

# Disaster Planning

prevention, preparedness, response, recovery

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# Disaster Planning

## prevention, preparedness, response, recovery

A library or archives disaster is an unexpected event which puts collections at risk. No institution can be excluded from or is immune to the possibility. Disaster planning is a matter of basic security for libraries and archives, their staff and their collections. It is considered to be an essential part of any preservation programme to be implemented by any kind of library or archives. A formal written plan enables an institution to respond efficiently and quickly to an emergency, and to minimize damage to the building and its contents.

## Principal Causes of Disasters

### – Natural Disasters

- Rain and wind storms
- Floods
- Biological agents (micro-organisms, insect or vermin infestation)
- Earthquakes
- Volcanic eruptions

### – Man-Made Disasters

- Acts of war and terrorism
- Fires
- Water (broken pipes, leaking roofs, blocked drains, fire extinguishing)
- Explosions
- Liquid chemical spills
- Building deficiencies (structure, design, environment, maintenance)
- Power failures

Natural disasters cannot be prevented, but measures can be taken to eliminate or reduce the possibility of trouble. Regardless of the many forms a disaster may take, the actual damage to collections is usually caused by fire or water. Even when they are not the initial factor, fires and floods almost invariably occur as secondary causes of library and archives disasters.

## Some Major Effects of Disasters

### Fire

Books burn fairly slowly. Paper chars and crumbles when handled. Smoke and soot discolour books not otherwise affected. Microforms and audio-visual materials can be completely destroyed or damaged beyond repair.

### Water

Paper absorbs water at different rates depending on the age, condition and composition of the material. Generally speaking, books and manuscripts dated earlier than 1840 absorb water to an average of 80 % of their original weight. Modern books, other than those made of the most brittle paper, absorb to an average of 60 % of their original weight.

Leather and parchment warp, wrinkle or shrink. The damage done to book covers may be irreparable. Water can cause gelatinization on parchment.

After floods, mould rapidly begins to form in damp conditions.

Audio-visual materials, photographs, microforms, magnetic media and other disks, are also vulnerable to water, and the damage depends on the type of the material, the length of exposure to water, its temperature, etc.

### Earthquakes

Shelving may collapse and the contents be thrown on to the floor. Few books can withstand such treatment. Fire and water damage often result from seismic activity.

### Biological Agents

Materials may be eaten, soiled, stained and shredded.

## Disaster Plan

This usually involves four phases :

1. Prevention
2. Preparedness
3. Response
4. Recovery

The following guide to producing a disaster plan outlines recommended action in all four phases, but prevention is the best protection against disaster, natural or man-made.

### Phase 1 : Prevention

Identify and minimize the risks posed by the building, its equipment and fittings, and the natural hazards of the area.

- Carry out a building inspection and alter factors which constitute a potential hazard.
- Establish routine housekeeping and maintenance measures to withstand disaster in buildings and surrounding areas.
- Install automatic fire detection and extinguishing systems, and water-sensing alarms.
- Take special precautions during unusual periods of increased risk, such as building renovation.
- Make special arrangements to ensure the safety of library or archival material when exhibited.
- Provide security copies of vital records such as collection inventories, and store these off-site.

- Protect computers and data through provision of uninterrupted power supply.
- Have comprehensive insurance for the library or archives, its contents, the cost of salvage operations, and potential replacement, re-binding and restoration of damaged materials.

## **Phase 2 : Preparedness**

Getting ready to cope.

- Develop a written preparedness, response and recovery plan.
- Keep the plan up-to-date, and test it.
- Keep together supplies and equipment required in a disaster and maintain them.
- Establish and train an in-house disaster response team. Training in :
  - disaster response techniques,
  - identification and marking on floor-plans and enclosures of irreplaceable and important material for priority salvage.
- Prepare and keep an up-to-date set of documentation including :
  - Building floor-plans, with locations of cut-off switches and valves.
  - Inventory of holdings, with priorities for salvage marked on floor-plans.
  - List of names, addresses, and home telephone numbers of personnel with emergency responsibilities.
  - List of names, addresses, and home telephone numbers of the in-house disaster response team.
  - List of names, addresses and home telephone numbers of trained conservators with experience in salvaging water-damaged materials, resource organisations, and other facilities able to offer support in the event of a disaster.
  - List of disaster control services, in-house supplies and equipment, and in any central store, including locations and names of contacts with home telephone numbers.
  - List of suppliers of services and sources of additional equipment and supplies, including names of contacts and home telephone numbers.
  - Arrangements made to access freezing facilities.
  - Arrangements for funding emergency needs.
  - Copies of insurance policies.
  - Salvage procedures.
- Distribute the plan and documentation to appropriate locations on- and off-site.
- Institute procedures to notify appropriate people of the disaster and assemble them rapidly.

## **Phase 3 : Response**

When disaster strikes.

- Follow established emergency procedures for raising the alarm, evacuating personnel and making the disaster site safe
- Contact the leader of the disaster response team to direct and brief the trained salvage personnel
- When permission is given to re-enter the site, make a preliminary assessment of the extent of the damage, and the equipment, supplies and services required.
- Stabilize the environment to prevent the growth of mould.

- Photograph damaged materials for insurance claim purposes.
- Set up an area for recording and packing material which requires freezing, and an area for air-drying slightly wet material and other minor treatment.
- Transport water-damaged items to the nearest available freezing facility.

#### **Phase 4 : Recovery**

Getting back to normal.

- Establish a programme to restore both the disaster site and the damaged materials to a stable and usable condition.
  - Determine priorities for restoration work and seek the advice of a conservator as to the best methods and options, and obtain cost estimates.
  - Develop a phased conservation programme where large quantities of material are involved.
  - Discard items not worth retaining, and replace or re-bind items not justifying special conservation treatment.
  - Contact insurers.
  - Clean and rehabilitate the disaster site.
  - Replace treated material in the refurbished site.
  - Analyse the disaster and improve the plan in the light of experience.
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- Be prepared for any type of disaster. Contact and consult other libraries or archives and library or archives associations to share information and experience, and with a view to regional co-operation.
  - Take advantage of educational sessions, particularly disaster planning workshops and preparedness exercises.
  - Seek expert advice and help from the preservation offices of national and large research libraries, members of the Standing Committee of the Section on Conservation of the IFLA, the centres of the IFLA-PAC Programme, and the Technical Committees of ICA and of the International Audiovisual Archives Associations FIAF, FIAT, and IASA.

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## Website Directory

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### Deterioration agents and damaged documents

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#### **A Virtual Exhibition of the Ravages of Dust, Water, Moulds, Fungi, Bookworms and other Pests**

*Horrifying testimony to the damage done to collections due to lack of preventive measures.*

<http://www.knaw.nl/ecpa/expo.htm>

#### **“They can destroy our cultural heritage”**

*Essential information and a database on insect pests harmful to museum, library and archival collections (Pages from the website of OCIM).*

<http://www.ocim.fr/htposter/presins.htm>

#### **Pest Management**

*A list of online information resources on the effects of pests and fungi in libraries.*

<http://palimpsest.stanford.edu/bytopic/pest/>

#### **Mycological Aspects of Indoor Environmental Quality**

*An inexhaustible source of information on fungi. (Website of the University of Minnesota).*

<http://www.dehs.umn.edu/fungus/myco.html>

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### Risk Management

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#### **Hazards and Risk Virtual Library - by Impacts - Cultural Heritage**

*A list of resources (projects, papers, reports...) on the management of natural and technology risks to the cultural heritage.*

<http://life.csu.edu.au/hazards/9CulturalHeritage.html>

#### **Disaster Preparedness and Response**

*List of online resources available on the CoOL website.*

<http://palimpsest.stanford.edu/bytopic/disasters/>

#### **Emergency Drying Procedures for Water-Damaged Collections**

*Emergency measures to be taken in case of flood damage to collections.*

<http://lcweb.loc.gov/preserv/emerg/dry.html>

#### **Disaster Planning for Libraries and Archives : Understanding the Essential Issues**

*A paper presented by Jan Lyall during the Pan-African Conference on Preservation and Conservation of Library and Archival Materials. Nairobi (Kenya), June 21-25, 1993.*

<http://www.nla.gov.au/nla/staffpaper/lyall1.html>

#### **Cultural Heritage Fire Suppression Systems : Alternatives to Halon 1301**

*What are the alternatives to Halon 1301 gas (which is harmful for the environment) to fight the fire in museums ?*

<http://www.museum-security.org/halon-alternative.htm>

Websites last visited : 2nd August 1999