major step in preparing a plan is to identify a disaster response team and spell out the responsibilities of members. Recovering from a disaster is a major task and requires knowledge and specialisation in different areas. The immensity of the task and the range of expertise required make it mandatory for every institution to set up a disaster management team. Since a library has specific needs, a special disaster team for the library needs to be established. All the five plans studied spell out the constitution of their disaster teams. Moreover, some of them even detail out roles and responsibilities of each member.

- The Ellen Clarke Bertrand Library expects that each member of the disaster team will develop expertise so that he/she will be prepared to respond appropriately and effectively to an emergency. The responsibilities given to the members other than the leader are documentation, managing volunteers, communication, supplies and services, and monitoring.

- University of Delaware Library has set up two teams—the Disaster Coordination Team which is responsible for managing disaster rescue and response, and the Disaster Response Team, which is trained to perform salvage and recovery procedures in a disaster situation affecting the collections.

- The National Library of Australia has an elaborate structure consisting of various sub committees.

One of the important roles in disaster management is to document and keep records of all aspects concerning the disaster. In preparation for a disaster, the team member is required to maintain all information relevant to the disaster preparedness and response effort and develop a system for tracking damage to library materials. In response to a disaster, his/her responsibilities include taking photographs of the disaster site, noting the time and date of all activities related to the disaster, recording all decisions made, collecting and compiling the damage-assessment notes and maintaining records of library materials removed from the library.

7.2.3.2: Emergency Contact List

One section of these plans state whom to contact on an emergency basis in case of a disaster. The content and the length of the lists vary. Compared to the lists of Ellen Clarke Bertrand Library and University of Delaware Library, the University of Toronto Library System gives a very detailed contact list. The lists may include details of library disaster coordinating team, section heads, specialists, and other essential services such as police, fire, insurance etc. Almost all libraries have given name, designation, and office contact of the concerned persons. However Ellen Clarke Bertrand Library and Robinson Library also include residential contact numbers. The home numbers help to establish contact after office hours or if the person is absent from the office.

The onset of a disaster may be observed by any one at any time, i.e. before, after or during office hours. In such a situation the contact lists should indicate who is to be informed. For example, Ellen Clarke Bertrand Library gives a separate ‘Emergency Telephone Numbers’ which lists persons like director of physical safety, director of physical plant, ambulance, safety manager in addition to library staff. Robinson Library under its ‘Emergency Services’ lists numbers of fire, police, ambulance, first aiders, gas company, water department etc.

7.2.3.3: Emergency Procedure

Another important component of the plan is the detailing of the emergency procedure, i.e. the immediate response necessary till help arrives. All libraries have identified the first steps to be taken after contacting the key persons. A few libraries have spelt out the steps according to the type of disasters. For example, University of Delaware Library under its immediate response steps describes step by step what immediate actions one should take for each type of disaster. In case of water, the steps listed are as follows:
Figure 7.2: Steps in Water Emergency

- Turn off electricity in affected areas if necessary
- Turn off water supply if it continues to run into affected areas
- Ensure that no chemicals, sewage, or mold present health risks
- Cordon off unsafe areas

*Library staff do not have access to electrical or water shut-offs. Public Safety should contact Facilities (for nights and weekends, Emergency Maintenance) to shut off the electricity or the water.

Contaminated Water
If you are responding to a water emergency but have not determined the source, remember that the water could be contaminated. If you are handling affected collections or working in the wet area, wear protective clothing. Rubber gloves, safety glasses, and protective jackets are in the Disaster Trunks located in Circulation, the Mailroom, and Preservation Room 013.

Standing Water
If there is standing water on the floor, there is a risk of electrical shock. Do not enter the area until the electricity has been turned off.

Halt Damage
Shield library materials from the source of water by:
- Covering library materials with plastic sheeting if water is coming from above.
- Making a dam barrier to keep water away from materials if flooding is from below.
- Moving undamaged materials to another location if they are in jeopardy from water flow or high relative humidity (RH), BUT do not separate or space out dry or damp books and leave them in the disaster site when the RH remains high (keeping them tightly together on the shelves helps to keep them from swelling).

Similarly the National Library of Australia has divided the steps into immediate steps and short term actions.

7.2.3.4: Emergency Supplies
All plans had anticipated what would be required at the time of a disaster or immediately after it. The supplies required are mainly materials and equipments for saving the collection. Normally these supplies will be useful for a minor disaster, and also temporarily help in case of a major disaster till help is received. Different names are given to it like emergency supplies list, disaster supplies, disaster trunk, disaster boxes, emergency supplies and maintenance, local emergency store, ‘wheelie bins’, central emergency store. University of Delaware Library had three sets of disaster supplies kept at three different locations as well as additional supplies in its preservation department, whereas the University of Toronto Library plan describes some items under its special services. Items were listed along with their location. If located outside the library, then the full address of that company was given. Ellen Clarke Bertrand Library has given an emergency supply list in an appendix to their disaster plan. The National Library of Australia had it in three places with minimum items in ‘wheelie bins’ or movable trolleys and more items stored in local emergency store and central emergency store. The list of items in the wheelie bins and the local emergency store are illustrated below.

Figure 7.3: Movable Emergency Supply

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Material</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bins – plastic</td>
<td>Catching water</td>
</tr>
<tr>
<td>2</td>
<td>Buckets - 10 litre</td>
<td>Catching water, cleaning up</td>
</tr>
<tr>
<td>3 pairs</td>
<td>Gloves – rubber</td>
<td>Health and safety</td>
</tr>
<tr>
<td>1 roll</td>
<td>Packing tape</td>
<td>Adhering sheeting</td>
</tr>
<tr>
<td>1 roll</td>
<td>Plastic sheeting – clear</td>
<td>Covering material</td>
</tr>
<tr>
<td>1 pair</td>
<td>Scissors</td>
<td>Cut plastic, tape</td>
</tr>
<tr>
<td>6</td>
<td>Wettex wipers</td>
<td>Cleaning up</td>
</tr>
<tr>
<td>1</td>
<td>Emergency Action Instructions</td>
<td>Reference</td>
</tr>
</tbody>
</table>

(National Library of Australia)

All libraries have identified similar types of items. In addition to creating such an emergency supply box, the plans emphasise the need to check the condition of the materials regularly for their usability and replacement if necessary. It is also very important to do inventory checking post disaster and replace necessary items.
Another important aspect referred to in the plans is the location of the supply and the keys to the box/store, who has access to them, maintenance date and person in-charge of it. In one library, the disaster supply cabinet was painted yellow to catch immediate attention of the person searching for it. (National Library of Australia).

7.2.3.5: Priority List
A key component of a library is its collection and the library disaster plan needs to mention the steps to be taken to prevent damage and salvage material after the disaster. With a view to minimising the loss, most libraries include in their disaster plans a prioritised list of materials to be saved. The list of priorities could include collection priorities as well as equipments such as computers and library records like the catalogue or accession registers.

Ellen Clarke Bertrand Library explains the factors taken into account while preparing the priority list. Collection priority has been based on factors like collection required immediately for starting the services, irreplacibility, value, uniqueness, high demand, legal responsibilities etc. In fact, it has provided three levels of priority for the library as a whole. For each section, it has a separate collection priority list. Robinson Library mentions the priority collection, but details are confidential and not put up on the web. For the National Library of Australia, the priority collection consists of material of national significance and the list is stored, maintained and updated separately by its Preservation Department.

Once the priorities are decided, it helps “library staff, fire department, or other authorities which parts of the collections are to be protected if possible or salvaged first, if that decision ever has to be made. When priorities have been reached in advance it eases the stress of making quick and often uninformed decisions immediately following a disaster.” (Ellen Clarke Bertrand Library).

In case of the other two libraries, one plan does not mention the priority collection, and the other library explains briefly about priority in salvaging damaged collection. Identifying priority collections needs to be supplemented by locating the items on the stacks. To facilitate this Ellen Clarke Bertrand Library has marked the priority collection on its floor plan as well as the stack area with different colours.

7.2.3.6: Consultants/Services/Supplies
All plans provided a list and contact details of consultants, service providers like freezing services, dehumidifiers, transport companies, salvage companies as well as experts, and insurance companies.

7.2.3.7: Salvaging of Collection
In spite of efforts to prevent damage, it is very likely that the disaster will affect the collection and damaged materials may need to be salvaged. The collection can be paper based, digital or multi media. It could be textual or pictorial and it could be stored on different physical media. All plans describe in detail how to salvage these materials if damaged due to water, fire etc.

The contents of the individual plans are briefly described below.

- University of Delaware plan describes the salvage procedures for paper based materials. Detailed description of what should be done first, how to handle damaged materials and an overview of recovery methods like air drying, freezing as well as procedures to be followed in sending materials for freezing like packing, transporting etc. are explained in detail.

- The Ellen Clarke Bertrand Library plan categorises salvage procedures in three stages—rescue, recovery and rehabilitation. ‘The disaster response section contains the information needed by the Disaster Team for a fast and effective response to a collection emergency. The section covers issues such as who will assess the damage to the collections, how response is to be initiated, as well as the activation of plans for services, supplies and experts’. A brief guide for disaster response is provided which may be collection emergency. A brief guide for immediate disaster response given by Ellen Clarke Bertrand Library is given below:
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Figure 7.4: Immediate Disaster Response

1. Who is in charge?
2. What is the extent of the disaster?
   - What materials are affected?
   - How many materials are affected?
   - Which high priority materials are affected?
3. How serious is the damage to materials?
4. Is the cause of the disaster being addressed?
5. Are the collections not affected being protected from potential damage?
6. Have all necessary library staff been notified?
7. Have all necessary facilities, security, and insurance staff been notified?
8. What supplies, equipment, services, and/or space will be needed?
   - Are required supplies available or will additional supplies or services have to be ordered or contacted? Who is doing this?
   - Will extra space be required to work or air dry or store materials? Who is arranging for this?
   - Will additional staff or volunteers be required and trained? Who is doing this?
9. How are affected materials going to be dealt with?
   - Are freezers needed for stabilization?
   - What recovery methods are appropriate?
10. How will service be restored and when? Who is in charge of this?

The next stage is the disaster recovery section which contains information about the techniques and methods that can be used for recovering different damaged materials. The final rehabilitation stage refers to the steps to be taken once materials are dried and ready to be returned to the stacks.

- The Robinson Library plan presents in tabular form how to handle materials, what should be done first, packing methods, and drying methods for different types of materials. An example of care to be taken in salvaging books is given below:

<table>
<thead>
<tr>
<th>Books and pamphlets</th>
<th>Priority</th>
<th>Handling precautions</th>
<th>Packing methods</th>
<th>Drying methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeze or dry within 48 hours</td>
<td>Do not open or close, do not separate covers</td>
<td>Separate with freezer paper, pack spine down in plastic or cardboard box</td>
<td>Air, vacuum, or freeze dry</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Leather and vellum bindings</th>
<th>Immediately freeze</th>
<th>As above</th>
<th>As above</th>
<th>Air or freeze dry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books and periodicals with coated papers</td>
<td>Immediately pack, freeze or dry within 48 hours</td>
<td>Keep wet; pack spine down in containers lined with bin bags</td>
<td>Freeze dry only</td>
<td></td>
</tr>
</tbody>
</table>

- The disaster management plan of the National Library of Australia spells out immediate, short term and long term actions that need to be taken for each type of disaster. It then goes on to give detailed material wise explanation of salvaging procedures to be used for different types of disasters.
- The plan of the University of Toronto Library system first gives in detail a general explanation as to what should be done before starting salvaging, how to control the environment, what to do if mould is growing, how to remove and pack damaged materials, preparation for removal and treatment, and general treatment procedures. Followed by this, it details by type of material the treatment required. In general what should be done when material comes back post treatment is explained. The explanation is supplemented by drawings which make it very clear.

7.2.3.8: Information Technology (IT)

Only two library plans include IT related issues. Ellen Clarke Bertrand Library had given a brief checklist for IT infrastructure in the library while Robinson Library described in detail the IT infrastructure and what to do, whom to contact, and how to continue services. These guidelines are meant for non-IT persons though the IT department may need to be contacted for any major issue. Other libraries do not have
7.2.3.9: Floor plans and Location

Floor plans are necessary to help in emergency situations to evacuate people and resources. They are also useful for others who are strangers to the building, like fire brigade officers, to locate things when they go inside. In addition to the floor plan, Robinson Library provides the location of utilities and alarm systems.

7.2.3.10: Preventive Measures

Most library disaster plans have also included information on steps to be taken to prevent or limit the damage. These may include checklists or risk assessment surveys. The Robinson Library has developed a checklist of preventive measures indicating the frequency of checking and the date when checked.

<table>
<thead>
<tr>
<th>Measures</th>
<th>Frequency</th>
<th>Date Checked</th>
<th>Date Checked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locks on doors and windows secure?</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency numbers available?</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire extinguishers updated and operable?</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoke alarms operable?</td>
<td>Q</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Torches operable?</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last fire drill?</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last inspection of external facilities?</td>
<td>W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire/emergency escapes?</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alphabetical list of staff</td>
<td>Q</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air condition unit</td>
<td>2 pa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency lights check</td>
<td>W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disaster Kit</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCTV maintenance inspection.</td>
<td>A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 7.6: Checklists for Preventive Measures

The University of Toronto Library plan emphasises that the preventive conservation does not always require expensive or complex care strategies. Much can be done by applying common sense.

7.2.3.11: Other Issues

- Disaster Plan Location: Some outlines also indicate in the plan where copies of the plan should be located and how it should be distributed. All library plans examined identify where the disaster plan is located. Henson (2000) recommends that the copy of the plan be given to every member of the disaster team, library administrators, public service points in the library, library security, campus security and any other concerned department. The author further recommends that the first two categories be given an additional copy to be kept at their residences.

Henson (2000) also considers creating two versions of the plan: a master copy and working copies. The master copy should contain additional features such as a purpose statement, the disaster response reports, and the revision table that are not included in the working copies. The working copies, as distributed to the disaster response team and to public service points in the library, are utilitarian and narrow versions of the master copy. The working copies should have no information that does not directly address disaster response. As the person using the disaster response plan will be facing a disaster, so the working copy should consist mainly of lists, tables, charts, and floor plans.

Regular checks should be made to ensure that
- Materials are not stored on the floor.
- Electrical cords are not frayed.
- There is no water leakage.
- There is no weather damage.
- Garbage or hazardous chemicals are not lying about.
- There are no problems with heating, air conditioning and electrical systems.
- Equipment / machinery are unplugged when not in use.

Routine security checks should be made daily at closing time to ensure that all equipment is turned off and there are no burning cigarettes and other hazards. National Library of Australia stressed that its preservation services staff should regularly check for evidence of water, fire hazards and pests.

The University of Toronto Library plan emphasises that the preventive conservation does not always require expensive or complex care strategies. Much can be done by applying common sense.
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- Revision: An out-of-date plan may be worse than no plan at all. The plan needs to be revised and updated to be effective. The plan should reflect the changes in building and equipment, collections and their locations, people, and procedures.

- Previous Disasters or Examples: Robinson Library has briefly included in its plan earlier major disasters in different libraries whereas the University of Delaware has chronologically listed the incidents which have happened in its library.

- Post Disaster Actions: The National Library of Australia plan mentions the need for a full post disaster assessment to
  - analyse the successful and failing aspects of the immediate, short and long term actions taken
  - prepare a written report on the incident including: cause of the disaster number of items damaged, replaced, discarded, and repaired ongoing treatment costs
  - staff time expended during the operation cost of restoring the affected area
  - cost of equipment and supplies
  - make changes to the disaster plan where necessary
  - send letters of thanks to those who assisted

Kahn (2009) recommends the need for proper documentation of the disaster incident and its management.

- Bibliography: It is possible that libraries may need additional information to manage the disaster. All plans give bibliographies of further reading on the issue.

7.2.4: Adapting the Guidelines

The guidelines and contents of plans described in this section can be used to develop disaster preparedness plans for any library by adapting them to suit its circumstances. Circumstances may vary and these variations will affect how a disaster preparedness plan is developed. As McIlwaine (2006) points out, an institution may be designing a disaster plan for a building which is being newly constructed, in which case many features can be incorporated during the construction. On the other hand the plan may be for an existing building; this in turn may be independent, part of an adjacent structure or only a section in a larger building. These conditions will determine the contents of a plan. Further, resources available to a library may also vary. The disaster plan therefore would need to be adapted as to what is possible regarding high risk factors rather than what is ideal for all risks. Nevertheless each individual institution should undertake a careful examination of its own particular circumstances and requirements, and then draw up a disaster preparedness plan to meet these particular individual needs. (McIlwaine, 2006)

7.3: Prevention of Library Disasters in India

Using McIlwaine’s (2006) advice, Indian libraries can develop their own comprehensive disaster plans according to their situation; alternately a range of simple guidelines for specific aspects of disaster planning can be created to fill in the gap of Indian libraries not having any such guidelines or checklists. Besides a plan, guidelines or checklists for a large number of specific issues can be developed e.g. checklist for testing the physical condition, how to manage a specific type of disaster, what care to take in preventing digital disaster, how to salvage different types of materials, what care to be taken while taking an insurance policy, what training to provide, lists of suppliers of different materials, salvaging experts and so on.

As part of the present study, the guidelines available in international literature and the content analysis of actual plans were supplemented by interviews with experts and inputs obtained from the research study, to create a few general guidelines and a disaster management plan for a college library. They are (1) checklist for general risk assessment (2) basic guidelines for fire management (3) guidelines for digital data protection and (4) guidelines for insurance cover, and (4) a sample disaster plan for a college library.

7.3.1: Checklist for General Risk Assessment

Risk to a library may be due to several factors: environment and location, building and premises, care, maintenance and upkeep, contents and their storage. Risk assessment check list would normally cover all these aspects. The following 20 questions can be used as checklist points to determine the most likely hazards the library may face with respect to environment, location and building and assess how vulnerable it is to those hazards.
Figure 7.7: General Risk Assessment for Environment, Location and Building

1. Is the area subject to heavy or prolonged rainfall?
2. Is the area subject to severe storms?
3. Is the building situated by a lake, river or ocean?
4. Is the basement below water level?
5. Is the collection stored in the basement?
6. Is the building in an area prone to avalanches or landslides?
7. Is the area subject to earthquakes or volcanic action?
8. Do the surroundings of the building pause any threat?
9. Is the building well constructed and can it support the load?
10. Has the structural audit of the building been done?
11. Are the external and internal materials including the walls and doors separating the various parts of the library building (stacks, reading room and staff areas) fire-resistant?
12. Does the library have glass walls /roofs, and glass windows/doors?
13. Are plumbing, electrical, fire detection, fire extinguishing and security systems of standard quality?
14. Are all access points to the building such as doors and windows, staircases, skylights, and ventilation secure?
15. Are the building security and safety systems effective?
16. Are floor plans containing the key features of the building complete and easily available?
17. Are all records of building work kept?
18. Are the concerned people aware of locations of mains for electricity and water supply?
19. Does the concerned staff know the location of nearest fire hydrant?
20. Is the storage area well ventilated?

7.3.2: Basic Guidelines for Fire Management

Disaster planning for fires involves risk assessment of fires in the library, installation of fire prevention equipment, regular steps taken to ensure fire prevention, and emergency procedures in case of fire. Salvaging of fire damaged materials is discussed elsewhere in the chapter.

Fires may result from natural phenomena such as lightning or earthquakes, or from such unnatural events as wars, terrorist activities, or arson. However, the primary threat of fire in libraries and archives is caused when fire safety rules are ignored or not adopted in the first place. Such a fire may start from within the library or may spread to the library from outside. If the library is in an independent building, but is adjacent to a chemical plant, an eatery, a laboratory, a storehouse of hazardous material or a market it may be at a greater fire risk. If the library is in a building but the nearby rooms are being used as laboratories or a canteen, then also the risk is high. In high risk situations such as these it becomes imperative for the library to be extra careful and be prepared.

A fire can start from within the library for many reasons. One of the most common reasons for fire is due to loose or damaged electrical wiring. Paper, film, wooden furniture, electrical equipments are all sources of fire hazards. The inflammable nature of these items means that if a fire starts, it would quickly spread, unless immediately controlled. Further, the storage of materials, the furnishings used and the structural features of the library building may also contribute to the risk.

The fire risk is measured on the basis of ‘fire load’ of a room or building. This technical concept is a measurement of the weight of combustible material per square foot of floor space. Since the combustible rate of different materials vary, they are all normalized to “wood-equivalent” combustible rates. The higher the fire load, the greater is the risk. It is a good practice to get a fire audit made by an external agency which will help in the risk assessment.
7.3.2.1: General Fire Prevention Measures

Many fire incidents can be prevented and controlled by installing and maintaining some basic equipment and by following certain simple practices. Fire extinguishers are classified into A, B, C and D categories depending on the type of material they affect. Class A fires relate to solids such as paper, wood, plastic etc; Class B covers flammable liquids such as paraffin, petrol, oil etc; Class C is used for flammable gases such as propane, butane, methane etc while Class D deals with metals such as aluminium, magnesium, titanium etc. Fires in libraries would therefore be considered as ‘A’ category fires.

A range of equipments to detect and suppress fires are available. Fire detection can be done through smoke detectors or heat detectors; the former are usually recommended for libraries. The detection systems automatically set off an alarm which warns the staff and users of the possible occurrence of a fire. It is also possible to install a manual alarm without installing the detection systems.

Suppression systems are of many varieties – ranging from simple buckets of sand strategically placed, to hand held extinguishers to automatic sprinkler systems. Automatic systems are usually gaseous, mist or water based. The former are suitable for small and confined areas and cause less damage than water to equipments (for example to computers), but need to be supported by water-based systems for large areas. Automatic water-based extinguishing systems may be necessary and are more economical, but one is deliberately introducing water which will affect documents. There are advantages and disadvantages of the different systems which must be examined before investing in any one.

Fire extinguishers, too, are of different kinds. Class A fire extinguishers are usually water based. Class B fires are put out by excluding air, by slowing down the release of flammable vapours, or by interrupting the chain reaction of the combustion. Three types of extinguishing agents—carbon dioxide gas, dry chemical and foam—are used for fires involving flammable liquids, greases, and oils. The extinguishing agent in a class C fire extinguisher must be electrically non-conductive. Both carbon dioxide and dry chemicals can be used in electrical fires. An advantage of carbon dioxide is that it leaves no residue after the fire is extinguished. When electrical equipment is not energized, extinguishers for class A or B fires may be used. A heat-absorbing extinguishing medium is needed for D class fires in combustible metals. Also, the extinguishing medium must not react with the burning metal. The extinguishing agents, known as dry powders, cover the burning metal and provide a smothering blanket.

To summarise:

### Figure 7.8: Fire Extinguishers

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Types of Fire Extinguishers</th>
<th>Class of Fire</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Water (Gas Cartridge)</td>
<td>S NS NS NS</td>
</tr>
<tr>
<td>2</td>
<td>Water (stored pressure)</td>
<td>S NS NS NS</td>
</tr>
<tr>
<td>3</td>
<td>Mechanical Foam</td>
<td>U S NS NS</td>
</tr>
<tr>
<td>4</td>
<td>Dry chemical powder (Gas cartridge)</td>
<td>U S S NS*</td>
</tr>
<tr>
<td>5</td>
<td>Dry chemical powder (metal type)</td>
<td>S S S S</td>
</tr>
<tr>
<td>6</td>
<td>Carbon di-oxide</td>
<td>U S S S</td>
</tr>
<tr>
<td>7</td>
<td>Halon</td>
<td>U S S S</td>
</tr>
</tbody>
</table>

S: Suitable NS: Not suitable U: Can be used in emergency but not much effective. *: Special dry powder can be used. (Maharashtra…, 2012)

Technology of fire fighting is also rapidly changing and new products enter the market regularly. While procuring and installing new systems it is necessary to examine the need, the market availability and resources. Many institutions lack the human and financial resources necessary to install and implement a complete prevention/protection programme. Thus, selection of the equipment must be made keeping in view the local requirements. A hi-tech system can very often equal low availability, because of problems of erratic power supplies, and the lack of good local maintenance facilities.

7.3.2.2: Preventive Measures for Libraries

In storing of materials, items such as tapes, films etc which are more inflammable than paper should be stored separately. Special care should be taken in sensitive areas such as a server room, a computer laboratory or storage area for films. The shelving should not be so high as to touch the wiring on the ceiling or prevent the working of...
the sprinklers. The shelves should not be too closely packed. As far as possible the stock should be compartmentalized in different rooms with fire resistant doors separating the sections. Use of standard equipment and materials and following regulations as may be applicable is important. Certain regular steps also need to be taken in order that the library continues to be safe from fires. These are listed in Figure 7.9, 7.10 and 7.11

**Figure 7.9: Regular Steps Taken to Ensure Fire Prevention Part I**

**Life Safety**
- Install as many fire doors and barriers as possible to isolate fires and slow down their spread
- Install local electrical circuits for each room/storage area with the capability for these to be isolated. Install circuit breakers or automatic tripping switches for electrical circuits.
- Ability to use exit doors is not hampered by security measures during occupancy.
- Stairwell and hallway fire doors are kept in the closed position and are free and clear of obstructions.
- Fire escape stairs & emergency lighting appear to be in good condition.
- Illuminated exit signs are all lit, not blocked, and can be easily seen.
- Library should have addressable system/early warning system/exit light

**Fire Protection Equipment**
- Fire detectors are free from obstructions
- Alarm systems function and are tested
- Fire hose cabinets are in good order, easily visible, and accessible.
- There is clearly signed and easy access to water hose reels or standpipes (taps) to which hoses may be connected.
- Buy fire extinguisher with ISI mark. All extinguishers need to be regularly tested, refilled, replaced and tagged.
- Sprinkler control valves are regularly checked.
- Sprinkler tanks, piping, and supports appear in good condition.
- A space of at least 18 inches (457 mm) is kept between sprinklers and materials.
- Lightning arrestors appear to be in good condition.

**Figure 7.10: Regular Steps Taken to Ensure Fire Prevention Part II**

**Housekeeping and Storage**
- Implement regular inspection and maintenance of electrical circuitry and of all electrical equipment, and keep detailed records of all inspections and resulting work.
- Ensure that all machinery such as computers, photocopiers etc. is isolated from document storage areas and is turned off overnight.
- Ban the use of unsupervised personal electric equipment such as electric kettles.
- Rubbish is not left to accumulate in excessive quantities; trash cans are emptied regularly.
- Storage areas are kept clean and orderly; cleaning materials are safely stored.
- Combustible materials are not kept in unprotected areas.
- Roof drainage is unobstructed and roof covering is in good condition.
- Aisles are unobstructed.
- Ensure proper supervision of all contractors and maintenance staff especially if they are using welding equipment, blow-torches etc.

**Exhibits/Collections/Book Stacks**
- Exhibits are not blocking exit routes and/or access to fire protection equipment.
- Extension cords are not used
- Salvage equipment and materials are provided and accessible.
- Smoking regulations are enforced with employees and visitors.

**Personnel/Training**
- All staff members know emergency contact numbers and know how to use a fire alarm.
- All employees from top to bottom have received training and are aware of their assigned duties.
Figure 7.11: Emergency Procedures in Case of a Fire

- Activate the Fire Alarm.
- When there is a fire, first stop fire, do not think of damage.
- Call the fire department.
- Fight fire only if you know how, if fire is small, you have a way out and you can work with your back to the exit. Use fire extinguishers only if you are trained.
- Do not fight fire if it is spreading fast in other areas and if it is blocking your escape route.
- Try to switch off main power supply.
- Opens windows to let smoke out.
- Try to open water taps.
- Cover your head with wet cloth.
- Do not break windows.
- Do not open a hot door.
- Do not use elevators.

It is generally known that fire requires combustible material, a source of heat and oxygen. To prevent fire from spreading attempts must be made to remove one of these e.g. if books on a shelf are burning, create empty spaces by removing the neighbouring books, so that it does not spread quickly.

7.3.3: Guidelines for Digital Data Protection

IT disasters in libraries could be due to natural or man-made disasters. For example, fluctuation in power supply, power outage, software or hardware malfunctions, computer viruses, lacking of data, human errors like spilling of liquids, improper computer shutdown, or accidental deletion of data. Certain good practices followed in managing IT also help to limit damage to the system during emergency. These could be simple steps such as:

- Acquiring standardized hardware and software.
- Master copies of all software and their license key number should be safely stored.

- Securing support from IT vendors for system maintenance.
- It is useful to also enter into Annual Maintenance Contracts for the hardware as well as software with suppliers.
- Connecting Uninterruptable Power Supplies (UPS) to key servers and equipments.
- Developing a detailed network blueprint.
- Ensuring insurance coverage for system.
- Protecting the Local Area Network (LAN) from virus attack by installing antivirus software, firewalls.
- Performing routine backups.
- Monitoring staff and user Internet access.
- Using Redundant Array of Independent Disks (RAID) technology to capture on-line transaction activity.
- Protecting hardware from environmental damage.
- Providing training programmes for staff and readers on computer uses and ethics. (Hawkins, Yen & Chou, 2000)

Monitoring the vulnerability will prevent a problem before it occurs. For most organizations, according to Rothstein (1998) the main areas of vulnerability may include:

- backup storage locations for data;
- data security;
- physical security;
- the room or building that is housing the computers,
- electrical power;
- fire detection and suppression;
- depending upon one person for information;
- management controls; and
- reliability of telecommunication services. (as cited in Hawkins, Yen & Chou, 2000, p. 227)
Monitoring users’ systems in libraries, enforcing virus scanning and updating virus software, providing uninterrupted power supply, upgradation of hardware and software and providing appropriate IT training will reduce chances of loss of digital data. (Stremple & Martone, 2000)

As all library data is stored on the server, it needs to be particularly protected. The server has to handle a lot of data traffic which makes it vulnerable. Every institution with a server should have a server room that is secure. The room should have both fire and heat detection and smoke detection sensors, and fire extinguishers suitable for electrical fires.

Backup of data is imperative as it would help recover from part or full data loss due to different causes. A standard procedure for systems backup should be adopted. Every day backup of changes made should be maintained without fail. This should be maintained till the end of the week when a full weekly backup should be taken. In the last week a monthly backup should be taken. Similarly in the last month a full annual backup should be taken up. It is a good practice to keep two previous backups until a fresh backup is taken. All backups should be stored in a secure, off-site location. Proper environment controls, temperature, humidity and fire protection, should be maintained at the storage location. Periodic tests of the backups should be performed to determine if files can be restored.

7.3.3.1: Recovery from Disaster

Early efforts should be targeted at protecting and preserving the computer equipments. They should be identified and either protected from the elements or removed to a clean, dry environment, away from the disaster site.

While hardware and software are replaceable, data may not be if backups have not been properly maintained. Thus the first priority is to recover the data. If the data is on the internal hard disk an attempt should be made to recover it as much as possible.

7.3.3.1.1: Water Damage

If the hard disk has been under water for only a short time, the probability is that the head assembly has not been penetrated by the water. While the data recovery remains difficult, it can be done. If water has entered the small hole in the assembly head, speed is of essence. If the platters are accessed before the water dries, then there is still a chance of recovering the critical data on the drive. If the water does dry, it leaves behind minerals, dirt and other foreign materials throughout the drive, most importantly, the head assembly and platter(s). The chances of recovery at this point are less. It is important that the drive be kept wet. In requesting data recovery, it is important to seal the drive, as well as other media, in a container with a minimum of a damp sponge. (Georges, 2004)

7.3.3.1.2: Fire Damage

In case of fire, a risk to the head assembly is that the heat is so intense that the platters may melt. In this case, there is no hope of recovering the data. Even blackened drives can have undamaged head assemblies. The challenge in recovering data is to rebuild the electronics to access the data. The availability of data recovery services locally must be identified. (Georges, 2004)

The damage to computer boards may be controlled by drying them quickly, possibly in an oven. It should not be done for hard disk as it can be disastrous. (Georges, 2004)

7.3.4: Guidelines for Insurance Coverage

“Insurance is a method of coping with risk. It lowers uncertainty about the economic cost of loss-producing events. The insurer, for a fee, promises to reimburse the insured for losses. In a university library, the administration must take a realistic view of security and recognize that, although prevention is better than cure, insurance can help rectify a security breach or help the library recover after a disaster or accident.” (Adekanye, 2010, p.1) Yet less than 50% of the libraries in the present survey had insured their libraries. The general feeling was by insuring one was ‘wasting’ money for something which might never happen.
All libraries, which are struck by disaster, have to plan for replacement of lost items, recovery of damaged material and restarting of library services. This requires both effort and finances. The financial burden for these is high and insurance allows the library to claim for the loss and replace the books that are lost or buy new books from the claimed amount received.

The coverage of insurance policies varies. While some policies comprehensively cover all types of risks others selectively cover some risks. Libraries should take appropriate insurance based on its risk assessment. A comprehensive policy usually carries with it a premium of 50 paise per mille (i.e. Rs. 1000/- worth of property).

Several guidelines need to be followed so that the insurance is appropriate and claims made are satisfied. The institution’s insurance will normally cover the library premises, furniture and equipment but books and other resources may not be specifically mentioned. It is the librarian’s duty to emphasise the need for books and other resources to be specifically included in the insurance cover.

As libraries differ, so their insurance requirements will differ. The first step in assessing the value of a library’s collection is to know what it has spent on the collection. The library must have complete records of the details of the books and other resources purchased at the actual discounted rate. Details should include data about resources, date of purchase and actual price. This information is available in the accession register, which will be considered as an official document to be used during the claim. It is important to protect the accession register. It is a good practice to also keep a copy (may be a digital copy) of this at a safe location somewhere outside the building.

A library collection consists of varying items. The value of some items such as fiction and text books may diminish with time and use while other items may become rare and valued much higher than their original cost. Therefore putting a value tag to the collection is a difficult process. The situation becomes even more complex when a library has rare, irreplaceable manuscripts or books. For such items it is necessary to take the help of a professional book valuator. The valuation of the collection must be agreed upon by the library and the insurance company to avoid problems/disputes at the time of claim. The collection should neither be undervalued nor overvalued. The value of the collection changes every year and it is necessary that a library reinstates the value every year taking into account changes in the collection due to new additions, withdrawn materials and depreciation of certain types of books.

At the time of taking insurance, the insurance agent wishes to sell his policy so there may not be many questions, but at the time of the claim many issues may be raised. These would include

- The library may have to convince the insurer that
  - Smoking and eating has not been permitted
  - Fire safety measures have been taken
  - Fire equipments installed have been of ISI standard
  - Regular housekeeping and cleanliness has been maintained
  - There is no loose wiring or faulty switches
  - There is no water seepage
- The steps taken post disaster have been documented including appropriate records have been maintained, photographs have been taken of the incident, list of books lost is prepared, and list of books damaged and repaired has been maintained. If a list of books cannot be prepared as they have turned into pulp or ashes, then stock verification is advised and books not found should shown as lost in disaster
- The claim made should be fully supported by necessary bills and financial statements.
- Librarian should check with an intermediary like insurance agent to understand the records to be maintained, and how the claim will be settled, so accordingly records can be maintained.

Guidelines on fire and digital disaster can be adopted by individual libraries depending upon the circumstances. Insurance guidelines will be helpful when libraries want to insure its collection and infrastructure.
7.3.5: Sample Disaster Plan for a College Library

All institutions need to have disaster plans and library disaster plans need to be developed keeping in view their special needs. These special needs are illustrated through a sample disaster plan developed for a hypothetical college library. It is assumed that there is a disaster plan for the entire college and this model disaster plan would be a part of the larger institutional plan. It becomes necessary to focus separately on the library since it has valuable resources built up over several years.

This material requires special handling for salvaging. Since the sample plan presented here under is part of the institutional plan, information which is already in the general plan like evacuation procedures, training activities are not duplicated.

It is also assumed that the college is located in Mumbai and the risk assessment conducted has indicated that the library is at risk of floods i.e. water damage. Hence greater emphasis is placed on prevention of water damage as well as salvaging materials after water damage.

The objective of the sample plan is to help individual libraries to use it as an example to develop their own plans. Since the organisational framework, the risk factors, the physical environment, the building structure, materials etc., may vary, the plan will need to be modified and adapted to meet the local needs. There should be multiple copies of the disaster plan and different people should have ready access to it. It may also be necessary to extract small sections of the plan and use them for emergency brochures, notices, and instructions to different staff members.
The XXX College of Arts and Science
Library Disaster Management Plan

Contents

1. Introduction and Statement of Purpose i
2. Disaster Management Plan Location ii
3. Emergency Procedures iii
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6. Prevention and Preparedness Measures ix
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8. Documenting the Disaster xxix
9. Appendices
   A. Floor Plan xxxii
   B. Emergency Kit xxxiii
   C. External Emergency Equipment, Facilities, Supplies, and Services xxxiv
   D. Bibliography xxxv

The Library of the XXX College of Arts and Science has developed this disaster plan in case it has to face disasters like flood or fire. The disaster may not be stopped, but this plan will help to limit the possible damage and recover from it at the earliest. The plan is meant for the college authorities and the library staff and aims to help prevent, respond and recover from a disaster situation.

A disaster may happen at any time – during or after college hours. The first priority when a disaster strikes is the safety and security of all human beings – be they readers or library staff members. To ensure the safety and security of people, follow the evacuation guidelines spelt out in the XXX College of Arts and Science Disaster Plan (copies available with Principal and Office Superintendent).

In addition to saving people the library has a large collection of books, journals, bound volumes, thesis and dissertations, rare books, photographs, microfilms as well as digital materials which have been collected over a number of years. They are valuable and some of them are rare and irreplaceable. Further the library has created several records and files which are necessary for it to function.

The plan covers the entire disaster management cycle from prevention and preparedness, response, recovery, to rehabilitation. It has been developed by the college Disaster Planning Team (DPT) in close collaboration with the college librarian and library staff.

The plan itself consists of a combination of instructions, checklists, inventories and guidelines. It is supplemented by a number of appendices which are equally important in helping the library to respond and recover. The plan is a useful guide. Its ultimate successful implementation will depend on the leadership of the management, the will and willingness of the staff members who will put it into action, how fast it is implemented and how well all members work as a team.
Section 2: Disaster Management Plan Location

There are two versions of the Plan—Detailed or Master Copy and Working Copy.

The Master copy is available at:
- Office Superintendent’s Office
  ( specify room & floor number )
- Librarian’s cabin
  ( specify cupboard/drawer )

Abridged working copies contain contact details, and emergency procedures, saving and salvaging priorities and location and content of the emergency kit.

Abridged working copies are available at—Security Office
 ( specify room & floor number )

Circulation Desk
 ( specify exact location )

Master and working copies are also available at residences of the Principal and the Librarian.

Section 3: Emergency Procedures

Whoever notices the disaster must inform the following people in the order of priority.

During Office Hours (10.00 a.m. to 5.00 p.m.)
1. Librarian’s Office
   xxxxxxx Ext: xxx
   Mobile-  YYYYYYYY
   (Librarian will then contact other team members)
2. Building Security Office
   xxxxxxx Ext: xxx
   Mobile-  YYYYYYYY

After Office Hours (5.00 p.m. to 10.00 a.m.)

Building Security Officer–
   xxxxxxx Ext: xxx
   Mobile-  YYYYYYYY
   (Building Security Staff will inform the Librarian)

2. Immediately after that contact: (please find out and fill)

<table>
<thead>
<tr>
<th>Contact Number</th>
<th>Name of the Contact Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police</td>
<td>100</td>
</tr>
<tr>
<td>Nearby Police Station</td>
<td>xxxxxxx</td>
</tr>
<tr>
<td>Fire</td>
<td>101 Officer in Charge</td>
</tr>
<tr>
<td>Nearby Fire Station</td>
<td>xxxxxxxxx</td>
</tr>
<tr>
<td>Officer in Charge</td>
<td></td>
</tr>
</tbody>
</table>

Depending upon the nature of disaster you may also need to contact the following:

| Ambulance      | 102, 1298 -             |
| Nearby Hospital| xxxxxxx Ext: xxx        |
| Resident Medical Officer on Duty/Casualty in Charge |

Please follow the instructions below:
- Remain calm and do not panic.
- Evacuate people from a safe escape route. (As displayed near the Circulation Desk)
- Do not jeopardise personal safety.
- Do not attempt to save possessions.
Till the librarian/building supervisor/disaster management team members arrive, the senior most staff in the library/institution should take charge of the situation and ensure that the following minimum steps are followed.

**Steps for Specific Emergencies**

<table>
<thead>
<tr>
<th>Fire</th>
<th>Flooding</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Activate the Fire Alarm</td>
<td>• If pre warning received first evacuate people.</td>
</tr>
<tr>
<td>• Call fire department 101</td>
<td>• If time permits, try to vacate lower two shelves of the stack area.</td>
</tr>
<tr>
<td>• Fight fire only if you know how, if fire is small, you have a way out and you can work with your back to the exit.</td>
<td>• Switch off power supply and remove electrical plugs.</td>
</tr>
<tr>
<td>• Do not fight fire if it is spreading fast in other areas and if it is blocking your escape route.</td>
<td>• Move equipments away from the walls/windows</td>
</tr>
<tr>
<td>• Try to switch off main power supply.</td>
<td>• Cover library material with plastic sheets</td>
</tr>
<tr>
<td>• Try to open water taps.</td>
<td>• See to it that nothing is lying on the floor.</td>
</tr>
<tr>
<td>• Cover your head with wet cloth.</td>
<td>• Do not touch or step into standing water. It could be electrified.</td>
</tr>
<tr>
<td>• Do not break windows. Do not open a hot door.</td>
<td>• Turn off source of water.</td>
</tr>
<tr>
<td>• Do not use elevators.</td>
<td></td>
</tr>
<tr>
<td>• If fire is small and in a position nearby, use a fire extinguisher, but only if you are trained.</td>
<td></td>
</tr>
</tbody>
</table>

**Earthquake**

- Stay inside the building
- Take shelter under a sturdy table
- Do not stand near a wall or stacks
- Switch off power supply and remove electrical plugs
- If fire breaks out follow steps for fire

**Vandalism**

- Call security Staff.
- Note in detail the appearance of the person.
- Do not argue, but wait till security staff arrives
- Make notes of the circumstances of events

**Bomb Threat**

- Do not panic. Remain calm
- If threat received on phone; listen carefully.
- Call circulation desk.
- Evacuate the library.

*The above table should also be put up as a notice near the exits and the counters.*

**Disaster Management Team**

(*Specify the constitution and responsibility of the members; the following is an imaginary example*)

The Disaster Management Team of the College Library is responsible for planning what actions need to be taken for mitigation, preparedness of the disaster and to plan for the rescue and recovery post disaster. The members of the Disaster Management Team and their responsibilities are as follows:

The Principal is the Chairperson of the Disaster Management Team and is responsible for the overall management of the disaster. In consultation with the Office Superintendent, the building engineer and the Librarian, (s)he will be authorised to take all the decisions required for managing the situation.

The Office Superintendent will implement the necessary administrative decisions to come out of the disaster. For example, matters related to finance, staff, appointment of service vendors etc. would be managed by him/her. (S)He will also be responsible for ensuring that necessary preparedness measures have been taken e.g. insurance, pest control, fire extinguishers etc.

The Librarian has the overall responsibility for rescuing all materials and restoration of library services post disaster. (S)He will coordinate all disaster related work of the library like allocation of work, rescue and recovery of collection. The Librarian with the help of Assistant Librarian and library staff will start salvaging the damaged collection.

The Building Engineer will be responsible for the safety and maintenance of the premises. Post disaster he will be responsible for restoring the premises and its infrastructure and only on his clearance would entry be allowed into the premises. The Building Security Officer will be responsible for the safety of the building and people. (S)He will liaison with the emergency services and at the time of disaster will be responsible for evacuation of people in the premises to places of safety.
Library Disaster Management Team – Contact Details

(Please fill in details)

<table>
<thead>
<tr>
<th>Designation</th>
<th>Name</th>
<th>Department</th>
<th>Office No.</th>
<th>Home No.</th>
<th>Mobile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office Superintendent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Librarian</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building Engineer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building Security Officer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assistant Librarian (Trained in Salvaging)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section 5: Salvage Priorities

Collection, Library Records, Equipment and Other Salvage Priorities

(Please specify collection, equipment and records to be saved as high priority in case there is time to do so. Also indicate their location. Examples given below.)

Collection Saving and Salvaging Priority:

Based on the Librarian’s knowledge of the collection, rare and valuable books have been identified as being required to be saved first in an emergency. These are placed in a special cupboard which is fire proof, water proof and located near the exit. (See Appendix- A) The rest of the collection should also be prioritised. In case there is time available, sections identified under Priority- 1 should be saved first. The priority is as follows:

<table>
<thead>
<tr>
<th>Priority 1</th>
<th>Priority 2</th>
<th>Priority 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOOKS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visual &amp; Fine Arts</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>- Painting</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Economics</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>History</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>- Ancient Indian History</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>- Colonial History</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marathi Literature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Poetry</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>- Drama</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>- Essays</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Biographies / Autobiographies</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Sociology</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Geography &amp; Travel</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Psychology</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Physics</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Chemistry</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Botany</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BOUND VOLUMES</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>REFERENCE BOOKS</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TEXTBOOK COLLECTION</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
The location of the first priorities for saving and salvaging are marked on the floor plan (See Appendix- A) as well as physically marked in red colour in the premises.

Library Records Saving and Salvaging Priority:
- Accession register (Located in Cupboard 1 in the Office of the Library)
- Financial Records (Located in Cupboard 1 in the Office of the Library)

IT Infrastructure Saving and Salvaging Priority

<table>
<thead>
<tr>
<th>Serial No.*</th>
<th>Item and make</th>
<th>Location</th>
<th>Salvage Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXXX</td>
<td>Server (IBM)</td>
<td>Librarian’s room</td>
<td>1</td>
</tr>
<tr>
<td>XXXX</td>
<td>Circulation Desk Computer (IBM)</td>
<td>Circulation Desk</td>
<td>1</td>
</tr>
<tr>
<td>XXXX</td>
<td>External Storage Device</td>
<td>Librarian’s room (specify exact location)</td>
<td>1</td>
</tr>
<tr>
<td>XXXX</td>
<td>Library Automation Software CD</td>
<td>Librarian’s room (specify exact location)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Backups of OPAC and other records#</td>
<td>Librarian’s room (specify exact location)</td>
<td>2</td>
</tr>
<tr>
<td>XXXX</td>
<td>Digital Camera</td>
<td>Librarian’s room (specify exact location)</td>
<td>2</td>
</tr>
</tbody>
</table>

# Copies of backups are available at the Principal’s office and also at the Librarian’s residence

* Enter serial number of equipment normally displayed on the computer or bill.

Note: License numbers, user names and passwords of all digital collections and databases have been noted and safely kept in the Principal’s Office (specify exact location) in order to be replaced after disaster.

Master copies of software and their Licence Key Numbers are stored in the Principal’s Office if required after the disaster. (specify exact location)

Part A: Preparedness

(Amend as per local needs and priorities; use the following as an example)

A preparedness review of the library is conducted regularly. Pre and post monsoon checkups are very essential. The different items to be checked, the person responsible and frequency of checking are indicated in the following checklist.

<table>
<thead>
<tr>
<th>Items to be Checked</th>
<th>Person Responsible</th>
<th>Frequency</th>
<th>Date Checked</th>
<th>Date Checked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building for structural problems</td>
<td>BS</td>
<td>1/y.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rot or termite problems</td>
<td>BS</td>
<td>2/y.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The ceiling for cracks, loose or falling plaster, stains or leaks</td>
<td>BS</td>
<td>2/y.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walls(Internal and External) for cracks or seepage</td>
<td>BS</td>
<td>2/y.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows, ventilators and doors can be tightly closed</td>
<td>LS</td>
<td>2/y.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water pipes running through the library are free of leaks</td>
<td>LS</td>
<td>2/y.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toilets, sinks, or water coolers are working properly</td>
<td>LS</td>
<td>4/y.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sockets are not overloaded, cords are not worn, frayed, or spliced</td>
<td>E</td>
<td>1/y.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical wiring is not loose</td>
<td>E</td>
<td>1/y.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCTV is functional</td>
<td>LS+AMC personnel</td>
<td>4/y.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire alarms, smoke detectors, and fire sprinkler are functional</td>
<td>LS+AMC personnel</td>
<td>4/y.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(cont'd.)
Chapter 7                                                                                                     Disaster Planning in Libraries

| Fire hydrants running properly | BS  | 1/y. |
| Updating AMC Contracts-       |     |      |
|   • Pest control              | LS  | 1/y. |
|   • Computer maintenance      | LS  | 1/y. |
|   • Photocopier maintenance   | LS  | 1/y. |
|   • Water cooler              | LS  | 1/y. |
|   • Fire extinguishers        | LS  | 1/y. |
|   • Insurance                 | LS  | 1/y. |
|   • Air-conditioning system   | LS  | 1/y. |
| Rubbish and trash cleared regularly | LS | Weekly |
| Hazardous materials stored near the physical building and collections are removed | LS | Monthly |
| Keys available at right place | LS  | 4/y. |
| Pre-monsoon drainage checked  | BS  | 1/y. |
| Post monsoon drainage checked | BS  | 1/y. |
| Post monsoon leakage checked  | BS  | 1/y. |
| Mould and fungus on collection | LS  | 2/y. |
| Disaster kit is complete      | LS  | 1/y. |
| Disaster plan updated         | DMT | 1/y. |
| Digital data backup usable    | IT  | 2/y. |
| Emergency drill conducted     | DMT | 2/y. |

Part B: General Guidelines for Collection Storage

Care should be taken to ensure that the following practices are followed diligently and regularly supervised by senior staff of the library.

- Rare materials are kept together at an easily accessible place so that they can be saved quickly.
- Nitrate based films are stored properly and separately from the paper collection.
- There is sufficient space to carry and move items in aisles and between bays.
- Stacks are filled up to a level which is reachable.
- Collections are kept tidy on shelves, in drawers and in cabinets.
- Items are not placed directly on the floor.
- Storage areas designated for collections are used solely for that purpose and do not have non-collection material stored there.
- Items are stored in a manner to minimise the risk of physical damage.
- Oversize books are stored flat, where possible, and stacked not more than two high.
Once an emergency has been brought under control, the Disaster Team must immediately begin to take measures to stop further damage, and start the recovery process. Depending upon the intensity of the disaster, one or more teams may be set up to manage the situation. Effect of some types of disasters on the collection is irrevocable. For example, if a building collapses, either because of earthquake or fault in the building and the library resources get buried in the debris, it may not be possible to recover them. In other cases, books may be torn or slightly damaged, regular rebinding and repairs done in a library may be sufficient. This section is divided into two parts. Part A outlines the different phases of the process while Part B describes the special requirements of salvaging different types of materials.

**Part A: Outline of Measures**

**Phase I: Gathering the Damaged Material**

- Survey the library and review the damage to the collection.
- Identify the area where you are going to keep the damaged material. Mark the area, clean it and transfer the damaged materials there.
- First lift the materials that have fallen down. Then remove the materials first from the shelves starting from the topmost shelf if leakage is from above.
  - If the floor is flooded start with the lower most shelves. If books are wet and tightly packed on shelves, first remove a few of them so they do not burst off the shelves as they swell and fall.
- Transfer the damaged materials to the marked area.
- It is possible that books are not in a condition to be carried, so shift them with some support or in a trolley. The whole process should be done very gently.
- When books are kept in the trolley, see that the spine of the book is placed upside down and similar size books are kept above each other. This will avoid warping of the books. (See Figure No. 1)

**Phase II: Sorting the Damaged Material**

- Sort out the damaged materials according to level of damage like damp books or wet books, partially wet books or fully wet books.
- Sort out the material according to type of materials like printed books, books with coated paper or leather binding, large size books, manuscripts and rare books, photographs, negatives, microfilms, CDs or DVDs as each will require different kind of treatment.
- It is possible that if books have been in water for a long time, they may have become pulp and are not identifiable. Try and prepare a list of all damaged materials with whatever information identifiable like accession number, author, title, etc. to identify the books lost and claim insurance. It will also help in replacing the lost collection.
- Simultaneously identify the salvaging priorities depending upon the priority value of the item as identified in Section 5 and its physical condition.
- The complete cleaning of the damaged area should be started immediately. Hire outside labourers if required. Use disinfectants to remove germs, bacteria in the area so that it does not damage the collection.
- Undamaged collection should be checked for infection. Windows should be kept open for air circulation.

![Figure 1: Placing Wet Books Correctly.](Toyonaga, 2010)
Phase III - Cleaning and Preparing for Treatment

- The cleaning and preparing for treatment process must start as soon as possible. If not done in time the damage may be irreversible.
- The decision on what methods to use for drying damaged material may take time, as immediate rescue steps for people will be a priority. Sorting, cleaning and recording of materials may be going on simultaneously. It is better to freeze materials to prevent further damage. Freezing reduces physical distortion and biological contamination. Commercial cold storage facility may be used or if immediately not available then home freezer or canteen freezer also can be used.
- Before freezing the material, check the condition of material. For example if the damaged material is a book and is muddy, then hold book tightly from both sides and dip it in to a tub filled with clean cold water. In case the mud persists on the book then rub the pages very gently to remove it. Remove the book from water and gently press, to remove water and hold vertical till water drips out. In exceptional cases if the book is too wet, then it may not be cleaned or recorded, but may be directly put in freezer. The details may be recorded only after the book has been salvaged.
- Do not try to separate pages of books as this may damage the collection further.
- Fire damaged material should not be cleaned as pages would have become brittle.
- Each book should be separately packed tightly in a plastic bag or film so that no water or air goes into it before sending for freezing.
- Put the damaged material in a cardboard box or plastic crates. (Please see the instruction given for each type of material).
- If the damaged items have been refrigerated, it is likely that 60% of it may be saved.
- Books in the crate should be put with spine down. Larger books should be placed below smaller books. (Figure 2)

Material should be kept in freezers for at least 72 hours or till the decision about its treatment is taken. It is best to freeze it at -15F or lower. Books can remain in the freezer indefinitely without further damage.

Phase IV - Drying Methods

- When books are wet, they need to be dried. The drying process requires special knowledge and skills. It should be handled internally only if the Assistant Librarian (who is trained in salvaging) feels confident; else the work may be outsourced to a professional service provider.
- Extreme temperatures are very helpful.
- Drying method to be used depends on the condition of the material. For example, slightly damp books will be air dried; whereas for very wet books vacuum freeze drying method may be most suitable. (For further details see the following sections.)

There are four different methods of drying which are theoretically possible. However, in practice, only the first two methods can be used in India as the technology for the remaining two methods is not commercially available as yet. However, these may become available in the near future and are briefly described. Depending on cause of damage, level of damage, numbers involved, rarity/scarcity of material, personnel available, budget available, an appropriate method may be chosen. Advice from a conservator or preservation expert should be sought. They are:

- Air Drying: involves drying records at room temperature, in-house. Typically, materials are dried in a prepared workspace and spread out on, or interleaved with, absorbent papers.
In some instances materials may be dried by placing them under a stack of blotter paper with some weight under controlled supervision.

In dehumidification-drying, also referred to as desiccant-drying, materials are dried by introducing dried (dehumidified) air at very low relative humidities, often below 15%, and circulating that dried air with fans in and around the drying chamber. Air temperatures vary throughout the drying process, but usually are in the range of 26-37°C (79-99°F).

- **Vacuum Freeze-Drying**: Is generally recommended for large quantities of wet or damp materials. Materials must be in a frozen state when entering the vacuum freeze-drying chamber and remain frozen throughout the drying process. Items are placed within a high vacuum at temperatures below freezing while cycles of controlled heat are applied. This process causes frozen water to sublimate to a vapour without passing through a liquid stage—advantageous in minimizing feathering and bleeding of soluble media. It allows coated materials to dry without blocking, and results in minimal distortion. The process can be performed on-site by vendors equipped with mobile vacuum chambers, or items may be sent to a drying facility. Drying time depends on the wetness of the materials but can usually be accomplished in less than two weeks.

- **Vacuum Thermal Drying**: Books and records may be dried in a vacuum thermal-drying chamber into which they are placed either wet or frozen. The vacuum is drawn, heat is introduced, and the materials are dried, either in cycles of freezing and thawing, or slightly above 32°F. This means the materials stay wet, not frozen, while they dry. It often produces extreme distortion in books, and causes adhesion of coated paper. Water-soluble inks or pigments will also be affected. For large numbers of materials it is easier than air-drying, and almost always more cost-effective. Extensive rebinding may be necessary after drying.

- **Thermal Vacuum Freeze Drying**: - Books and records are placed in a vacuum chamber either wet or frozen. The vacuum is pulled, a source of low heat is introduced, and the collections, dried at temperatures below 32°F, remain frozen until dry. The physical process known as sublimation takes place, i.e. ice crystals vaporize without melting. This means there is no additional swelling or distortion beyond that incurred before the materials were placed in the chamber. Coated paper will dry well if it has been frozen or placed into the chamber within 6-8 hours; otherwise, it may be lost. The process calls for sophisticated equipment and is especially suitable for large numbers of very wet books and records, as well as for coated paper. Rare and unique materials can be dried successfully this way, but leather and vellum may not survive. Water soluble inks and pigments will not be damaged further. Although this method may initially appear to be more expensive due to the equipment required, the results are often so satisfactory that additional funds for rebinding are not necessary, and mud, dirt, and soot are lifted to the surface, making cleaning less time-consuming. (Bucknell..., 2005)

Air drying is the most common method used for drying wet books and records, although not always the most appropriate. It is most suitable for small numbers of damp or slightly wet books and documents. Because it requires no special equipment, it is often seen as an inexpensive method.

Different types of air drying can be used – circulation of air, heat and removal of moisture – are used depending on the nature of the material, type of paper and the extent of damage. Certain basic procedures need to be followed before the drying process begins. Keep the books flat or reverse with spine up. Let the spine dry first as it always takes longer to dry. In case of rare books open the pages.

Each and every book should be individually taken out of the packing used in freezing it, let it lie for 2-3 hours and then fan dry the objects at a dry place with full ventilation with ceiling fan. At night keep the fan on else fungus will start to grow. Open the book at 45 degrees from the spine keeping it on a blotting paper. Use hair dryers, pedestal or industrial fans with caution as the force of the breeze may create a lot of pressure on the book.
Increasing the heat will quicken the process of drying. While fan drying is being done, regular 100 watt bulbs may be switched on 3 or 4 feet above the pages spread out to dry. It is best to do this in spans of three hours each – three hours lights on, three hours off – so that the paper does not over dry and become brittle. Paper needs a basic amount of moisture for best preservation. Use halogen lamps with caution as they generate a lot of heat. In the course of drying the paper it loses its moisture. It will lead to more brittleness of the paper. Similarly, use ovens with great care.

Interleaving the books with absorbent paper in a work space in which the temperature and relative humidity are kept below 65°F and 35% RH, and fans are used to keep air circulating is good. If papers are not very fragile, then they can be kept between matt or blotting or tissue paper and temperature up to a maximum 30°F may be applied on it using an iron. New membrane based materials such as Gore-Tex or Sympatex are also being used for this purpose.

Dehumidification of the air in the drying room will also speed up the process. The dehumidifiers may be hired for in-house use or materials may be sent out to a service provider. This method is successful for drying damp to moderately wet books and records, equipment, and furnishings. Placing anhydrous calcium carbonate with wet books in a locked room can also absorb the moisture. These methods should be used with care as there is a risk of distortion or warping and pages becoming too brittle.

If possible, use volunteers for this process as it is extremely labour-intensive if carried out properly, since the pages need to be frequently turned, to ensure even drying. It requires a great deal of space so reserve a room for that activity. Be aware that it results in distorted bindings and text blocks if the damage is more than superficial. If another method is available explore that at least for the more heavily damaged materials. Choice of drying method can influence the amount of distortion. (Figure 3)

Figure 3: Distortion to Books Using Different Drying Methods

Ludwig (2002)

Part B: Salvaging Instructions for Different Types of Materials.

Basic guidelines for salvaging specific materials are given in this section. However if the material is very rare and valuable, it is best to consult an expert. Till the expert is contacted keep the materials in the freezer.

Water Damage

Paper Based Materials

This will include books, bound volumes and unbound materials such as files, pamphlets, brochures etc.

- To clean water damaged paper material, so that fungus / mould do not grow, immediately spray the books with diluted Dettol solution, antifungal medicated powder, diluted ethanol, alcohol or acetone. The room may be fogged or fumigated with smoke of ajwain or caraway seeds which have antifungal property. These measures will also speed up the drying.
Check for how many hours the paper has been wet. Is it partially or fully wet? Is dirt like mud, chemicals deposited on it?

If possible sort out materials printed on art or coated paper. Also separate out books bound with leather and vellum. These may include art books, books with colour photographs, maps etc. These materials must be frozen immediately within six hours.

Other books need to be treated within 48 hours of the damage. If not they will lose their shape, get swollen and pages may bend.

The wet books if not handled properly, will get easily damaged and become unusable. Take following precautions while handling these books.

- Do not open wet volumes, or close those that have fallen open
- Do not separate covers from text blocks
- Handle one item at a time
- Do not press water out of wet books – the paper is too fragile when wet

Use Air Drying for

- Damp books and books with wetness of one inch on the edges
- Small amounts of damp or partially wet unbound paper
- Very few wet books, but only if staff are available to dry them in a controlled environment

Do not use Air Drying for:

- Coated paper (unless just a few and they can be dried right away)
- Leather or vellum binding (air drying should only be done by a conservator)
- Large quantities of wet unbound paper

Use Dehumidification for

- Moderately wet books

Do not use Dehumidification for

- Coated paper and Leather or vellum bindings
- Unbound paper materials should be dried by spreading them on clean absorbent flat surfaces in areas where there is good air circulation.

(Figure 4)

They should be covered with non-woven polyester web or plastic mosquito screening to keep them from blowing away, if needed. Do not attempt to flatten anything at this stage, simply try to get things dry as quickly as possible. Flattening can be done later if necessary. Damaged documents which have value only for their information need only be dried enough to be handled and photocopied. If the number of documents affected is too large to be handled within 24 hours, or of value which will require individual attention, the items should be frozen.

(Figure 4: Drying Unbound Paper)

Ludwig (2002)

Photographs

- Most photographs can be saved from water and smoke damage but not fire damage as the emulsion layer will melt from the heat.
- Remove photographs and negatives from water and separate them from their covers.
- Do not allow to dry as they are, as the photographs will stick to the covers.
- First rinse photographs and negatives with clean water without rubbing.
- Air drying is the preferred recovery method for all photographs. (Figure 5)
Ludwig (2002)

- Photographs with stable images should be blotted with clean blotters or soft paper towels before air drying. Non-woven polyester fabric should be placed between the bloter and photograph to prevent sticking.
- In a dry area, keep fans and dehumidifiers on and hang the photographs on a thin string by clipping them with plastic clothespins or dry them on a flat surface by putting them upside down on blotting paper or old newspaper. Allow the photographs to dry for 48 hours. Then put back in new covers and re-label them. (Figure 6)
- If photographs are sent outside for treatment, they should be sent in a plastic container filled with water.
- Photographs and slides should not be frozen unless no other choice is available. Some damage to surface gloss may happen in the freezer. Glass plate negatives should never be frozen. If required use blast freezing.

Optical Disks - CDs and DVDs (Figure 7)

- Remove from water immediately.
- Do not rub or scratch or bend.
- Clean any dirt or mud with clean water.
- Disks should be dried by keeping them vertical in a tray and not flat on a surface. Rub gently with soft cloth by moving up and down or left and right but not in circular movement on the tracks.
- Do not use any cleaners on a CD/DVD.
- Do not use a hair dryer to remove moisture or blow off dirt.
- Place them in clean containers after drying.
Microfilm and Microfiche

- First remove from its cover.
- If it is stuck to its cover, dip it in cold water in a plastic container (not a metal container) and send it for drying to a photograph company.
- Put rolls of microfilm into water-tight containers and fill with clean, cold water.
- Send to microfilm processor company within 72 hours for washing and drying.
- Microfiche should be hung out to dry. (Figure 8)
Fire Damage

- A fire damages materials both directly and indirectly. Direct damage to materials may be very great or slight. The materials may turn to ash and cannot be salvaged or may be slightly charred. The soot and smoke can also damage the materials. Salvaging charred books requires rebinding, smoke and soot removal and deodorising.
- When water is used in fighting fire, materials will get wet and instructions given for water damaged materials should be followed.
- Remove all burnt or charred materials from the area.
- Items beyond salvage should be removed to a place preferably outside the library for making a list.
- Those materials which can be salvaged should be removed to the recovery area.
- Charred items which are to be rebound will need special handling before being sent to the bindery. While sending it to a bindery see that periodicals are kept separated from books.
- If the only damage to books and papers is soot on the outside, it may be possible to remove most of it by cleaning with a chemical sponge which is denser than the normal sponge.
- To clean a book, hold the book tightly closed. Use a gentle stroking motion in one direction away from the spine towards the fore edge on the head and/or tail, and the same kind of technique on the fore edge, spine and covers. Continue wiping until no more soot or debris can be removed without damaging the surface area.
- Charcoal and/or baking soda can be used to deodorize fire-damaged materials. Place charcoal briquettes and/or bowls of baking soda in the area to absorb the odour. Keep the area closed for two days or until the smell can no longer be detected. The thymol chamber can also be used for this purpose.
- Ozone can remove odours but must be used with care and should not be used with books or papers that are wet or damp. Ozone can combine with water molecules to form hydrogen peroxide and can cause discoloration and weakening of some materials. Ozone will break down cellulose (e.g. paper) molecules and cause them to age more quickly. Ozone should not be used in occupied areas because high concentrations can result in respiratory irritation.

Mould

While mould is a common concern for all libraries in the tropical region, severe mould attacks after floods can cause major damage.

- Mould and mildew can develop within 48 to 72 hours in an environment where the temperature is over 75 degrees and the humidity is over 60%. It can also grow fast in dark areas and areas with less air circulation.
- Mould and mildew can never be killed and can remain dormant for many years. Spores are always present and will grow if the environment is warm and humid.
- Separate materials which have begun to mould post disaster to prevent spreading.
- If mould treatment cannot begin immediately, the mouldy volumes can be frozen to inhibit further growth. If weather permits, mouldy volumes may also be placed in the sun to dry, but will still need to be treated.
- First, take the mould-infected books to a well-ventilated area.
- If you are using a fan or an air-conditioner, to increase air circulation, ensure that the room is locked and spores in the air does not spread to the rest of the library.
- The next step is to make the mould go dormant.
- Stand the affected books on edge with the boards slightly opened so that air can blow across the pages. Rapidly moving air will dry out the moisture and desiccate the mould spores, rendering them inactive.
- The same effect can be achieved by placing the affected books for about an hour in the sun when there is mild breeze, since ultraviolet rays from sunlight will kill mould.
- Use a vacuum cleaner or electrostatic duster to remove dormant mould as much as possible. A soft-bristled brush may be used for stubborn growth.
- Dust carefully so that spores are not released in the air.
Pay particular attention to the cover's joints, interior of the spine, and edges of the text block.

Once the mould has been brushed away, the outside of the books' covers should be wiped with a solution of ethyl alcohol.

Mould stains can be gently swabbed with ethyl alcohol, but it is possible that they will not be completely removed. A 2-3% orthophenyl phenol (OPP) solution in ethanol may also be used.

However, if staining is very bad, a cloth lightly dampened with a mild bleach solution can be used provided you follow it with plain water and take care not to make the book wet.

The person handling this material should wear a dust mask to prevent respiratory problems.

Materials which have developed mould can be treated in the thymol chamber with the help of an expert. Care should be taken while using thymol solution. The strength of the solution should be less than 2%. If the strength of the thymol is 5-6%, it can regenerate the fungal growth.

Fumigation of books with ethylene oxide also can be used for treatment of mould.

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Section 8: Documenting the Disaster

It is important to maintain detailed and correct documentation of the disaster. This helps in making insurance claims, replacing the items, generating resources for recovery and restoration and also to learn from the incident. Complete documentation should include record of damage assessment, decisions and processes followed during the rescue and recovery stages. If there is any deviation from the laid down procedures which became necessary and if any new or innovative methods used were found appropriate they should be recorded in detail. These would help in updating and improving the next revision of the disaster management plan. Photographs must be taken of the disaster and the damage it has caused. The following tables should be used to record details of the damage by the disaster.

### Damage to Furniture

<table>
<thead>
<tr>
<th>Item</th>
<th>Type of Damage</th>
<th>Replace or Repair</th>
<th>Outsource or repair internally</th>
<th>Cost for (Insurance Coverage)</th>
<th>Date of Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Damage to Collection

<table>
<thead>
<tr>
<th>Type of Collection</th>
<th>Type of Damage</th>
<th>Replace or Repair</th>
<th>Outsource or repair internally</th>
<th>Cost for (Insurance Coverage)</th>
<th>Date of Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books/BV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photographs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Damage to Computers

<table>
<thead>
<tr>
<th>Computer ID</th>
<th>Type of Damage</th>
<th>Replace or Repair</th>
<th>Under AMC or get it repaired from someone</th>
<th>Cost for (Insurance Coverage)</th>
<th>Date of Completion</th>
</tr>
</thead>
</table>

### Damage to Library Records

<table>
<thead>
<tr>
<th>Type of Library Record</th>
<th>Type of Damage</th>
<th>Replace or Repair</th>
<th>Outsource or repair internally</th>
<th>Cost for (Insurance Coverage)</th>
<th>Date of Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accession Registers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Card Catalogue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPAC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Membership Record</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix A: Floor Plan

Appendix B: Emergency Kit

Kept in the Storage Cabinet near Librarian’s Cabin

<table>
<thead>
<tr>
<th>Protection</th>
<th>Removal</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Plastic sheeting</td>
<td>• Cardboard boxes</td>
<td>• Clothes lines</td>
</tr>
<tr>
<td>• Adhesive water proof tape</td>
<td>• Trolleys</td>
<td>• Clean newsprint, blotter</td>
</tr>
<tr>
<td>• String</td>
<td>• Blotting paper</td>
<td>• Clean rags</td>
</tr>
<tr>
<td>• Knife</td>
<td>• Plastic bags</td>
<td>• Distilled water</td>
</tr>
<tr>
<td>• Pins</td>
<td>• Plastic crates</td>
<td>• Clean work spaces</td>
</tr>
<tr>
<td>• Scissors</td>
<td>• Plastic sheet for packing books</td>
<td></td>
</tr>
<tr>
<td>• Fire blanket</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monitoring Equipment</th>
<th>Communications</th>
<th>Plant/safety equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Dehumidifiers</td>
<td>• Whistles</td>
<td>• Torches, batteries</td>
</tr>
<tr>
<td>• Temperature and RH monitoring equipment</td>
<td>• Loud hailers</td>
<td>• Candles, match box</td>
</tr>
<tr>
<td>• Fans</td>
<td>• Walkie-talkies</td>
<td>• Emergency lighting</td>
</tr>
<tr>
<td></td>
<td>• Telephones</td>
<td>• First aid kits</td>
</tr>
<tr>
<td></td>
<td>• Chalk</td>
<td>• Screw drivers</td>
</tr>
<tr>
<td></td>
<td>• Large sheet of paper</td>
<td>• Hammers</td>
</tr>
<tr>
<td></td>
<td>• Emergency signboards</td>
<td>• Step ladder</td>
</tr>
<tr>
<td></td>
<td>• Thick water proof pens</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Documentation</th>
<th>Clothing</th>
<th>Clean-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Paper, pen, chalk</td>
<td>• Rubber boots</td>
<td>• Mops</td>
</tr>
<tr>
<td>• Tags</td>
<td>• Masks</td>
<td>• Buckets</td>
</tr>
<tr>
<td>• Digital Camera</td>
<td>• Aprons</td>
<td>• Brooms</td>
</tr>
<tr>
<td>• Disaster lists</td>
<td>• Gloves</td>
<td>• Brooms</td>
</tr>
<tr>
<td>• Clipboards</td>
<td>• Hard hats</td>
<td>• Sponges</td>
</tr>
<tr>
<td>(Mansell, 2003)</td>
<td></td>
<td>• Air freshener</td>
</tr>
</tbody>
</table>

Note: Amend as per local needs and priorities; use the above as an example.
Appendix C: External Emergency Services and Suppliers

You may also need to call some of the following for rescue and restoration work.

<table>
<thead>
<tr>
<th>Name</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Company (e.g. BEST etc.)</td>
<td></td>
</tr>
<tr>
<td>Telephone company (e.g. MTNL etc.)</td>
<td></td>
</tr>
<tr>
<td>Municipal Ward Office</td>
<td></td>
</tr>
<tr>
<td>Carpenter</td>
<td></td>
</tr>
<tr>
<td>Electrician</td>
<td></td>
</tr>
<tr>
<td>Plumber</td>
<td></td>
</tr>
<tr>
<td>Locksmith</td>
<td></td>
</tr>
<tr>
<td>Pest Control</td>
<td></td>
</tr>
<tr>
<td>Air-conditioner contractor</td>
<td></td>
</tr>
<tr>
<td>Contractors for other equipments like photocopying machines etc.</td>
<td></td>
</tr>
<tr>
<td>Computer Maintenance Service Provider</td>
<td></td>
</tr>
<tr>
<td>Website hosting service</td>
<td></td>
</tr>
<tr>
<td>Architect</td>
<td></td>
</tr>
<tr>
<td>Insurance Agent/ Insurance Company</td>
<td></td>
</tr>
<tr>
<td>Policy No.</td>
<td></td>
</tr>
<tr>
<td>Internet Service Provider</td>
<td></td>
</tr>
<tr>
<td>Database Vendors</td>
<td></td>
</tr>
<tr>
<td>Legal Advisor</td>
<td></td>
</tr>
<tr>
<td>Photographer</td>
<td></td>
</tr>
</tbody>
</table>

Contact details for salvaging experts and services

<table>
<thead>
<tr>
<th>Name</th>
<th>Office No.</th>
<th>Cell No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salving Expert for Different Types of Materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation Company</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cold Storage Company</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dehumidifiers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Halogen light suppliers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water withdrawal pump companies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Companies having driers</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Amend as per local needs and priorities; use the above as an example

Appendix D: Bibliography


7.4: Conclusion

It is good to have checklists, guidelines and a disaster management plan. If instructions observed in them carefully, and care and maintenance of the library building and the collection conducted on a regular basis, it will help in prevention of disaster happening as well as quicker recovery and resuming of services post disaster. The role of the plan is to help the right people make the right decisions at the right time. Ultimately, when disaster strikes, people have to make decisions on the spot. It is not realistic to expect a plan to provide detailed instructions for dealing with every imaginable kind of incident. The plan must be looked upon as a way to maximize the chances of things working satisfactorily, even if things do not go exactly as planned. Further, needs change over time, so the whole plan needs regular review, not just updating of contact details. It is important that while disaster plans can be a great tool, when disaster strikes, the librarian must be ready to use all available resources and skills.

“Needless to say, I am not naive about disasters. The truth is you don’t know what the disaster will be, what the impact will be, or even who will survive. You can do the best you can with having plans, having key people know the plans, having emergency training and emergency supplies but for the rest, we just have to survive on our wits and abilities. It does help to have a strong team going in though; the personality, courage and attitude of the individual were the most important factors- especially courage and a positive attitude”. (Curzon, 2007, np.)

References:


### CHAPTER 8

**SUMMARY AND FUTURE DIRECTIONS**

<table>
<thead>
<tr>
<th>Section No.</th>
<th>Section Heading</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1</td>
<td>Introduction</td>
<td>330</td>
</tr>
<tr>
<td>8.2</td>
<td>Objectives and Findings</td>
<td>331</td>
</tr>
<tr>
<td>8.3</td>
<td>Future Directions</td>
<td>339</td>
</tr>
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<td>8.3.1</td>
<td>Recommendations for Research</td>
<td>339</td>
</tr>
<tr>
<td>8.3.2</td>
<td>Recommendations for Action</td>
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</tr>
<tr>
<td>8.4</td>
<td>Conclusion</td>
<td>343</td>
</tr>
<tr>
<td></td>
<td>References</td>
<td>344</td>
</tr>
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</table>