

United Nations Education, Scientific and Cultural Organization

Protecting Historical Monuments from the Threat
of Natural Disasters



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Introduction

Historical monuments serve as reminders and tangible connections to a community's past, reflecting their cultural identity and carrying political weight. They play a critical role in enriching and informing our world's understanding, values, and identity. These monuments may symbolize ideologies and important events or figures, they can foster a sense of pride, identity, and belonging. Overall, they contribute to the understanding we have of our world's history and facilitate our appropriate, nuanced approaches and behavior moving forward, aiding us in adapting to our increasingly complex society, while respecting history.

Natural disasters devastate many communities and cultures. "In 2022, the Emergency Event Database EM-DAT recorded 387 natural hazards and disasters worldwide, resulting in the loss of 30,704 lives and affecting 185 million individuals. Economic losses totaled around US\$ 223.8 billion. Add statistics! You want to impress the gravity of the issue up top." (reliefweb.int. 2023) They have the potential to not only destroy environments and landscapes but also traumatize economies, power structures and alter community values. When developing plans to mitigate the impact of these events, the significance of historical monuments is often overlooked, exposing them to threats of losing their integrity and compromising their value if not adequately protected from natural disasters.

Your role as delegates is to come up with plausible, beneficial solutions and prevention measures to reduce the damage done to world heritage monuments by natural disasters. Prioritizing the integrity and retention of value of these monuments in the process. Battling this issue requires a multifaceted approach, combining efforts from NGOs and local governments, technology, understanding disaster risks, respect for cultural identity, and the strengthening of safety baselines.

Definition of Key Terms

Cultural Heritage

Cultural heritage is the culmination of attributes, legacy, traditions and events that contribute to enriching the legacy of a group or society. It is a bridge between future and past generations.

Historical Monument

A Historical monument is a fixed asset which serves as a reminder or symbol of a historical event or figure. A structure that commemorates and is indicative of a historical period.

UNESCO World Heritage sites

A site that is legally protected and preserved because of its historical, scientific or cultural significance. The sites are decided and deemed as such by a committee overseen by UNESCO

Natural Disasters

An event of extreme weather that devastates an area. Some examples include: Earthquakes, Tsunamis, Tornados, Hurricanes, etc.

Preservation

Consistent assessment and maintenance of a structure with the intention of keeping it in its original or best condition.

General Overview

Historical monuments, along with their culture and significance are vulnerable to the destruction caused by natural disasters including earthquakes, hurricanes, wildfires, floods, and others. The destruction of these monuments could lead to the loss of irreplicable heritage, which is why it is crucial to implement protection of these monuments to prevent the destruction of the structures.

Nature of the structures

The age of the historical monuments may compromise their ability to withstand extreme weather such as high winds and seismic activity. They are often made of construction materials that are extremely outdated and less resilient, such as wood and adobe, as compared to the concrete and brick we see today. This makes them highly susceptible to damage. In addition, their age indicates that they have gone through years, if not centuries of exposure to environmental factors, such as intense heat, cold, and wind. In addition to potential erosion and oxidation. This means that the construction material may have decayed, deteriorated, weakened, or developed structural deficiencies. This must be considered in the solutions proposed and preservation should be tailored to strengthening and reinforcing the structure to protect them from natural disasters while maintaining their historical authenticity.

Effects of monument destruction

The destruction of a historic monument may have long-lasting and wide-ranging effects on a community. Groups may feel that a loss of a monument signifies the loss of their cultural identity and creates a great disconnect from national roots. These tragedies allow for a loss of collective memory that deprives future generations of the opportunity to learn about their ancestors. Furthermore, these monuments may play a great role in local communities, their loss may cause a great feeling of upheaval and grief, disrupting the social fabric. Historical monuments offer valuable educational resources and research opportunities as primary sources for studying and understanding the past, architecture, art, and cultural practices. When these monuments are destroyed, access to these resources is limited, making it difficult for researchers, scholars, and students to explore historical periods and events without physical examples. In addition, historical monuments serve as tourist attractions and contribute to the local economy by attracting visitors and supporting tourism-related activities. The destruction of these monuments can lead to a decline in tourism, resulting in economic losses for the local community. Furthermore, the loss of these significant landmarks may reduce how attractive a destination is, negatively impacting its overall tourism industry.

Priorities of Risk Reduction for Historical Monuments from Disaster

Since this issue has been so prevalent throughout history, we have already been invited to identify the areas of importance for this issue. Outlining them in the general overview may aid you in your role to come up with plausible solutions.

Updated and Accurate Risk Assessment Methods

This is an extremely important factor that can determine the success or failure of solutions implemented. Should the risk be incorrectly interpreted, safeguarding and preservation techniques may not be adequate to protect monuments from destruction. This is why the promotion of collection and use of relevant data, and its dissemination has been so vital in the path to fully ensuring the safety and resilience of the monuments to disasters. This is seen in the form of strengthening baseline safety criteria based on periodic risk assessments, to guarantee that structures can withstand extreme weather conditions. Geographic information systems have been very valuable in contributing to our understanding of the measures that need to be taken.

Climate change mitigation and education

Natural disasters may be caused by the worsening of our planet's climate due to human activity. This is therefore an area of focus for many organizations that investigate the issue at hand. Being better informed about the effects of global warming, and possible actions that could mitigate the impact and power they have to cause devastating disasters could significantly improve the quality of the measures presented. Understanding the role that we as humans play in the occurrence of these disasters is also crucial to allow for the most nuanced and beneficial solutions.

The Gorkha Earthquake

In April of 2015, an Earthquake struck Kathmandu, Nepal. It is known as the Nepal earthquake or the Gorkha earthquake. Its occurrence devastated several UNESCO world heritage sites, including Durbar Square, a complex of temples and courtyards dating back to medieval times. The square was severely damaged, with many of the temples and palaces being completely

destroyed to the point of no recognition, this can be seen in fig 1 below. Notably, the Taleju temple and Hanuman Dhoka palace were irreversibly affected. Swayambhunath, also known as the Monkey Temple was also highly impacted, though the main temple survived, its shrines and towers were destroyed. The destruction of these buildings created a sense of loss for the people of Nepal, especially when concerning the shrines, which were made for respected persons or worshipped gods. This feeling resulted in lower community morale and a dim atmosphere amongst the people affected. In addition, the loss of such a religiously significant monument also instilled a sense of panic among some. Being able to practice religion is a priority and necessity for many people. If the issue of protecting heritage sites from natural disasters is not circumvented, the community and people will suffer greatly. UNESCO and ICOMOS provided assistance to the restoration of the sites in the form of both money and the commission of vocational experts, though the monuments can never fully be restored. Along with the grief experienced, Nepal also suffered economic disturbances and displacement, which also had to be mitigated and prioritized over the monuments. The temple brought in money from tourism, which was lost after the earthquake. There was also a great loss in productivity after the internal displacement, which affected the economic activity in the area. The multifaceted nature of the issues caused by these traumatic events goes to show that external aid and internal efforts from a variety of sources are the best and most effective way to solve this issue, so no areas are left behind.



Fig 1. *Destruction of the Durbar Square and Temples after Gorkha Earthquake.* Nepal's Kathmandu valley treasures: Before and after. (2015). BBC News. [online] 26 Apr. Available at: <https://www.bbc.com/news/world-asia-32472307>.

Fire Destroys Palaces of Abomey, Benin

A devastating brushfire hit the Royal Palaces of Abomey in Benin, in January 2015. Destroying the structures that composed the palaces as well as the tombs of two kings and their 41 wives. Six buildings completely burned. The Royal Palaces of Abomey were on a UNESCO list of concerns to be victim to wildfire but were taken off in 2009 after extensive renovation. Though the wildfire still devastated the palaces and communities of Benin, who have great respect for the monarchy in Benin. This was a stark example to the attention that these sites must be shown, as they are not undoubtedly protected from losing their history even after significant measures were taken.

Major Parties Involved

Blue Shield International (BSI)

The Blue Shield International (BSI) is an international organization that aims to protect monuments, museums, archives, and libraries during armed conflicts and natural disasters. It has a mission to safeguard cultural property and ensure its preservation for future generations. The organization focuses on risk assessment and mitigation, emergency planning, documentation, and coordination with military and humanitarians to minimize the impact of disasters on cultural heritage. It also supports recovery and reconstruction efforts to restore damaged or destroyed historic monuments.

United Nations Education, Scientific and Cultural Organization (UNESCO)

UNESCO protects and preserves cultural heritage, promoting cultural diversity, and allowing for the representation of cultural expression. It designates and safeguards World Heritage Sites. It aims to promote the diverse cultural practices and supports the preservation of heritage. UNESCO seeks to foster international cooperation, promote mutual understanding and dialogue among nations, and contribute to the building of peaceful and sustainable societies.

World Monuments Fund (WMF)

The WMF is a nonprofit organization dedicated to the preservation and protection of cultural heritage sites around the world. With the mission to safeguard architectural and cultural treasures that are at risk of deterioration, destruction, or neglect. The World Monuments Fund focuses artistic, historic, and cultural value that these sites hold. It undertakes conservation projects, partnering with local communities, governments, and organizations to ensure the long-term protection and sustainable management of the sites. Focusing on capacity building, restoration and safeguarding.

International Council on Monuments and Sites (ICOMOS)

ICOMOS is a non profit organization which provides expert advice, guidance, and technical assistance on the conservation and management of cultural heritage sites. It develops guidelines, charters, and recommendations for best practices in heritage conservation and documentation. The organization conducts evaluations and monitoring of cultural heritage sites to identify their condition

and potential threats. This information helps inform decision-making processes and conservation strategies.

Timeline of Key Events

Date	Description of event
November 16, 1945,	United Nations Education, Scientific and Cultural Organization (UNESCO). As mentioned in the key parties section, the creation of this organization was a huge step for sustaining our world as we know it today, filled with culture, history, and new developments. This is particularly important when considering the way our world is altered after the loss of a monument.
1954	The Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict was adopted. This was a focused outline for the action to be taken to preserve and protect monuments. This also stressed their importance and allowed many parties to give them thought.
October 31, 1964	The Venice Charter, also known as the International Charter for the Conservation and Restoration of Monuments and Sites established. Additional and thorough measures to ensure the preservation of cultural heritage.
1965	The World Monuments Fund (WMF) was founded. A resource dedicated to the restoration and conservation of monuments. A safety net.
August 21, 1965	International Council on Monuments and Sites (ICOMOS) was founded. Allowed for efficient prioritizing and yielding of resources and external aid.
1996	The Blue Shield International (BSI) was founded. An NGO that focused also on the destruction caused by natural disasters, can allocate help to struggling countries.
March 18, 2015	The Sendai Framework for Disaster Risk Reduction. Allowed for the development of measures and capacity building that was effective and cost-efficient to include countries that would not otherwise be able to take care of these devastations.
April 2015	Gorkha Earthquake devastated UNESCO world heritage sites.

UN involvement, Relevant Resolutions, Treaties and Events

- World Heritage Review, 1996 (UNESCO(05)/W675)
- Resolution 2347 (2017) / adopted by the Security Council at its 7907th meeting, 24 March 2017 (S/RES/2347)

Possible Solutions

CyArk 3D Preservation

Digital models of historic monuments have been used to keep a version of them alive in the event of a man-made or natural disaster. 3D modeling allows for the inclusion of intricate details which can be extremely useful for education and research purposes as well as to pass on the significance and beauty of these monuments to future generations who might not otherwise get to experience them. This solution is extremely useful, especially in cases where a historic monument would require extreme investments and efforts to restore or protect, also considering our growing industrialization of the planet, allowing for the natural destruction of outdated buildings may allow us to be better equipped for our ever-changing world, while still preserving the beauty and heritage of these monuments. CyArk is a non-profit organization that does just this, working on virtual tours and models of heritage sites, and collaborating with local partners to whom the monuments may hold significance. Modeling these sites digitally also provides a protected archive of how a site should look, which can be extremely useful for restoration projects. This solution also allows monuments to be more accessible to people around the world, meaning more people are able to understand and recognize the history attached to them.

Bilateral Aid

Bilateral aid is the provision of resources from the government of one country to another. This is often in monetary terms for humanitarian reasons, but can also come in other forms including restoration, support, and resources. Bilateral aid might come into effect after a country has suffered a natural disaster. This solution could be extremely relevant and appropriate for countries that have similar political or religious views or are allies. Countries may recognize the significance of an artifact or monument and may be willing and able to contribute to the restoration and rebuilding of that said monument. This would be extremely beneficial and potentially significantly improve the safety of a country as well as its relationship with other nations, as they will be aided in meeting international standards should help be provided by experts in addition to financial assistance. By pooling resources and expertise, nations can work together to safeguard and revitalize important elements of global heritage. In addition to financial aid, countries may also offer technical support and expertise in areas such as architectural conservation, archaeology, or digital preservation. Bilateral agreements are very effective as they directly facilitate action to be taken after or before disaster strikes.

Renovations and restorations

Regular condition and risk assessments are crucial to foreseeing damage that may be done to a historical monument in the event of a disaster, both man-made and natural. This can significantly improve preparedness for disaster and ensure that historical structures are appropriately updated to withstand extreme weather and the current climate of a country. That being said, the actual restoration and renovation of historical monuments is an extremely delicate and tedious process that can strengthen its ability to transcend generations and remain present with us throughout the years, along with its heritage and symbolism. Renovations may be carried out to innovate the infrastructure and update buildings to combat their weakening caused by decay, erosion, and rotting. These renovations may be conducted by local committees or national and international organizations and experts, though often a committee or council is introduced to monitor the well-being of a structure and advise on when to take action to ensure damage is minimized. This solution also acts in accordance with sustainable development, as buildings will become more resilient and less costly for a community if they are stronger, and properly renovated. The historical integrity of the building must not be compromised, as aesthetic, materials and symbolism must be preserved and considered.

Capacity building

Capacity building refers to the process of developing the knowledge, skills, resources, and capabilities of communities and organizations to inform the preservation and protection of historical monuments. It focuses on enhancing their ability to effectively manage and maintain cultural heritage sites. This encapsulates the understanding that professionals have about the importance of cultural heritage so that they can effectively restore buildings while respecting their meanings. This could include the tightening of relationships between these expert organizations and communities to whom the structures might hold significance. Capacity building improves trust between locals and organizations so that they can be assured of the safety of their monuments and historical heritage. To improve the understanding of these experts, educational courses and workshops may be implemented, this is so that the restorations can be approached with the utmost nuance, respect, and understanding, in order to have the most complete and effective outcome. This way the effects of disasters can be mitigated, while no integrity is lost.

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