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Disaster Preparedness

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1. What to do when the flood appears? Theoretically

For an archive as well as for library a disaster such as flood is an unexpected event which puts any collection at risk. Disaster planning is a matter of basic security for archives, their staff and their collections.

Theoretically it is considered to be an essential part of any preservation programme to be implemented by every kind of archives or libraries.

Disaster plans usually involve 4 phases:

1. Prevention – identify and minimize (remove or reduce) the risks posed by the building its equipment and fittings and any natural hazards at the affected area.
2. Preparedness – getting ready to cope. The obligatory need to undertake and maintain an emergency planning programme.
3. Response – when disaster strikes - reaction
4. Recovery – getting back to normal, this is a post-disaster stage, which does not include the immediate urgency of the preceding stages.

Each part includes many subjects to work on and to be implement in advanced.

The question: what to do when the flood appears? contains the topic of RESPONSE. This part covers the period from raising of the alarm to the air-drying or stabilisation of damaged holdings. It is important to note that all phases are correlated closely.

When disaster strikes one should:

- follow already established emergency procedures for rising the alarm, evacuate personnel (if needed) and make the disaster site safe
- contact the leader of the disaster response team to direct succinctly the trained salvage personnel
- when permission is given to 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 insurances claim purposes
- set up an area for recording and packing materials which requires freezing and/or an area for air-drying
- transport water-damaged items to the nearest available freezing facility.

There is a lot of detail to go into on how to enhance each of the reaction parts, but because of the lack of time, there is a bibliography at the end of this presentation which could give more useful procedures and all kind of information.

What should be stressed here is that appropriate response to disaster can make the difference between severe loss and successful salvage.

There is one clear rule for response to water damage: the faster the correct action is, the better is the result.

After 48-72 hours mould starts to grow. The better the response effort is organized in advance, the better the chances are to save material, reducing damage and cutting costs.

Apart everything - this is not the ideal world and not everyone has access to all salvage technologies. If for example air-drying is the only choice available, then care should be taken that it is the best air-drying under the best conditions which can be provided.

Do the best that is possible under the circumstances you have to deal with, but do it as quickly as possible.

When the response phase is completed be sure that all people involved are thanked sincerely and appropriately.

A detailed written and photographic report documenting the results of the effort should be made for insurance purposes as well as for training causes in order to become better prepared if there is the next time. Use all the statistics gathered so authorities can understand also what has been accomplished and where the effort currently stands.

Recommend the appropriate techniques and methods for the recovery phase: including costs and staffing requirements.

2. What was the reality in 1997?

Some disasters are beyond our control. Keep in mind that in 1997 it wasn't clean water, but instead dirty river water and that flooding affected everybody: institutions and general public.

In some places in 30 minutes the water level reached 1,8 meters. Everything under this was under water immediately. The force of the water was large and caused the failure of shelving and other storage furniture, as well as the throwing out of objects from their places in repositories.

The flood in 1997 affected five state archival units and archive materials and files in various public institutions, including court, state and self-government administration organizations. The libraries were severely hit as well.

Unfortunately, even though there existed a written disaster planning model it was never practised and existed only on paper.

The biggest problems appeared with packing and stabilizing collections as well as with staff and human resources.

Stabilizing wet materials as quickly as possible is essential for successful reaction.

One of the safest ways to stabilize books, documents, photographs, textiles, and other archival materials is to freeze them. All physical distortion, as well as all biological action stops. But in 1997 there were not enough freezing facilities and those available often did not want to take affected archival material.

If freezing is not possible a collection must be stabilized before drying by removing from the disaster site to one where temperatures and humidity are as low as it is possible and where the air can circulate freely. Archival material must be then air-dried immediately.

This practice was the most common in 1997. This method required additional people who were hired to assist in this long lasting process as well as large amount of space. Sometimes when the weather allowed it, this method was also performed on the open air. Additionally and fortunately, vacuum chambers designed to dry wood were with success adopted to dry some of the collections.

To sum up 10 km of archival material was damaged. Unfortunately about 5% of the total collection that had been flooded was permanently destroyed.

3. Are there any practical things to do when nothing was prepared. when nobody was really trained?

Continuing what was said before already there are some practical things to do even when nothing has been prepared, even when nobody is really trained there are some steps that can be taken:

- firstly the use of common sense
- secondly you need to elect one disaster coordinator to lead and distribute work according to the plan you've made in site
- you must react quickly and according to the plan
- you need to assess and evaluate the degree of damage to your collection, make priorities
- remember that affected collection materials must be carefully relocated to a controlled and clean environment
- do not forget about labelling the bags, crates boxes etc. of the sorted materials
- you should get help from various specialists to assist and supervise you - from Fire Brigades to conservators etc. - call them, have their numbers in hand
- you must know from them what you should do to avoid distraction of objects
- ask local authorities as well as appeal for help in the media to made them informed that you need human resources/volunteers, freezing facilities or facilities to run air drying etc.
- you should think of adapting the materials and tools you've got at your disposal in this situation; for example as in Poland in 1997 when vacuum chambers designed to dry wood were adopted to dry some of the collections as well
- take in consideration that collections may require fumigation before they can be handled safely
- remember to work safely using gloves, facemasks, boots, construction, hats and appropriate clothing
- probably this doesn't close the list - hope to get feedback from the audience on this topic
- you have to remember to document the damage by making written and photographic documentation of the situation.

4. When it is not a historical flood but just broken pipes?

When it's broken pipes you are much more lucky. What's important generally is that you are dealing with clean water so the parts in the salvage phase on cleaning the collection with the fresh water is of less importance.

As was said already you need to stabilize the wet or damp objects. It depends of the scale. If you have just a few objects wet you can easily air-dry them if more freeze them first and then take the best procedure to dry them (whatever is available for your institution).

Remember to renovate and make better storage space.

You need to remember that just dried archival materials can not be packed in boxes for at least half of a year. They need to be monitored in case of the biological infection as well.

5. 5+6. Some people want to use: hairdresser dryer, electric iron, electric fans?

You can use any kind of equipment that provides air circulation in case of drying. Generally speaking everything that does not cause deforming and buckling is recommended if needed. Particularly apparatus generating hot air are forbidden.

6. How to dry?

Michal will explain in detail drying methods which use more than human strength.

There are several possibilities for drying, but remember that rare or unique materials require special care and handling.

Methods of drying materials:

- air-drying
- vacuum drying
- vacuum freeze drying.

Air-drying has been used for centuries to dry wet archival collections. This process is appropriate if only a few books or documents are involved, if material is slightly damp or if the use of better drying methods is not possible or available.

Maintaining good environmental control is important in this technique to avoid mildew and excessive swelling. Items should be dried in a low humidity environment with good air circulation ('wind tunnel'); the temperature must be kept under 21°C, some experts say 19°C. Constant monitoring and the relieving of the condition of materials as it dries is essential.

Air-drying is not suitable for: vellum, parchment, coated paper.

Interleaved books with absorbent paper are dried standing on the end of absorbent paper, soft-covered or paperback books may need support if they are to stand upright while drying.

Remember to exchange this paper for a dry one as frequently as necessary. When books are dry to the touch they may be pressed to flatten them a little bit between covered boards weighted with concrete blocks or bricks or with the book press.

Single sheet material should be fanned out and dried flat on absorbent paper or between blotters. After drying if necessary pages may be flattened sandwiched between blotters in a book press etc.

Wet photographs should receive the care of a conservator, if not possible dried flat in a single layer on clean absorbent paper in a cool low humidity environment etc. Do not dry them between filter paper, always use polyester webbing.

The same procedure follows in case of other media.

7. May national officers accept the help of volunteers? Is it possible to manage them?

It depends of the scale of the disaster but in more cases volunteers are 'the most wanted material'. Although some procedures should not be left to inexperienced people.

There are some regulations concerning this subject on government level. Also ICBS activity is based on volunteering. The national offices of the Blue Shield should be able to collect the people and send them to the institution in trouble.

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