THINK GLOBALLY; ACT LOCALLY

SUPPLEMENTARY CHECKLIST FOR SAFEGUARDING HISTORIC OBJECTS AND INTERIORS FROM EXTREME HAZARDS

Abstract

Over the last decade, there has been an increased focus on preventive work for safeguarding objects and interiors of cultural and historical importance from sudden hazards. Manuals and guides have been developed to raise awareness of how to react when a crisis strikes. However, there seems to be a gap between the developed tools and the practices at local levels. This paper aims to provide a systematic overview of effective routines for safeguarding historic interiors that normally fall outside the scope of a regular risk management plan for heritage buildings. The paper also presents an overview of relevant guides for historic interiors, which complement the already published, general guidelines for safeguarding cultural heritage. Based on the author's experiences gained from collaborative, preventive emergency projects, as well as the findings reported in the relevant literature, the paper presents a supplementary checklist of routines for safeguarding historic interiors. The role of conservators as heritage specialists is discussed, especially in situations where historic buildings are managed without heritage specialists as staff members. This article also reveals the need for further studies related to this topic.

Nina Kjølsen Jernæs*
Norwegian Institute for Cultural Heritage Research (NIKU)
*nina.k.jernaes@niku.no

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Introduction

In March 2019, the Norsk institutt for kulturminneforskning (Norwegian Institute for Cultural Heritage Research, NIKU) and the Arbeidsgiverorganisasjon for kirkelige virksomheter (Norwegian Association for Church Employers, KA) started the Agder project to deal with emergency response in three churches in Agder County, Norway. One of its aims was to find low-level, practical solutions or measures to mitigate potential fire damage to church objects and interiors. We examined how interaction between regional and national experts could be advantageous for all parties, and help develop better management of the churches, by focusing on salvage plans. An interdisciplinary working group, consisting of owners, managers, firefighters, emergency salvage teams, conservators and representatives of the municipality, visited three churches to assess the current situation and discuss scenarios, and the values of different objects, as well as other issues concerning both mitigation measures and emergency salvage work. A full-scale drill carried out in a medieval church involved testing the salvage plan using props to represent selected objects in the church. The drill was then evaluated, and the results were presented at a seminar, together with a discussion about the strategy necessary for the improvement of emergency planning. Through this collaborative project, it has become apparent that many international manuals and guides are not tailored to small cultural heritage buildings and institutions managed by non-heritage experts. Additionally, they rarely focus on preventive work to mitigate risks to the objects and interiors.

MOK

Figures 1, 2 and 3 (to the right). Fires and floods top the list of disasters affecting cultural institutions. Skaugum in Asker Municipality is a manor house and the residence of the Crown Prince of Norway, which caught fire in 1930. Photographs before, during and after the fire. Figure 1: S. Gran 1925. Figures 2 and 3: Steen and Henriksen 1930. (All photographs: Nasjonalbiblioteket www.nb.no, CC0 1.0 licence).

Two main elements are at risk from fire: the building itself and its contents. The structures of the buildings themselves may have some sort of resilience, but their contents may have none (Kincaid 2018: 3). Surface treatments, decorative paint and interior details in traditional buildings require careful consideration. In addition to acting as fuel sources, they are extremely vulnerable to damage from fire and smoke, as well as from fire suppression media, such as water or foam (Historic Scotland 2010: 29). This issue suggests an increased focus on interiors when working on preventive measures against fire and water damage. A literature review on the topic reveals a lack of attention to objects and interiors in particular.

When examining disasters affecting cultural institutions worldwide, fires and floods top the list in the period 1981–1999, followed by earthquakes and wars (Dorge and Jones 1999: 2). There is no reason to believe that this situation has changed over the last 20 years. Based on current trends, the number of disasters and their intensity are expected to rise (Meier, Will and Petzet 2007), which we have observed since 2007 (Figures 1–3). Climate change may also introduce new or intensified risks to cultural heritage assets, including heavy precipitation and rising sea levels (Stanton-Geddes and Anees Soz 2017: 3).

In the last 20 years there has been a focus on climate hazards to built cultural heritage and museum collections through the work of the International Council of Museums (ICOM), International Council of Museums- Committee for Conservation (ICOM-CC), International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM), Blue Shield, the Council of Europe, Historic Environment Scotland, Historic England and other large organisations. Thorough work has also been undertaken to raise awareness of emergency response after sudden hazards. In fact, we can say that there is an overload of guides and manuals on risk hazard analysis and emergency response (Matthews 2007: 5). Gaillard and Mercer (2012) have pointed out that there seems to be a gap between the developed tools and the practices at local levels regarding emergency preparedness. The increased importance of international treaties and manuals, and the parallel growth emphasis on community-based and local action, named ‘glocalisation’, are at the forefront of the 'need to bridge the gap' between the international and the local management (Gaillard and Mercer 2012: 94). The management of historic houses and churches might lack staff focus on fire prevention and preventive conservation, in addition to the needed focus on climate changes and surrounding geohazards. Existing national and local disaster preparedness and response mechanisms usually do not include heritage expertise in their operations (UNESCO 2021). As a result of the absence of an overview of existing literature, it could

become challenging to use international manuals and guides in their forward planning tasks.

The research questions are therefore as follows; First, how can simple preventive measures for safeguarding cultural heritage objects and interiors from water and fire be implemented? Second, what is the conservator's role in this work?

In this article, I have two aims. The first is to provide an overview of relevant international guides and papers on the subject. The second is to use the outcome of the Agder project, with the focus on fire hazards and the data obtained from my literature review to present a supplementary, simple checklist for safeguarding cultural heritage interiors from extreme hazards. The results are followed by a discussion of gaps in existing knowledge, and the conservator's role in this matter. The use of fire-protective textiles for damage mitigation is perceived as a simple and effective measure, and coverd in the literature review and the discussion.

Previous research shows that effective and robust fire safety management strategies for historic buildings allow a reduced level of physical measures (Kincaid 2012). Technical installations, including fire extinguishing systems, are outside the scope of my paper, as are plans for dealing specifically with museum collections. However, relevant information on objects and interiors, found in guides written for museums, is included.

Terminology

As far as the terminology, such as 'damage limitation', 'salvage' and 'mitigation', is concerned, I have chosen to follow Mike Coull's specifications in the Executive Summary of Recommendations under the European Cooperation in Science and Technology (COST) Action project, Built Heritage: Fire Loss to Historic Buildings (Coull 2007: 21). When describing mitigation of fire and water damage, the term 'damage limitation' is used. 'Damage limitation' is about pre-planning, consultations and having established and widely understood procedures for individual risks. This dynamic process, conducted before, during and after incidents, is a strategy with a positive and proactive approach. The term 'salvage' means the process of recovering contents and 'mitigating' damage during or immediately following intervention tactics.

A salvage plan is defined here as part of an emergency response plan. Prioritised items are described with key information to help the fire brigade salvage them with minimal damage. The salvage plan often consists of several documents, such as an inventory sheet, grab sheets and first-aid sheets for the salvaged items.

Literature review, guides and papers

The Council of Europe's report, Vulnerability of Cultural Heritage to Climate Change, lists relevant actions by international institutions (Sabbioni et al. 2008: 5). Another important document is Safeguarding Cultural Heritage from Natural and Man-Made Disasters, issued by the European Commission (Bonazza et al. 2018). These documents present a relevant overview of the topic at a systemic level, and of practical damage limitation measures to reduce the consequences of extreme hazards. As a result, these topics are not covered in this article. However, the work of COST Action C17, Built Heritage: Fire Loss to Historic Buildings (2002–2006) is relevant. The action's area of interest was objective-oriented and aimed at practical issues (COST C17 2006). As a follow-up, Guideline No. 30, Managing Fire Safety in Historical Buildings, was prepared by the Confederation of Fire Protection Associations in Europe (CFPA-E 2013). The CFPA-E guide is intended for owners, managers, caretakers and others responsible for the safety of historic buildings. The guide presents basic, simple, low-cost actions, that can be done to protect historic buildings from fire. It is a useful document when looking at the implementation of low costs fire protection concepts, fire protection measures, prevention of fire spread and that evacuation of people. Salvaging items of historical value is mentioned but not further discussed (CFPA-E 2013: 18). The checklist at the end is helpful during inspections, which should be undertaken regularly (CFPA-E 2013: 21).

Guidelines tailored to professionals are also relevant, although not easily available, for local management of historic buildings. In collaboration with ICOM, among others, the Getty Conservation Institute (GCI) has worked on this topic since the 1990s. The book Building an Emergency Plan. A Guide for Museums and Other Cultural Institutions is written for professionals working in museums and other cultural institutions (Dorge and Jones 1999). The book guides the reader through management, roles, communication and training for the staff. It also contains a set of good examples on how different museums have performed specific tasks in emergency planning. Chapter 3 of the book is particularly thorough in outlining the specific emergency plan handbook (Dorge and Jones 1999:

53). However, the aspects concerning practical details are outside the scope of the book; that is for the appointed emergency planning committee to discuss.

Another example of professional guidelines is the work of the International Federation of Library Associations and Institutions (IFLA). They have written a practical manual, IFLA Disaster Preparedness and Planning (McIlwaine 2006). Although it focuses on collection items, it provides a useful overview of actions to consider regarding prevention and protection, preparedness and response when disaster strikes, as well as how to recover from a disaster. Since the manual addresses museum staff, it makes a general contribution to planning the salvaging of items to limit the damage to collections. The EU research project, Safeguarding Cultural Heritage through Technical and Organisational Resources Management (STORM 2016–2019), provides useful insights into this broad topic. It covers the current practice for the management of cultural heritage and offers new insights into predictive models, as well as risk and vulnerability assessment, where the organisational tasks are crucial. In Kincaid's (2012) research article, he also states the need for a stronger focus on safety management dealing with historic buildings. Through research, he expresses the positive outcome of a robust safety management plan. Kincaid lists the needs for making such a robust plan, with a clear focus on roles, responsibilities and training of the management staff (2012: 27). He also emphasises the importance of making a full set of records, drawings, photographs and other information that should be stored for use in rebuilding in the event of partial or total damage.

Some institutions aim at reaching out to both professionals and non-professionals. Historic Environment Scotland has worked on heritage buildings and fire prevention by publishing Technical Advice Notes and Practitioners Guides in the years 1997–2010. Historic England and the London Fire Brigade (LFB) cooperate to reach out to owners and managers of historic buildings. They have made information easily available on the Internet (LFB 2020). Here, they state that salvage procedures will vary according to the scale of the incident, but it is a worthwhile exercise to plan for the worst-case scenario, that is, the removal of all objects. Damage control is also a key factor that should be fully considered, and ceiling artwork with the risk of being damaged by fire, smoke or water is specifically mentioned (LFB 2021: 13).

Catastrophes may lead to an increase in focus on the security of physical heritage. The loss of Norway's Fantoft Stave Church in the 1992 fire initiated the financial support by the Directorate for Cultural Heritage in Norway to work on fire prevention, protection and safeguarding of the stave churches. The work has intensified the directorate's awareness of fire risk and placed fire protection higher on the agenda for protection of built heritage in Norway. For its part, the Riksantikvarieämbetet's (Swedish National Heritage Board) work on the topic has (among other things) resulted in a handbook for emergency planning and salvage rescuing (Nilsen 2016). It is inspired by a similar handbook from The National Trust (2006) in England and Wales. The Swedish handbook contains checklists to minimise the risks and be prepared for a catastrophe. The need for plans and drills is also mentioned.

Several of the reviewed articles and books emphasise the need for emergency planning. Unfortunately, many reports, guidelines and articles take this issue no further than recognising, mentioning or discussing the requirements. Seldom does the literature answer these complex matters thoroughly, and there is a lack of focus on objects and interiors, apart from museum collections. This shows the gap between international guidelines and the needed information for owners and managers of historic buildings at the local level.

The use of fire-protective textiles for damage mitigation

The use of fire-protective textiles to limit the damage to objects and interiors is a topic of discussion by people working on the protection of Norwegian cultural heritage. However, scant international research and literature highlight the use of such textiles, whether they are covers, blankets or curtains (Kjølsen Jernæs 2020: 9). The use of textiles for sectioning off a room and manually covering a specific object or part of an interior is only briefly mentioned in the literature concerning the general protection of historic buildings and cultural heritage (Kjølsen Jernæs 2020: 10) (Figure 4). Research on the effect of such coverings is not reported. Takahashi (2019: 3) writes about the knowledge gap in fire blankets: "The literature on fire blankets is scarce probably because the basic research has not been fully conducted and the R&D [research and development] efforts have mainly been made sporadically at the manufacturers without the dissemination of test results other than the specifications of final products".

Figure 4. “Brand in de lijnbanen op de schans aan de Smallepadsgracht, 1680”, showing the use of fire-protective textiles for mitigating the fire damage to whole buildings in the Netherlands. Etching/engraving by Jan van der Heyden 1690–1735. Collection by Rijksmuseum (CC0 1.0 licence).

Devi and Sharma elaborate on different passive protection measures in heritage museums and libraries (2019: 4–5). They mention different systems of smoke curtains that can be used effectively, depending on the building. Likewise, Hodžić and Džidić (2018) explain the use of curtains as fire barriers.

The handbook published by Riksantikvarieämbetet mentions the need for a fire blanket as a required item (Nilsen 2016: 87). Another example of a lsimple damage limitation measure is the use of tarpaulin or a similar material for protection in situ if a priority object is too heavy or too large to remove (Historic England 2017: 28). But how to proceed further regarding handling properties and gaining more knowledge from tests and experience?

Some independent, small-scale tests on covering or wrapping items in case of fire in a museum or a cultural heritage building have been undertaken (Kjølsen Jernæs 2020: 11), but the results have not been published yet. However, when reviewing the use and the effect of fire-protective textiles, the general professional position seems to be that such textiles should be considered when the total risk and preventive measures are being evaluated. There is a need to consider the effects of different coverings and curtains as part of the total risk and vulnerability assessment.

The supplementary checklist

The guides and manuals mentioned provide a n overview of prevention, risks, preparedness, response and recovery at different levels. At the planning level, there is a predominance of instructions for systems and emergency plans. Apart from Guideline No. 30 by the CFPA-E (2013) and the work done by Historic Scotland (2010), Historic England (2017) and LFB (2020), most of the other documents are more suitable for the staff in medium to large museums than the personnel in small countryside museums, historic houses or castles, churches or open-air museums. The checklist in Table 1 supplements the GCI’s guidelines, Chapter 3, which deals with emergency planning in Steps 1–7 (Dorge and Jones 1999: 53–76), as follows: 1) assess the hazards, 2) identify assets and vulnerabilities, 3) implement preventive measures, 4) implement planning measures, 5) develop the response plan, 6) develop/ salvage procedures and 7) write the emergency plan. The checklist supplements the work in Steps 2 and 3.

Checklist
1. Normal maintenance of building structure No: Consider starting with normal maintenance. Yes: Start working on the checklist for the interior.
2. Laws and regulations on technical prevention Not followed: Do this first. Followed: Start working on the checklist for the interior.
3. Overall safeguarding Obtain local climate projections. Hazards to your building – part of the risk and vulnerability assessment. Link this to your municipalities' disaster risk-reduction plans.
4. Collect relevant information and documentation. Is the interior painted, or does it have wall tapestries? Collect information about the materials and the history of the decorated surfaces, and the building in general. Some surfaces might be water sensitive, and the documentation would serve as the basis for finding appropriate damage-limiting measures, in addition to being crucial after partial or total damage.
5. Rooms and zones Are there any rooms or zones with particularly valuable interiors or that have a large concentration of valuable items? Mark these areas as priority zones that the fire brigade should protect, to prevent the fire from reaching them. Fire curtains might function as compartmentation.
6. Dismantling Can parts of the interior be dismantled? How? Examine how the objects/interior parts are mounted. Could their mounting be improved to facilitate possible dismantling/salvaging? Describe appropriate equipment and tools for large items secured to the wall/floor. Are some parts less important than others and can be sacrificed if needed? Discuss the need for fire-protective covers and/or covers to limit water damage to objects that cannot be salvaged. If uncertain about the proper dismantling procedure, invite the local fire brigade and a conservator or another expert on art, construction and materials for on-site consultation.

7. Location Location that is safe from theft, with possibility for salvage. Check if the location is cluttered with valuable items. Avoid places with risk of water damage. Have a plan for storage of salvaged items and the required materials and equipment (covers/ tarpaulins, ladders, etc.).
8. Make an emergency response plan. The above-mentioned issues need to be discussed in interdisciplinary groups. Create an opportunity for dialogue with the local fire brigade and heritage experts/conservators. Go through the building, discussing different scenarios. Discuss the items and the interiors – what are the possibilities and the limitations regarding the prioritised objects?
9. Records, drawings, photographs and other information should be stored offsite for use in rebuilding in the event of partial or total damage.

Table 1. Practical checklist for safeguarding historic interiors.

It is also relevant to read this checklist in the light of the CFPA-E (2013) guide on low-level adaptations for historic buildings.

The practical checklist starts with Steps 1–3 to ensure that normal maintenance is carried out, a broad risk and vulnerability assessment is undertaken, and laws and regulations regarding fire safety in public buildings are followed. Identifying undesirable incidents is an important part of the introductory work (Kulturrådet 2015: 5). However, in a typical risk and vulnerability assessment, it may be irrelevant to discuss the probability of occurrence of extreme incidents and their consequences. In assessing interiors and objects that are irreplaceable, the worst consequence might be unacceptable despite its low probability.

Normal maintenance is a good way of preventing both small- and large-scale damage, as well as extreme hazards. Linking this work to the municipalities' disaster risk reduction might be challenging. In its Research, Vestlandsforskning (Western Norway Research Institute) states that knowledge concerning extreme climate challenges needs to be strengthened at local levels, and adaptation strategies should be made more locally relevant (Rusdal and Aall 2019: 35). Step 4 opens a discussion on the details of the interior. Does the interior have decorated ceilings or walls? There might be challenges, such as the fire brigade needing to use the roof to let out smoke and rig for the fire hoses, damaging a painted ceiling (Figure 5). In general, the important parts or pieces cannot be covered or salvaged. To be prepared for the worst-case scenario, painted walls and ceilings should be documented with high-quality photographs, together with thorough descriptions of the materials, techniques and motifs. This will enable reconstruction or copying the decoration or the wallpaper after any damage (see Step 9). As Kincaid lists in his overview of the needs for a robust risk management plan, the records, drawings, photographs and other information on the whole building should be stored offsite for use in rebuilding in the event of partial or total damage (2012: 27).

Step 5 involves consideration of rooms, compartmentation and priority zones. Independent of where the situation occurs inside a building, the work group could identify priority zones which the fire brigade should attempt to prevent fire from reaching. Historic England suggests that in each zone of the building, a maximum of three items should be prioritised in salvage work (2017: 27). In some buildings, especially in churches, the setting

Figure 5. Mykland Church in Froland Municipality, with decorated ceilings (1931) by Torkild Gill. This is a typical example where documentation prior to a damage is crucial (as stated in Step 4). Photo: Nina Kjølsen Jernæs (2019).

and placement of items cannot always be changed or moved. It is important to consider flexibility when examining different risks. The fire brigade should be able to adjust the salvage plan according to the situation.

Step 6 involves decisions regarding dismantling of large and/or mounted objects. Through the Agder project, it has become apparent that in most cases, the fire brigade lacks the necessary information on dismantling parts of historic interiors if this is not spelled out in a salvage plan. Experiences from earlier fires in historic buildings without salvage plans reveal two types of outcomes. On one hand, some fires have resulted in salvaging of items because the key people onsite have given the relevant information to the fire brigade. On the other hand, sometimes the result is that the fire brigade does not have a salvage plan or enough information about heritage values, priorities and practical guidance, and the firefighters do not risk going inside a building to start searching and salvaging. Otherwise, they would put their lives at stake for an uncertain outcome. The building with its objects and interior may then be lost.

In some cases, an examination the different parts of the objects is needed. Perhaps the sculpture that forms part of the altar piece could be easily removed. Detailed information on how to dismantle the prioritised parts is necessary. Firefighters would probably not do this operation without it being explained beforehand by a heritage expert or those responsible for the interior. There might be a need for advice from conservators or heritage specialists when considering these questions. An operation like this might also require the identification of specific tools, which could be stated in the salvage plan.

If dismantling is not possible, an alternative is to provide effective coverings for some prioritised objects. If fire-protection covers have to be used in a mitigation and salvage operation, this should be thoroughly considered by looking at the total risk and damage limitation measures. Should the cover protect the object from radiant heat, direct fire, soot, water or hopefully, several of these destructive threats? In some cases, it is effective to cover an object as part of the building's closing routines, while in other cases, it would be better if the covering could be done by the firefighters. If so, this should be specified in the salvage plan. The covers should be placed in an area where they would be easy to find, for example, where the alarm panel is situated.

Regardless of which discussions are the most relevant for each historic house, an inspection is always a good idea. This could result in constructive discussions between the management, the person responsible for checking the alarm systems, the users of the building (if relevant), the local fire brigade and a conservator or another expert on art, heritage, construction and materials.

Step 7 involves the location of items in the interior. It is always a balancing act between securing smaller items from theft and making them easy to salvage. If the building has a safe with valuable items, which is typical for churches, how long the safe can withstand fire should be checked and compared with the response time of the local fire brigade. The emergency rescue plan should provide information about the need for cooling of the safe.

The salvage plan should specify if below the ground floor, there is a cellar or a room (especially in churches) with valuable items or important cultural heritage objects. The information is crucial in case of a flood, fire or water leakage. Soon after a fire, this is an area that should be checked for the fire-extinguishing water.

There may be a possibility for the safe placement of items in rooms with suppression of sprinkler systems (FAIC 2020, Arvidson 2006: 49–51, Fällman and Hansing 1997: 71, Kidd 1995: 11), where optimal coverage from water damage should be taken accounted for. Here again, an overall assessment of values, risks and possible damage limitation measures should be undertaken. However, there is always a possibility of water damage from both fire-extinguishing water and incorrectly triggered systems to be aware of. Arvidson (2006: 51) concludes with the need for additional investigation relating to water exposure and damage from the water spray set against the corresponding fire damage. An assessment of needs to limit both these types of damages is therefore essential.

An important part of the damage limitation work for salvaging is a plan for where to place salvaged items. The plan should provide clear instructions on where the items should be placed, how they should be protected from new risks (e.g., theft or precipitation), and temporary storage. Required materials should be available, and necessary arrangements should be made beforehand.

Step 8 entails making the salvage plan. All issues listed here are of value when an extreme hazard hits a heritage building. The salvage plan is part of the overall emergency response plan and includes details regarding the protection of each prioritised object and damage mitigation.

Discussion and knowledge gaps

Reviewing the available information on caretaking of cultural heritage items in an emergency shows a gap between the developed tools and the practices at the local level. The work on which this paper is founded reaches out to bridge this gap. However, it can be argued that important work is done at local levels, of which I am unaware. Therefore, it should be mentioned that Oslo brann og redningsetat (Oslo Fire Brigade, OBRE) has worked on the limitation of damage to historic buildings over the last few years. The brigade perceived the need for a systematic way of working with salvage plans and made a template for owners and the management of museums and historic houses (Björklöf 2020). It can be used by anyone who finds it relevant. Different fire brigades will face the same layout, and the management executives of museums and other historic buildings know the necessary level of details. In collaboration with Bergen brannvesen, KA and NIKU, OBRE has made a template for churches as a spinoff (KA 2021). The supplementary checklist presented in this article can function as a tool for completing a salvage plan. Hopefully, in the future, more detailed, published information on protecting and salvaging interior is obtained, that will reach out to the heritage community.

When working with salvage plans, there are likely issues that presents uncertainties. There are complex matters to consider, some of which are likely to occur across many professions and management levels. Regarding the textile covers, there is not sufficient knowledge about the materials' direct effect on fragile objects yet. This involves gases and chemical reactions that might affect the objects, in addition to the differences in the handling properties of the various products. There is a need to study how to prevent damage from both water (flooding and fire-extinguishing water) and fire when considering the use of protective covers. More knowledge on the use of fire blankets/curtains and water covers in extreme situations is required. The handling properties of the covers, as well as the effect of the actual situation, are crucial.

It is known that compartmentation with fire-resistant textiles is used in museums and libraries, but their use in historic buildings and churches is unknown. When considering different risks and suitable damage limitation measures, economy is also part of the picture. Even if these types of measures are known to be effective and can play an important part of the total preventive picture, some work remains to be done to find good solutions for manual or automatically controlled curtains for compartmentations. Surveys and tests should be undertaken to check out how compartmentation can be incorporated in a historic building for safeguarding the valuable objects and interiors with as little intervention in the original materials as possible. The effect of mounting objects in large rooms, such as those in a church, should also be investigated.

There seems to be much to gain by improving cooperation among management levels, different professions and museums. Multidisciplinary and multi-institutional working groups, such as “Kriseressurssamarbeid for kulturinstitusjoner i Oslo og Akershus/ The crisis resource cooperation for cultural institutions in Oslo and Akershus” (KKOA) and the “Forum for kriseberedskap og restverdiredning for kunst og kulturminner /Forum for emergency preparedness and salvage rescue for art and cultural heritage” (FORK) in Norway, are already discussing these issues. Perhaps an international platform for discussing these issues would be beneficial for sharing knowledge and experience.

The existing international guides and handbooks can be refined, combined and further developed to target people working on damage limitation measures for historic buildings. There is a need to link preventive measures for historic buildings closer to the risk and vulnerability assessments carried out by the municipalities. The focus on the municipalities and their role in and responsibility for preventive work due to climate changes is being intensified. Riksantikvaren in Norway is working on a new climate strategy in the cultural heritage sector. Hopefully, this can link the preventive work for safeguarding historic buildings closer to the overall work of each municipality. From the firefighters’ perspective, it does not matter who owns the building; they act on all incidents in their area of responsibility to save lives and valuable items. Therefore, it is crucial to have a holistic approach to limit the damage to the cultural heritage, setting aside the type of institution and focusing on caring for irreplaceable objects and interiors.

The conservator’s role

In this article, I have focused on reaching out to the management of heritage buildings that lack heritage professionals. Sometimes, the owner or the manager, or both, struggle to obtain the necessary overview to make sufficient emergency rescue plans, including salvage plans. What knowledge and experience can conservators assist with in these cases?

Conservators can contribute with knowledge of importance while discussing different possibilities and limitations at a detailed level in dialogues concerning materials and vulnerability, mounting and possible new ways of mounting, dismantling and handling (Figure 6). However, it is not a good idea to contract out the entire work to consultants. There is a definite need to anchor the work on emergency response plans and salvage plans locally. All experience dictates that the knowledge, understanding and ownership are acquired through working with the plans.

Figure 6. There is much to gain by discussing the interiors and possibilities for salvaging with local management, firefighters and conservators. This photo shows an emergency response meeting in Ringsaker medieval church, Ringsaker Municipality. Photo: Nina Kjølsen Jernæs (2020).

Conservators can be the expert resources who help answer the difficult questions prior to a situation. Is it acceptable to use a saw for cutting the doors off a triptych? How can the mounting of prioritised objects be improved so they can be salvaged? How should a prioritised object be handled if its material or construction is fragile? A firefighter should not and would not make these decisions in an actual emergency. There is a strong possibility that nothing will be done if there are uncertainties regarding the value of an object/element and how it should be dismantled.

As mentioned, there is an abundance of relevant, theoretically based information related to disaster risk management for the cultural heritage sector. Conservators could constitute a link between theory and practice when planning for damage limitation measures. The United Nations Office for Disaster Risk Reduction (UNDRR) has launched the Words into Action (WiA) series, comprising guidelines based on global expertise, communities of practice and networks of disaster risk reduction (DRR) practitioners (Rose et al. 2020). The guidelines provide practical, specific advice on implementing a people-centred approach to DRR in line with the Sendai Framework for Disaster

Risk Reduction 2015–2030 (Rose et al. 2020). As the nature of the conservation profession is a mix between theory and practice, conservators have a role to play in preventing damage to objects, interiors, and buildings from extreme hazards. As specified by the UNESCO (2021), existing national and local disaster preparedness and response mechanisms usually do not include heritage expertise in their operations. Conservators can contribute to fill this gap.

The Agder project has revealed difficulties for owners and management without access to heritage or art history expertise when making value-based assessments. Assessing the cultural value of interiors and objects is important in making a well-founded priority list of objects to be salvaged. Conservators and art historians can provide crucial assistance when assessing the cultural heritage value, thus enabling the owner or the local management to successfully make a prioritised list of items for salvage.

Conclusion

There are numerous manuals and guidelines for emergency response in cases of built cultural heritage. Many of them could be adjusted, with the aim to facilitate their use at the local level for management without cultural heritage expertise. Important initiatives, such as COST Action C17 (2006) and the works undertaken by Historic Scotland (2010) and the cooperation between Historic England and London fire brigade (Historic England 2017, LFB 2020), need to be conveyed across borders, so owners and managers of small cultural heritage buildings and institutions could have easy access to them. It is crucial to strive for closer cooperation between the fire brigade and cultural heritage experts, as well as link the important work done across national borders. Relevant information on climate hazards and preventive measures at the municipality level should be available and relevant for owners and managers of cultural heritage buildings.

Existing guides for emergency preparedness plans lack detailed information on how to deal with historic interiors. Regarding climate changes and its impact on historic interiors, much has been written about their slow degradation and damage. How to avoid or limit the impacts of climate change and of catastrophic damage from sudden hazards seems to be a disregarded topic. Additionally, measures for limiting damage to buildings in general lack the needed focus on interiors. In this paper, I have presented a practical checklist of routines for safeguarding cultural heritage from fire and water hazards, focusing on the interiors. Hopefully, it will contribute to raising awareness of which low-threshold preventive improvements can be implemented to save cultural heritage interiors and will serve as a checklist to supplement the guidelines published by the GCI (Dorge and Jones 1999: 53–76). In this work, the role of conservators is essential, although the focus should be on local anchoring and ownership. The need for conservators' knowledge on materials, mounting, vulnerability and possible risks has been discussed in this article. The natural bridge between theory and practice in the conservation profession would help in the process towards a salvage plan based on constructive discussions and realistic scenarios. However, there is a clear need for more research on specific practical solutions regarding protective textiles, as well as testing handling properties and how different products perform during fire/water leakage. Additionally, there is a crucial need for knowledge sharing when working with mitigation and consequence-reducing measures at local levels.

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