

Risk Characterization for Preserving Cultural Heritage Assets

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Establishing a mechanism to build a baseline for the partnership between science and heritage is the core role of heritage risk management. It develops a range of activities to minimize the effects and damages caused by agents that represent risks for cultural properties. Risk management is based on the outcome of risk assessment, a qualitative and quantitative estimation of the probability of hazard, correlated with the source of risk to which the cultural assets are exposed. In heritage management, like other disciplines such as ecology and health, the outcome of risk assessment will be incorporated within the management process. In the health sector, risk characterization processes have been designed that play a vital role in risk assessment. Although risk characterization has a central role in the framework of risk management in other disciplines, it has not been effectively translated to the domain of heritage studies. This paper will extend the existing approach to heritage risk management and look to improve it with an emphasis on the role of risk characterization in various conflict scenarios. It will describe some methods from other disciplines that can offer a better understanding of the importance of "cultural heritage" factors and ultimately their influence in decision making.

Keywords:

Risk Characterization, Risk Assessment, Cultural Heritage.

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INTRODUCTION

Cultural assets face a vast variety of risks, depending on the nature of a property. Risk can be exacerbated by natural agents such as floods and erosion or anthropogenic agents induced by human intervention such as development, vandalism or armed conflict. Baer [1991] divided the sources of the risk into two subcategories namely *rapid onset* and *slow acting*. In other words, based on a time perspective, there can be a quick change or a slow one, and the scale can be measured as the observable degree of damage to the fabric of the site. Therefore providing the baselines to help heritage managers before, during and after the time of risk and conflict, can mitigate damages. The inherent risk of armed conflict represents both – the agent and the core area of my research. Such risk, combined with a new form of insurgency in countries like Syria and Afghanistan has created a new phenomenon that required heritage practitioners in the region to confront new challenges and complexities in the conservation management process. Although the traditional approach toward risk management is based on cultural values with a Eurocentric view, the rapid destruction of cultural assets in the before mentioned countries over the last two decades, primarily caused by war and armed conflict in the region, demand different approaches to assess risk and its management in both conflict and post-conflict zones.

To achieve this goal, one approach would be to expand upon the existing approach and guidelines within the discipline of heritage studies and to deal with the new situation with current methods. Prominent organizations such as the United Nations Educational, Scientific and Cultural Organization (UNESCO); the International Council on Monuments and Sites (ICOMOS) and the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM), are providing various approaches and frameworks for the management of heritage sites during armed conflict. I argue that such prescriptions do require a basic structure to be established, which does not necessarily exist at a local level in all regions of the world. Moreover, most of the necessary management skills required need to be imported into the region (e.g., here Afghanistan, Syria, and Iraq). But the challenge is that these areas are in constant conflict and opportunities for sharing knowledge are limited, and as the boundaries of peace and armed conflict are vague, therefore we cannot divide the task into traditional phases of Before (Preparedness), During (Respond) and After (Recovery)[Stovel 1998:9].

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Whilst the effects of various types of natural phenomena, such as earthquakes, floods, etc., have received considerable attention from the heritage sector, relatively little research has been devoted to the impact of war as an agent, and its risk characterization, which ultimately should form the basis for the protection of the historical value of the properties. In an attempt to address this shortfall of knowledge, this current paper presents a set of frameworks for assessing the risk and managing it appropriately. The primary focus is on risk characterization which firstly represents the outcomes of the risk assessment and translating the findings into policy-making and decision making activity and relies to a greater degree on technical and scientific input. It is considered a vital component of making a sound decision on risk [Stern and Fineberg, 1996:24]. In my study, the risk characterization, which is the core element of risk management in the area of health and ecology, is integrated into the field of heritage protection. As we cannot use a single risk characterization for every type of eventuality, I have focused on the risk posed primarily by armed conflict to historic urban areas and archaeological monuments.

METHODOLOGY AND MATERIAL: RISK AND CULTURAL HERITAGE

To extend the current discussion of risk in heritage conservation and its management portfolio to other disciplines, I have undertaken analytical research primarily in the two fields of ecology and health. The reason I have chosen these two areas, firstly the health sector, is that there is a clear definition of risk concerning human life, and that it deals with the underlying needs for protecting human life. Such a discipline has very decisive and detailed descriptions of the potential risk factors and how they are assessed. Secondly, the subject of ecology is relevant in that we are often dealing with nature in many instances, assuming that a high percentage of heritage properties is situated in a dynamic environment, such as an eroding landscape, or combination of natural and human-made cultural assets. This kind of limitation does not mean that other sectors do not have any strategy to manage or mitigate the effect of risk and the damages done by hazard, but according to Adams [1995] confronting risk is part of daily life and attempts should be made to take this theme out of the domain of individual experts:

"Risk management is big business; the formal sector of the authorities— the realm of the expert— involves government, commerce, and industry; it employs actuaries, ambulance drivers, toxicologists, engineers, policemen, mathematicians, statisticians, economists, chaos theorists, computer programmers and driving instructors—to name but a few." [Adams 1995:6]

However, such a general description contains more social discussion than practical tools, but the diagram that he has proposed in Fig.1 can have meaning and a useful application to the heritage paradigm.

It is impossible to eliminate risk entirely. For example in the domain of health new medicines often come with potentially negative side effects, or in ecology, an alteration can cause the elimination of some species. In the conservation process also, by choosing one method, we are balancing the intervention or minimizing the risk with the potential loss of the value of the assets. The initial guidance to identify the relative value of the items concerning risk characterization can come from the institutions which have given or defined the values for the asset, e.g. the Outstanding Universal Value (OUV) that UNESCO with its defined criteria presents, or it can be just the perception of stakeholders.

Even some small interference with historical features can potentially lead to varying degrees of risk and possible damage, but as can be seen in Fig.1, such risks may be outweighed by the reward that the site as a whole can benefit from as a result of a certain calculated and appropriate intervention. I should mention that the concept of risk in cultural heritage, does not only apply to historical monuments or a series of structures, but also to a dynamic environment such as an urban area or a working cultural landscape.

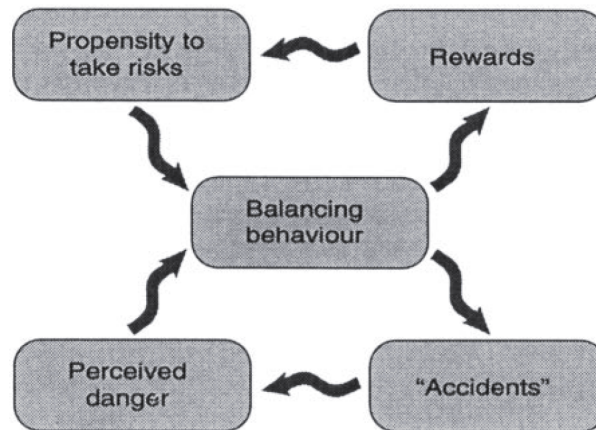


Fig. 1. Risk thermostat or the model of risk compensation. Source: Adams [1995] p. 15, fig. 2.2

The multidisciplinary nature of heritage studies represents a fertile area for absorbing existing methods and tools from other disciplines. In risk management, it allows us to bring new approaches and perspectives that provide a basis for the in-depth study of the threat and its effects on the value of cultural heritage. One of them is the risk characterization that has substantial weight in ecology. According to the United States Environment Protection Agency (EPA) risk characterization is:

"considered to be a conscious and deliberate process to bring all important considerations about risk, both the likelihood of the risk but also the strengths and limitations of the assessment and a description of how others have assessed the risk into an integrated picture." [Stern et al., 1996:9]

Risk characterization is not only about the result of hard science, but as the final stage of risk assessment, it makes clear that science cannot provide the entire picture of the scene, and such notion in some extent itself is a risk [Stern et al., 1996:11]. Heritage Risk Characterization (HRC) is a new method in the heritage preservation domain, an approach based on an ecological definition with a view to culture and heritage. In this view, HRC is not the outcome of risk assessment, but itself is an independent stage of risk management in heritage preservation.

RESULT: A REVISION OF TRADITIONAL APPROACHES TOWARDS RISK ASSESSMENT IN HERITAGE STUDIES

In my study, I come to the conclusion that the process of risk assessment is the primary phase of risk management and should also play a vital role in the heritage field. According to the Canadian Conservation Institute and ICCROM [2016:20] (Fig.2), risk management is a cycle with defined steps; starting with establishing the context, and ending with an appropriate intervention with monitoring and evaluation undertaken at all stages. After being initially assessed for consistency and clarity it can then be continuously revised,

Looking at the subject from the perspective of other disciplines, e.g., ecology and health, more emphasis is given to the analysis, this phase is often broken down into other elements and often reflects a central theme of risk characterization. The role of "analysis" is the scaling and quantification part of the risk and relying on hard science, but it does not guarantee our understanding from heritage perspective and values.

As can be seen in Fig. 3, there is a crucial need for introducing one specific step or a filter for involving HRC into the management process that connects the assessment, based on the material, to the heritage values. However, enriching the HRC must be directly linked to part of risk assessment, and its quantitative measurement. "In this part, one can make some rationale computation to quantify all the phenomena that jeopardize the goal" [ICCROM et al., 2016:29].

From Fig. 3, it can be observed that armed conflict is a potential risk in the frame of rapid inception. If we want to study this hazard in context of potential danger to the property, it should be initially assessed and answer all items observed below in the risk assessment process. Answering the questions leads us to the HRC. Now one can argue

that during a war or armed conflict the life of people is of paramount importance, but it has been proven in many cases the risk factors affecting both the survival of the population and that of historical monuments, are the same. Even in some cases, the cultural heritage is one part of the dispute, especially in a multi-ethnic country. For example in Bosnia, the existence of individual monuments or historical properties can affirm the right to particular space and assert their presence and ownership in the past time [Ascherson 2007].

Although identifying risk and breaking them down into details in a way that can be studied, is in itself a positive factor for effected populations, such characterization gives the people a better understanding of potential damages in different layers. Combining the HRC with the traditional method of risk preparedness before, during and after an event can give us an asset and provide clear boundaries and priority for risk management.

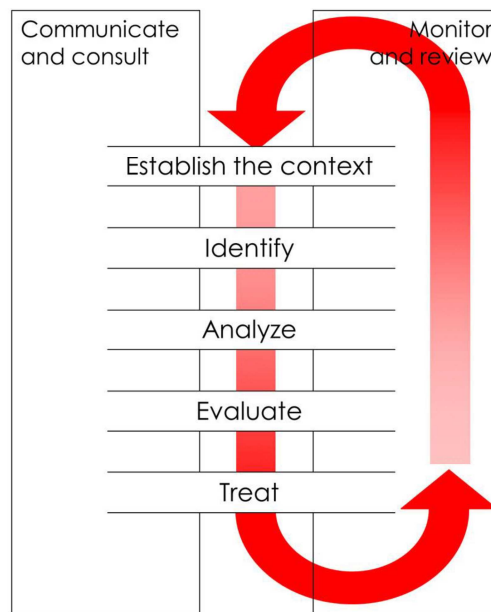


Fig. 2. The risk management cycle. Source: Canadian Conservation Institute and ICCROM 2016, p.20. Fig.2

Qualitative research to support the HRC was applied in my study [Gray 2009]; it is based on the existing methodology relating to perceived risk and extending them to the discipline of heritage studies. Entering the HRC into the process of risk assessment can enhance our knowledge of dealing with uncertainty and moulding this theme within the boundaries of heritage values. Nevertheless, entering the HRC in our elements suggest suitable ways of using data in the quantitative base and how to frame them for more precise actions and future decision making.

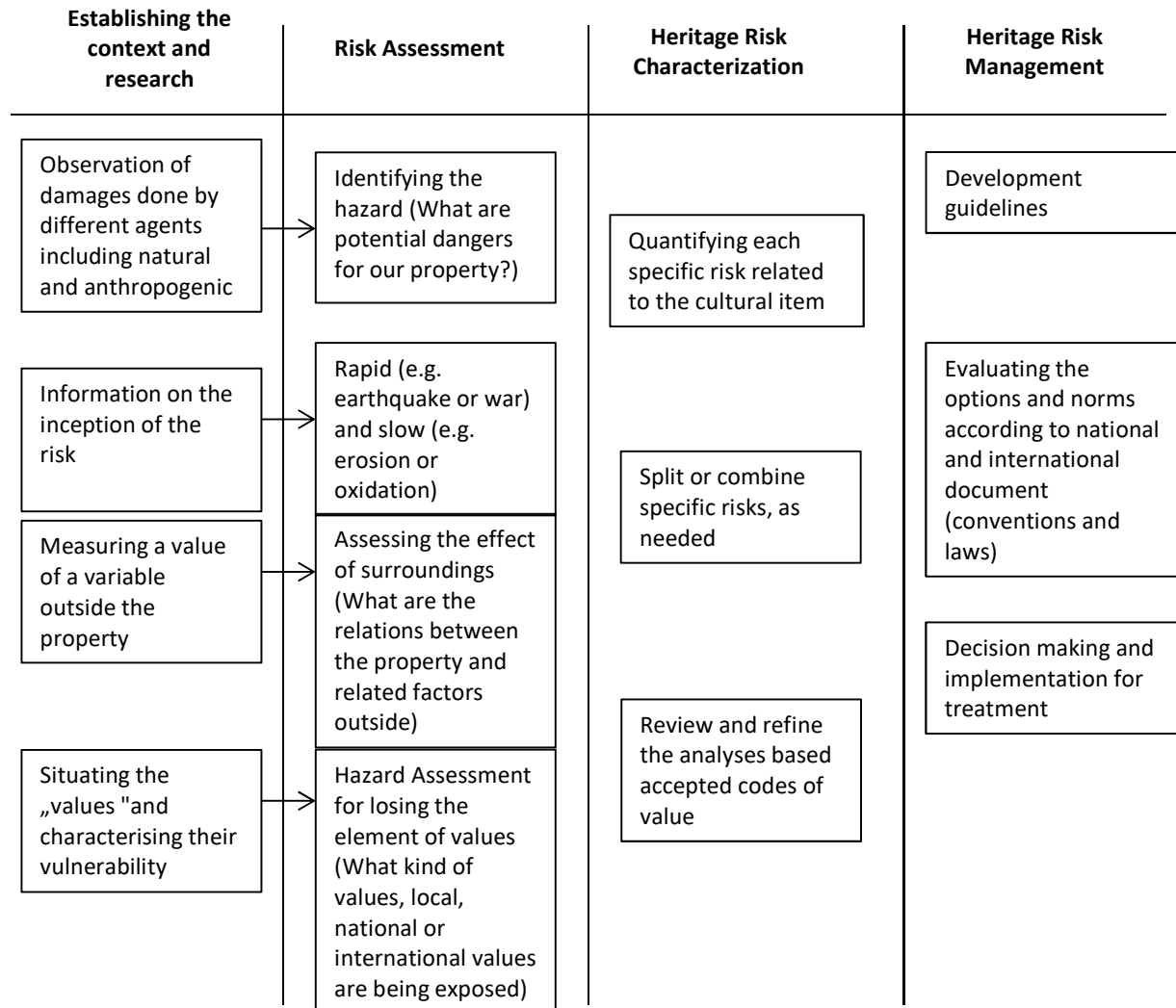


Fig. 3. Risk characterization in perspective to heritage risk management. Source: Sharifi based on Fowle, John R.; Deerfield, Kerry L. (2000) and Stern, Paul C.; Fineberg, Harvey V. (1996)

DISCUSSION AND CONCLUSIONS

Risk characterization for cultural heritage properties has been considered as a new focus and step in risk management, which is extracted from the established approach of risk assessment. It includes and interconnects various hazards to our cultural assets and defines a frame to look at the property with specific attention to the value(s). It also increases the resilience of the site to different forms of risk. Prior works in this field have already documented various stages of risk management with a view to reducing the potential risk and mitigate such issues where they occur, but new trends of risk caused by extremists in countries such as Afghanistan, Syria and Iraq put professional heritage managers in a position where clear and appropriate decisions need to be made within confined time frames. In such scenarios, with a noticeable lack of both international funding and locally available resources, it is crucial for heritage professionals in the field to have a comprehensive understanding and precise definition of risk assessment.

Connecting the risk assessment to the management program directly, without considering different values to be characterized is itself risky. HRC introduces us to the risk indicators based on specific interpretation and values and enables us to effectively tailor the overall procedure towards an integrated approach. In heritage preservation, it can

become an essential and useable tool in initial diagnostic assessments and can help us undertake more targeted and bespoke research, and assist in further defining our outcomes. Whilst I have placed the emphasis on its application in armed conflict scenarios in this paper, it can ultimately provide for assessing risk in other pertinent fields too.

The development of risk characterization can assist in managing all kinds of risk and can serve as a galvanizer for appropriate advanced data collection. Moreover, it allows us to plan for appropriate intervention and subsequent monitoring of historical property as a result of partial damage or destruction. However, there is some limitation for such concept and in this scenario I have based my approach on immovable objects or a complex system of properties that may form part of an extensive cultural landscape or historical complex. However, when we are dealing with examples such as the looting or destruction of regional or national museums (Fig. 4), we may require some other, more refined and specific approaches. Future work could include a further analysis of HRC and its role in protecting different types of heritage properties and the effects of a wider range of hazard types.



Fig. 4. The National Museum of Afghanistan in Kabul was heavily damaged during civil war. Upper floors before removal of rubble. Photo by Jolyon Leslie.1993, SPACH Photocatalogue

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REFERENCES

- John Adams. 1995. Risk. London: UCL Press.
- Neal Ascherson. 2007. Cultural destruction by war and its impact on group identities in Nicholas Stanley-Price. 2007. Cultural heritage in postwar recovery. Papers.Rome: International centre for the study of the preservation and restoration of cultural property (ICCROM) (ICCROM conservation studies, 6), pp 17-24.
- Norbert Baer. 1991. Assessment and Management of Risks to Cultural Property. In Baer, Norbert S.; Sabbioni, C.; Sors, A. I. 1991. Science, technology, and European cultural heritage. Proceedings of the European Symposium, Bologna, Italy, 13-16 June 1989. Pp 27-36
- Canadian Conservation Institute and ICCROM. 2016. The ABC method a risk management approach to the preservation of cultural heritage. Ottawa

- John R. Fowle and Kerry L. Dearfield. 2000. Risk characterization handbook. Washington, DC: Science Policy Council, U.S. Environmental Protection Agency.
- David E. Gray. 2009. Doing research in the real world. 2nd ed. London: SAGE.
- Risk assessment in the federal government. Managing the process (1983). Washington D.C.: National Academy Press.
- Paul C. Stern and Harvey V. Fineberg. 1996. Understanding risk. Informing decisions in a democratic society / Paul C. Stern and Harvey V. Fineberg, editors. Washington, D.C.: National Academy Press.
- Herb Stovel .1998. Risk preparedness. A management manual for world cultural heritage. Rome: ICCROM.
- The ABC method a risk management approach to the preservation of cultural heritage. 2016. Ottawa, ON: Canadian Conservation Institute = Institut Canadian de conservation.

LITERATURE

- Michael Crotty. 1998. The foundations of social research. Meaning and perspective in the research process / Michael Crotty. London, Thousand Oaks, Calif.: Sage Publications.
- Marina Lostal. 2017. International Cultural Heritage Law in Armed Conflict: Case-Studies of Syria: Cambridge University Press.
- Hans-Rudolf Meier. 2008. Cultural heritage and natural disasters. Risk preparedness and the limits of prevention. Dresden: TUDpress.
- Nicholas Stanley-Price. 2007. Cultural heritage in postwar recovery. Papers. Rome: International centre for the study of the preservation and restoration of cultural property (ICCROM) (ICCROM conservation studies, 6).

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