

## Disaster preparedness for library materials

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### 1 Introduction

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The National Diet Library has been designated as the IFLA/PAC regional centre for Asia for over 20 years. Its main activity is to assist preservation activities for library materials in both foreign and domestic library communities. We would like to share the outcome of our activities with anyone who wishes to preserve cultural heritage in the region.

This article describes basic points for disaster preparedness planning for library materials. Needless to say, when a disaster strikes, human lives always take definite precedence over any library materials. Once you have massive amounts of materials damaged by disaster, it requires a great deal of time, cost and effort to recover them. That is why disaster preparedness is important.

### 2 Disaster preparedness for library materials

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The first step of disaster preparedness is to list disasters which are likely to affect a library and to create an environment as safe as possible against them. Then draw up a disaster preparedness plan

to minimize damage to collections.

When a disaster occurs, quick reaction and response are necessary. Library service will be re-launched only after restoration, re-binding, and withdrawal of damaged materials.

## 2.1 Risk assessment and prevention of damage to materials

We cannot prevent disaster itself, however, it is possible to prevent or minimize damage caused by disaster to library materials by preparing appropriate preventive measures against risk factors. Identify the risks from not only man-made disasters but also natural disasters that could affect your library's collections and think about preventive measures based on the location of your library and its experience of disasters. Risk factors will change over time, so you should consider carrying out at least an annual re-assessment.

### <<Flooding and leakage of water>>

- Keeping your collections at a safe distance from water.
- Keeping water pipes, toilets and washstands apart from your stacks.
- Avoiding using the top lines of shelves.
- Keeping precious materials in phased preservation boxes on the shelves.
- Notifying the local fire department of the location of precious materials and water-sensitive materials to prevent damage caused by excessive spraying with water to put out a fire.

### <<Prevent outbreak of fire>>

- Keeping collections at a distance from such places as smoking rooms and kitchens.
- Tidying up outside and inside the library.
- Inspecting and improving the equipment for fire protection and evacuation drill required by law.
- Checking your fire protection systems for buildings and human life from the viewpoint of protection of the library materials.

### <<Earthquake-resistance>>

- Earthquake proof shelves might help prevent severe damage to materials such as deformation or breakage by collapse of shelves.
- A phased preservation box mitigates damage caused by falling off from shelves.

## 2.2 Drawing up a disaster preparedness plan

A disaster preparedness plan, reflecting risk assessment and available resources in whole

organizations, should include the following contents:

- Building floor plan
- Priority rescue list
- Reporting procedure
- Disaster response team
- Instruction manual on salvage operation and emergency supplies list
- Instructions for rehabilitation and contact details

As basic information, prepare a building floor plan which shows facilities that could cause damage to materials such as shelves, windows, pipes of water and gas.

The location of each kind of material has to be indicated in the plans. It is not possible to save all materials at once, so priority materials for salvage should be identified, for example, those essential for library activities, or valuable materials which only your library owns.

All people related to the library, including cleaners or security guards, have to be aware of a way to report of a disaster situation so that person in charge of preservation catches the information quickly. It is very difficult to consider who should take leadership and what framework should be constructed in the chaotic situation just after a disaster. A disaster response team should be organized in advance. In the event of a disaster, a team leader or disaster plan coordinator negotiates with the senior management, mobilizes staff, and allocates funds.

In the process from emergency response to recovery, cooperation with external institutions and relative companies is required in addition to procurement of rescue equipment. For example, large amounts of wet materials could be sent to a freezer plant to prevent further damage. It is important to maintain good communication with reliable secure advisors in case of emergency.

It is also indispensable to hold regular compulsory staff awareness and training sessions on the basis of a disaster preparedness plan which is updated continuously. A disaster preparedness plan may never be implemented, unless all those concerned believe in its importance.

## 2.3 Emergency response

Disaster response involves the following three steps: (1) emergency response when a disaster strikes, (2) recovery to get back to normal and (3) prevention against a future disaster. These three phases of emergency response, recovery and prevention are one cycle, since emergency response and recovery are overlapping and the last half of recovery is prevention. Just one fault in one step of the cycle might bring down loss of the irreplaceable such as human life and library materials so caution is required to rotate the cycle.

When a disaster attacks, follow these steps:

## 1) Assess the situation

The person in charge of emergency response needs to check the scale of the disaster and what kind of damage a library suffers. Information of damage should be shared with necessary partners inside and outside of your library.

## 2) Evaluate the extent of the damage

When emergency services permit library staff to re-enter the disaster area, next steps are possible: making a further assessment of the extent of the damage and estimating supplies and personnel necessary for response and recovery.

## 3) Stabilize the environment

In order to prevent further damage, fans, de-humidifiers, etc. should be used to achieve acceptable environmental levels. Non-damaged materials need to be protected with plastic sheeting for example.

## 4) Make records of damaged materials

Photos of the site and the damaged materials before any salvage action will be useful for further reference, public relations, requests for support, etc. This is very valuable record not only for complementing the memory of workers surviving the disaster but also for sharing experience with staff in the next generation. In addition, regular inspection of your stacks allows you to quickly see the difference before and after the disaster.

## 5) Remove damaged materials from the site

Damaged materials should be left as they are: closed volumes stay closed, open volumes stay open. If there is a large amount of damaged materials, it is better to mark the original location on a bag or case. As the site may be contaminated, the disaster response team must be appropriately clothed, for example wearing boots and face-masks.

## 6) Sort materials for recovery treatment

When applying recovery treatment, sort materials according to recovery measures because appropriate methods differ depending on the extent of the damage and the media. Let's see some examples.

Examples:

### <<Treatment for water-damaged materials>>

Water-damaged materials get moldy in two or three days in a warm temperature. If they are left in that condition, they will harden like a stone. As wet materials are expanded, heavy and soft, they require attention not to carry a lot of them at one time and not to keep stuffing them into a case until it's crammed full. Treatment methods for wet materials depend on extent or quantity of damage. For a

small quantity of slightly wet material, air-drying is suggested. For heavily soaked or a large quantity of materials, freezing is suggested to stabilize them first so that you can dry them one at a time later.

“Triage,” a mode of thinking used on the battle field to prioritize treatment and transportation based on the patient’s chance of survival to save as many people as possible in short order at a time of disaster, can be applied to large quantities of damaged materials. Unlike in the case of life saving, when salvaging water-damaged materials, materials in good condition must be rescued first.

Water-damaged materials should be sorted into the following three categories: (a) materials in good condition, (b) slightly wet materials and (c) totally wet materials. First, (a) materials in good condition need to be got away from the afflicted area to stop the spread of damage. Next, (b) slightly wet materials should be rescued in order of damage from light to severe, for slightly damaged materials do not take a lot of trouble to dry and they are more likely to be successfully recovered. After finishing the rescue of these materials, vacuum freeze drying or other ways should be applied to (c) totally wet materials if they can still possibly be salvaged.

### <<Treatment for fire-damaged materials>>

Charred parts and discolored parts that suffered heat damage are especially fragile. So, it is preferable to avoid touching fire damaged materials during evacuation as much as possible and not to pull stuck materials apart forcibly. Materials soaked with water during fire-fighting should be treated in the same way as water-damaged materials. In case of fire, soot and smoke-smell are also included in damage. Soot can be blown off with an air compressor or a pencil eraser depending on the quantity and damage. Obviously materials do not rise from the ashes. Make sure to guard rare materials as much as you can with especial care.

### <<Treatment for broken materials >>

When an earthquake attacks, materials fall from shelves or shelves fall over materials causing physical damage and distortion. They need to be taken out quickly from the place together. Of course, such emergency response must be taken only after confirming the safety of the building. Furthermore, there are still dangers of fire and water disaster following earthquakes.

## 2.4 Recovery to get back to normal

After evacuation of damaged materials and salvage treatment, librarians need to take many decisions: to restore or not, to purchase replacements of materials or not, and so on. In addition, there are a lot of things to do: cleaning up the stacks, repairing broken shelves. Sometimes the help of external parties such as specialists in salvaging materials is required. Disaster planning and networking is also a necessary part of a library’s risk management, so it is important to build a relationship with nearby institutions. When they get damaged, help them, and get helped likewise on a regular basis.

The last important recovery work is to share the experience and to call attention to the planning among related parties through holding sessions of assessing of disaster planning, writing articles in magazines and so on. These activities will contribute to revising disaster planning and lead a library to the next prevention cycle.

### 3 Future prospective

Disaster is a primary threat for preservation, because it might destroy in a moment library materials preserved for a long time. To minimize its damage, the efforts of entire organization are required.