



**TECHNICAL NOTES**

# **Disaster Risk Management in the CURE Framework**





## Disaster Risk Management in the CURE Framework

*Technical Note*

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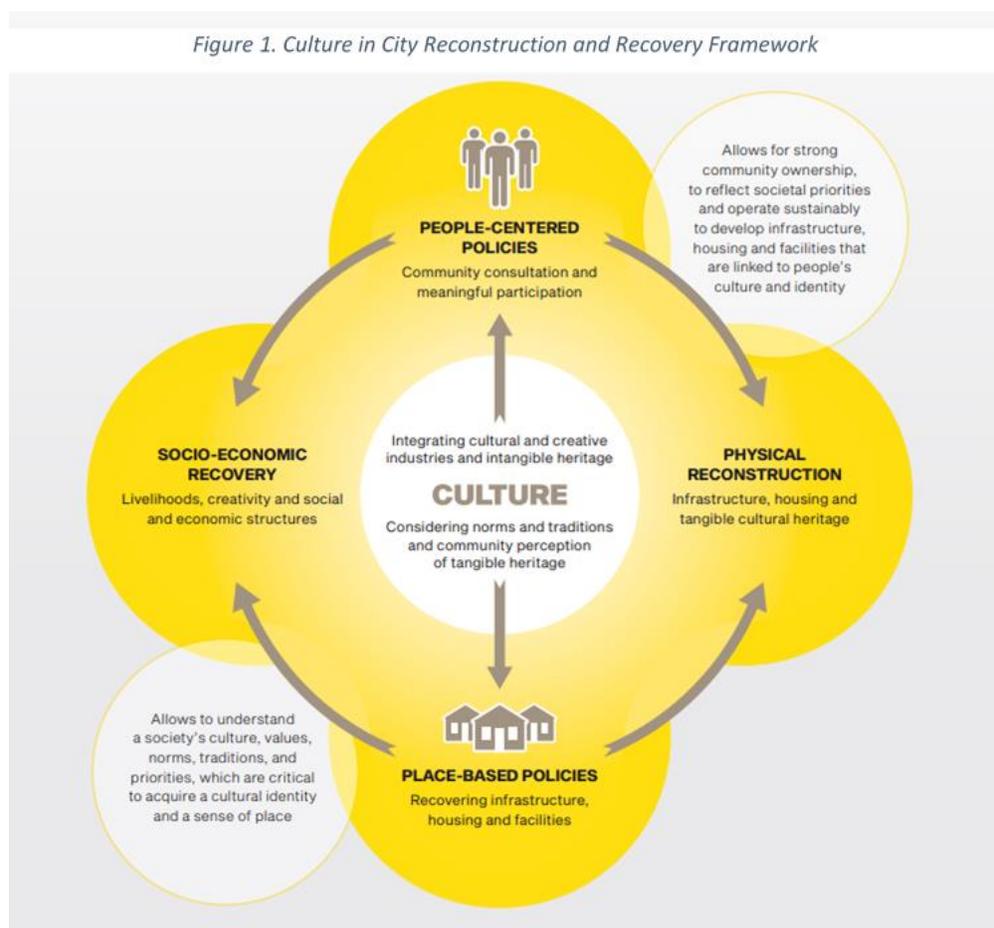
## INTRODUCTION

### Background: The CURE Framework

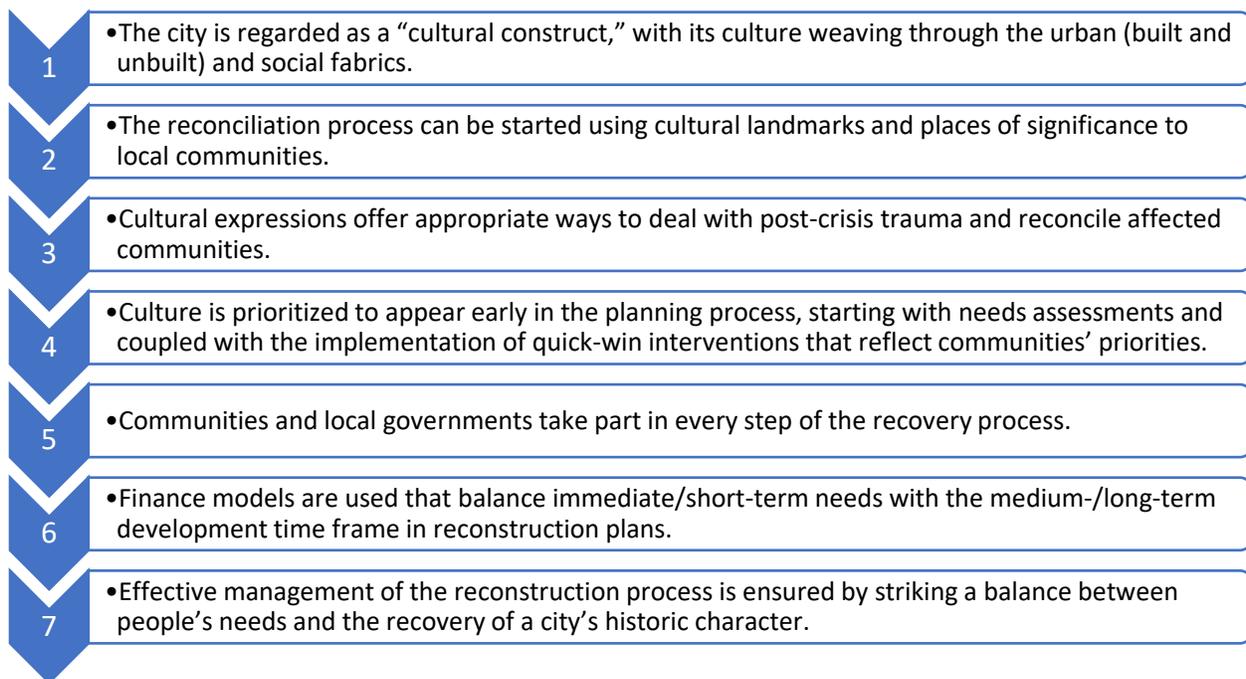
In 2018, the World Bank and the United Nations Educational, Scientific and Cultural Organization (UNESCO) jointly issued a position paper on Culture in City Reconstruction and Recovery (CURE), reflecting the shared commitment of these two organizations to place culture at the forefront of the reconstruction and recovery of cities in post-conflict, post-disaster, and urban distress situations. The paper presented a new approach, the CURE Framework, intended to help practitioners integrate culture and cultural heritage into post-crisis recovery processes. The CURE Framework draws from existing frameworks and tools for reconstruction and recovery in urban settings. It seeks to knit together people-centered and place-based approaches to produce integrated policies that share a common cultural thread (see figure 1). By integrating culture into sustainable urban development policies that address the impact of crises

on urban communities, the CURE Framework will help make cities more inclusive, safe, resilient, and sustainable.

To complement the previous work, three technical notes were developed to provide additional guidance on the nexus of culture, peacebuilding, and disaster risk management. The *Technical Note on Overall Operational Guidance* provides further



elaboration on the guidance and tools introduced in chapter 3 of the CURE position paper, “Implementing the CURE Framework.” The *Technical Note on Peacebuilding and Recovery* adapts the CURE Framework for implementation in fragile and conflict areas, and the *Technical Note on Disaster Risk Management* reviews the role of culture, cultural heritage, and the CURE principles in the context of the disaster risk management (DRM) discipline. The technical notes are meant to be used concomitantly by practitioners working in post-crisis settings. They provide background information, checklists, and entry points based on the relevant CURE guiding principles, of which the framework provides seven:



These principles are applied through the implementation of four phases:

1. **Damage and Needs Assessment and Scoping.** The first phase includes assessment of damage and impacts to tangible and intangible cultural heritage, cultural and creative industries, housing stock and land resources, services and infrastructure, and the tourism sector, as well as the economic losses to the affected population resulting from the interruption of services and use of assets. Building on these damage and needs assessments, the scoping process includes data collection, asset mapping, stakeholder mapping, and the development of a vision for city reconstruction and recovery.
2. **Policy and Strategy.** The second phase covers the design of policies, strategies, and planning processes that translate the damage and needs assessments and the vision into plans and planning regulations, through participatory approaches in which stakeholders and communities are fully engaged.
3. **Financing.** Modalities to finance the reconstruction and recovery process are identified that combine public and private financing, as well as other funding sources, the management of land resources, and the development of financing tools and incentives. Identifying specific sources of funding for cultural heritage aspects of DRM is usually very challenging, and establishing the necessary financing measures to develop and maintain the DRM plans for cultural heritage, including budgeting for emergency situations, is fundamental to this process. Investment in the protection and promotion of cultural heritage has proved profitable. The regeneration of historic centers and cities, including measures to increase resilience, significantly improves living conditions for both inhabitants and visitors. At the same time, it makes cities more appealing and competitive, which enhances prospects for attracting private investments and fostering job creation.

4. **Implementation.** Essential to implementation are setting up effective institutional and governance structures, a risk management strategy, and a communication and engagement strategy.

### Why Culture Matters in the Context of DRM

More than 200 million people are affected by natural hazards each year, a number that is increasing considerably as a result of climate change. By 2030, disasters will cost cities around the world an estimated US\$314 billion in annual damage and losses.<sup>1</sup> An important part of those losses will come from the cultural sector. Damage to heritage buildings from the magnitude 7.1 earthquake in Mexico in 2017, for instance, represented 20 percent of the overall economic losses.<sup>2</sup> In Bhutan, the 2009 and 2011 earthquakes caused physical losses, mainly in *lhakhangs* (temples) and *dzongs* (fortresses), estimated at US\$13.5 million and nearly US\$7 million, respectively.<sup>3</sup> After the devastating 2015 earthquake in Nepal, the total economic damage to tangible heritage was an estimated US\$169 million.<sup>4</sup>

While hazards are natural, however, disasters are not. Prevention, mitigation, and preparedness to respond effectively during an emergency are vital to avoid or reduce irreplaceable losses. Although the CURE Framework focuses on the recovery phase, a DRM approach applied to cultural contexts can also provide tools and methodologies to improve heritage protection and conservation while managing the causes of current and the drivers of future risk. Integration of tangible and intangible cultural assets through all the DRM phases helps strengthen city resilience and prepare the base for the recovery strategies, keeping culture at the core of the process.

Cultural heritage is a source of knowledge and identity for local communities, and intangible culture and traditional practices have proved very useful in helping to increase resilience—examples include the *smong* song,<sup>5</sup> used to communicate tsunami risk in Indonesia, and the knowledge of craftsmen, important to protecting buildings from erosion in Timbuktu<sup>6</sup>—in addition to the key role culture plays in post-disaster situations in aiding social recovery and restoring dignity and identity.

Disasters and conflicts put additional pressure on cities already struggling with rapid and uncontrolled urbanization, and those challenged by fragility or violence must often tend to priorities other than appropriate policies and governance. The CURE Framework shows the value of putting people and their

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<sup>1</sup> “Extreme weather is responsible for annual consumption losses of \$520 billion and [for] pushing 26 million people into poverty every year.” S. Hallegatte, A. Vogt-Schilb, M. Bangalore, and J. Rozenberg, *Unbreakable: Building the Resilience of the Poor in the Face of Natural Disasters* (Washington, DC: World Bank, 2017), <https://openknowledge.worldbank.org/handle/10986/25335>.

<sup>2</sup> According to the National Institute of Anthropology and History (NIAH) and UNESCO, Mexico City. 1,847 heritage building were damaged, including 351 historic monuments, 14 museums, and 8 archaeological areas.

<sup>3</sup> World Bank, “From Japan to Bhutan: Improving the Resilience of Cultural Heritage Sites,” World Bank Blogs, June 19, 2018, <https://blogs.worldbank.org/endpovertyinsouthasia/japan-bhutan-improving-resilience-cultural-heritage-sites>.

<sup>4</sup> Government of Nepal, National Planning Commission, *Nepal Earthquake 2015: Post Disaster Needs Assessment*, Vol. B: Sector Reports, [https://reliefweb.int/sites/reliefweb.int/files/resources/PDNA-volume-B\\_0.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/PDNA-volume-B_0.pdf).

<sup>5</sup> See Alfi Rahman and Stephen A Sutton, “Why, 14 Years after the Aceh Tsunami, ‘Smong’ Should Be Part of the Indonesian Vocabulary,” *The Conversation*, December 20, 2018, <http://theconversation.com/why-14-years-after-the-aceh-tsunami-smong-should-be-part-of-the-indonesian-vocabulary-105809>.

<sup>6</sup> A. Colette, *Case Studies on Climate Change and World Heritage* (Paris: UNESCO World Heritage Centre, 2007).

cultures at the center of the recovery process, connecting them with the places that strengthen their identities, and facilitating policies to implement resilient recovery measures that use culture as a tool for social recovery.

As a framework that re-centers culture as an essential building block for recovery and peace, CURE has key linkages—including important ones in the context of DRM—to previous frameworks for post-crisis recovery:

- **The Sendai Framework.** With its explicit acknowledgment that inequality and poverty are direct drivers of vulnerability, the Sendai Framework establishes the role of culture as a component of DRM. This represents an unprecedented step in the recognition of culture as a key dimension of disaster risk reduction and of the need to protect and draw on tangible and intangible heritage as an asset for resilience. In particular, the framework calls for (1) the integration of a cultural perspective in policies and practices; (2) an understanding of the impacts on cultural heritage when specific hazard events occur, as well as better identification of risks to cultural heritage before disasters occur; (3) the protection of cultural institutions and other sites of historical, cultural heritage, and religious interest; and (4) the complementing of scientific knowledge with traditional, indigenous, and local knowledge and practices in disaster risk assessment.
- **The Joint Declaration on Post-Crisis Assessments and Recovery Planning.** Signed in 2008 by the European Commission, the UN, and the World Bank to foster more collaboration, provide more coordinated support to national counterparts, and develop a common approach for post-crisis assessments and recovery planning, this Joint Declaration built upon previous global experience with two main instruments:
  - The development and use of post-disaster needs assessments (PDNAs) and recovery frameworks that grew out of the damage and loss assessment (DaLA) methodology used in post-disaster settings (see below)
  - Recovery and Peacebuilding Assessment (RPBA) for conflict situations (see the *Technical Note on Peacebuilding, Recovery, and Prevention in the CURE Framework*)<sup>7</sup>
- **DaLA and PDNAs methodologies.** Damage and loss assessments and post-disaster needs assessments were developed to consolidate information in a range of vital areas: the physical impacts of a disaster, the economic value of the damage and losses, the poverty and vulnerability impacts experienced by affected populations, the high-priority needs for reconstruction after a disaster or peacebuilding after a conflict, and related recovery needs and priorities.<sup>8</sup>

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<sup>7</sup> Bailey, L. and Wrobel, R. forthcoming. Peacebuilding and Recovery in the CURE Framework. World Bank, Washington, DC. © World Bank.

<sup>8</sup> In 2015, building on the PDNAs and the growing demand for a resilient disaster recovery framework, the three institutions published a *Guide to Developing Disaster Recovery Frameworks* (<https://www.gfdrr.org/en/publication/guide-developing-disaster-recovery-frameworks>) to help policymakers and other stakeholders formulate medium- to long-term post-disaster recovery frameworks. This methodology was applied to cultural heritage as part of the Government of Nepal's report, *Nepal Earthquake 2015: Post Disaster Recovery Framework—2016–2020* (<https://reliefweb.int/report/nepal/nepal-earthquake-2015-post-disaster-recovery-framework-2016-2020>), in which the restoration and retrofitting of historical buildings and structures were prioritized.

- PDNA Guidelines for the Culture Sector.** The *PDNA Guidelines: Volume B* includes sector-focused guidance developed in 2013, specifically designed for assessments of the culture sector in the reconstruction and recovery processes following disasters.<sup>9</sup> A holistic understanding of the cultural context contributes to the effectiveness and sustainability of recovery programs, as experience has shown the resilience of social systems to crisis is profoundly influenced by cultural factors. The document details implementation procedures that involve women and men of all ages and social groups in decision making, while promoting human rights–based practices and increased social equity. PDNAs for the culture sector lay the basis for restoration of the pre-disaster condition, consolidation of the culture sector, and sustainable reconstruction by addressing the weaknesses or gaps in the sector identified during the assessment.
- Disaster Recovery Framework.** The Global Facility for Disaster Reduction and Recovery (GFDRR), in partnership with the European Union (EU), the United Nations Development Programme (UNDP), and the World Bank, launched the *Guide to Developing Disaster Recovery Frameworks (DRF)* in 2014.<sup>10</sup> DRF offers a flexible methodology adaptable to countries’ own contexts for developing national frameworks to rebuild and recover after disasters. In the case of Nepal, restoring and improving resilient cultural heritage was among the strategic objectives for the reconstruction program.<sup>11</sup>
- The Strategy for the Reinforcement of UNESCO’s Action for the Protection of Culture and the Promotion of Cultural Pluralism in the Event of Armed Conflict and related Addendum concerning emergencies associated with disasters caused by natural and human-induced hazards.** Adopted by UNESCO’s General Conference in 2015 and 2017 respectively, these policy documents stress the need to closely work with humanitarian, security and peace-building actors in order to effectively support the preservation and promotion of culture in emergencies, and in turn foster community-based recovery and reconstruction processes.

In addition to these post-disaster frameworks, the international community has been raising awareness of the impacts of climate change–related events on cultural heritage sites.<sup>12</sup> Key documents and frameworks include the UNESCO *Policy Document on the Impacts of Climate Change on World Heritage Properties* (2007) and the International Council on Monuments and Sites (ICOMOS) *Working Group and Resolution on Climate Change and Heritage* (2017).

As mentioned, the CURE Framework focuses on the post-disaster phase, and it follows the principle of “build back better.”<sup>13</sup> The whole reconstruction and recovery process aims to improve resilience by strengthening proactive DRM before the next hazard event takes place. This includes bolstering pre-disaster DRM phases by learning from the previous experience and gathering data about hazards,

<sup>9</sup> World Bank, UN, and EU, *PDNA Guidelines: Volume B*, [https://gfdrr.org/sites/gfdrr/files/WB\\_UNDP\\_PDNA\\_Culture\\_FINAL.pdf](https://gfdrr.org/sites/gfdrr/files/WB_UNDP_PDNA_Culture_FINAL.pdf).

<sup>10</sup> GFDRR, World Bank, EU, and UNDP, *Guide to Developing Disaster Recovery Frameworks*, <https://www.gfdrr.org/sites/gfdrr/files/publication/DRF-Guide.pdf>.

<sup>11</sup> Government of Nepal, *Post Disaster Recovery Framework, 2016–2020*, <https://gfdrr.org/sites/default/files/publication/Nepal%20PDRF%20Report%20%289%29%20Final%202016.pdf>.

<sup>12</sup> UNESCO, “Climate Change: Climate Change and World Heritage,” <https://whc.unesco.org/en/climatechange/>.

<sup>13</sup> See this developed in S. Hallegatte, J. Rentschler, and B. Walsh, *Building Back Better: Achieving Resilience through Stronger, Faster, and More Inclusive Post-Disaster Reconstruction* (Washington, DC: World Bank, 2018).

exposure, and vulnerability to gain a better understanding of disaster risk; analyzing exposure and vulnerability during damage assessments; and using the recovery strategy to set measures that will reduce risk and improve preparedness and emergency response. This is why this technical note includes references to both ex ante and ex post DRM phases.

## GUIDELINES

This technical note connects experiences from the DRM field and the operational elements that emerge from them with the key principles of the CURE framework. By reviewing the role of culture, cultural heritage, and the CURE principles in the context of the DRM discipline, it will help teams integrate culture into DRM projects and operations.

### Integrating the CURE Framework into DRM

The aim of this technical note is to propose an approach to applying the CURE Framework to DRM operations, offering specific suggestions for the post-disaster resilient recovery of cultural heritage. The note adapts and applies the principles developed in the CURE position paper to provide guidelines to World Bank staff and other practitioners working on recovery and overall DRM operations for integrating culture and CURE Framework principles into the strategies they create with national stakeholders.

While this note focuses on disaster situations and the DRM process, it emphasizes the particularly complex circumstances of areas suffering from fragility, conflict, and violence (FCV), where intersecting and overlapping risks present even more dramatic challenges. Teams must be aware not only of the approach and options explained in this note, but also the specific concerns arising in FCV situations. Familiarity with the companion *Technical Note on Peacebuilding, Recovery, and Prevention in the CURE Framework* is important to helping teams understand how both disasters and conflicts put additional pressure on cultural heritage and assets and how these intersectional risks and impacts in recovery processes can best be addressed.

The CURE Framework points out the increased pressure disaster events exert on cities already confronted by rapid or poorly managed urbanization. This highlights the need to integrate culture and urbanization in DRM phases by recognizing potential entry points for gaining a better understanding of risk drivers in risk identification, better integrating risk reduction measures in the urban environment, and ensuring that emergency preparedness and response include provisions for urban

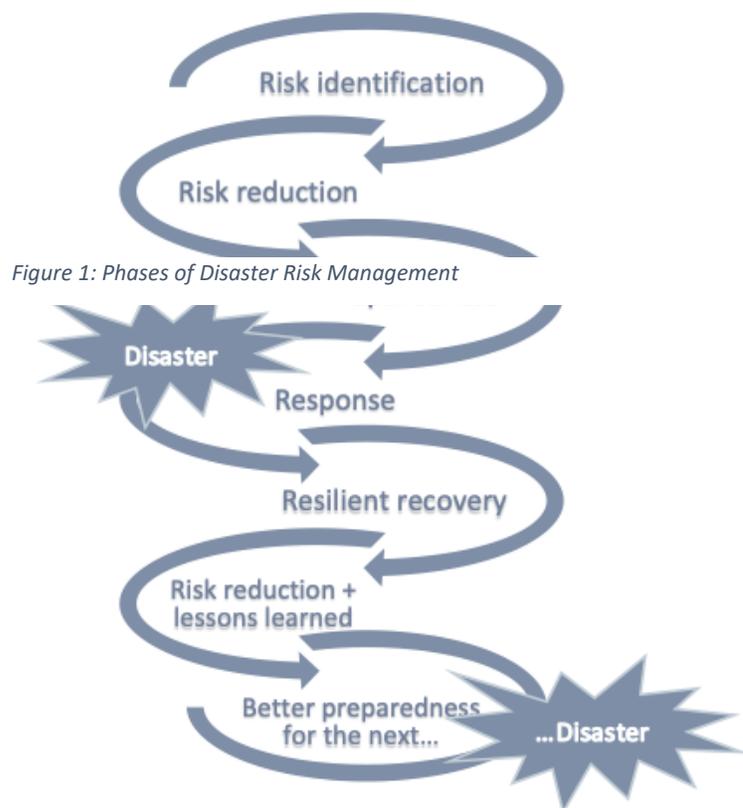


Figure 1: Phases of Disaster Risk Management

environments and, for example, cultural properties (see figure 2). However, it should be noted that time constraints are greater during ex post phases, and risk identification and reduction are incorporated through the “build back better”<sup>14</sup> approach.

Post-disaster reconstruction and recovery should improve on the previous status or situation by integrating a resilient recovery approach, which calls for taking measures to strengthen the pre-disaster phases. These may include gaining a better understanding of the exposure and vulnerability situation—taking into account potential secondary hazards—for a more accurate risk assessment; reducing or mitigating the risk; and improving emergency preparedness and response actions. The intrinsic characteristics of cultural heritage, however, pose particular challenges to the application of the “build back better” principle. In addition to strengthening their structural resilience per se, the process of post-disaster reconstruction of historic structures needs to protect their cultural value (historic, artistic, religious, and so on) and respect integrity and authenticity factors. Demolition for security reasons, for example, is common in post-earthquake scenarios where buildings are at risk of collapsing. In the case of heritage structures, however, demolition should be avoided as much as possible to maintain the integrity, authenticity, and, eventually, the value of the heritage asset.

### *DRM of Cultural Heritage*

DRM practitioners face common challenges when integrating cultural heritage into DRM plans and strategies. Rarely do DRM teams include technical expertise related to historic structures and heritage restoration, nor are regulatory frameworks typically in place to direct interventions on heritage. Often, since culture is not prioritized by central governments, it is much more difficult to secure the necessary resources to conduct assessments and develop DRM plans. Likewise, cultural heritage practitioners usually lack technical expertise related to DRM and “build back better” principles. Efforts are needed on both sides to include these types of expertise on teams to foster interdisciplinary collaboration and capacity building and to ensure cultural heritage recovery strategies strengthen resilience.

The integration of culture and DRM should apply not only to post-disaster situations, but to all the DRM phases—in other words, to ex ante and ex post phases—since the whole process is connected. Among the considerations to guide the development of DRM for cultural heritage are the following:

#### *Overall*

- Establishing multidisciplinary, multi-institutional teams, including DRM and cultural heritage specialists to foster collaboration and institutional capacity building
- Considering all kinds of heritage, including tangible (movable and immovable) and intangible, and their relevance or importance for different stakeholders at the local, national, and international levels

#### *Risk identification*

- Setting a multi-hazard approach, including main and secondary hazards (for example, fires or landslides that may follow an earthquake, or floods following hurricanes)

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<sup>14</sup> “Build back better” is defined in the CURE Framework as “the use of the recovery, rehabilitation, and reconstruction phases after a disaster to increase the resilience of nations and communities through integrating disaster risk reduction measures into the restoration of physical infrastructure and societal systems, and into the revitalization of livelihoods, economies, and the environment.”

- Developing specific vulnerability assessments for heritage assets, considering associated values (such as religious places in use for worship) and including evaluation of previous restoration work that might cause additional vulnerabilities
- Identifying social groups within the area, including inhabitants, visitors or tourists, and business owners related to the site

#### *Risk reduction*

- Ensuring risk reduction and mitigation measures don't adversely affect cultural values, including the integrity and authenticity of the heritage assets and the appearance of sites and cultural landscapes—for example, avoiding creating a negative visual impact in a cultural heritage area by hiding or designing measures according to the area, such as slope stabilization with vegetation instead of concrete<sup>15</sup>

#### *Preparedness and response*

- Making security information, rules, and recommendations clear and available in different languages and using graphic representations to facilitate risk communication and safety
- Preparing evacuation routes and protocols for both movable cultural heritage and people, including local community members and visitors
- Ensuring the site is accessible to emergency rescue teams without affecting heritage assets
- Including cultural heritage experts on first response teams for rapid assessments of and “first aid” to cultural heritage
- Involving the local community within the heritage area and preparing community members through trainings and drills to help protect heritage and assist visitors during emergencies

#### *Recovery*

- Applying the CURE principles to the whole urban area, not only the historic locations, to enhance social cohesion
- Ensuring the recovery process improves resilience without affecting cultural values; as previously mentioned, to “build back better” in cultural areas implies considering such aspects as avoiding negative visual impact, keeping the integrity and authenticity of the structures, and respecting local practices and traditions during the reconstruction process.
- Placing people at the center of the recovery strategy by involving the local community and prioritizing their own needs to protect their cultural identity; this includes identifying cultural landmarks and key community priorities and fostering cultural expressions.
- Linking built structures and open spaces to the social fabric, ensuring a balance between people's needs and the recovery of their city's historic character
- Prioritizing culture early in the planning process, starting with needs assessments and the implementation of emergency interventions that reflect community priorities
- Establishing a financial strategy for recovery, including and balancing immediate and short-term needs with the medium- and long-term development reconstruction plan

Investment in the protection and promotion of cultural heritage has, however, proved profitable. In Byblos, Lebanon, for instance, for each dollar invested through the Cultural Heritage and Urban Development (CHUD) project, seven dollars of private investment were secured, all in locally owned small

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<sup>15</sup> Characteristics embodied by the term “cultural value” reflect aesthetic, spiritual, social, historical, and symbolic values.

and medium enterprises.<sup>16</sup> In the United States, economic studies on investments in heritage conservation have consistently demonstrated positive economic impacts that increase earnings and create more wealth and more jobs than equal investments in sectors such as new construction or highways.<sup>17</sup> The regeneration of historic centers and cities, including measures to increase resilience, significantly improves living conditions for both inhabitants and visitors. At the same time, it makes cities more attractive and competitive, enhancing the prospects for attracting private investments and fostering job creation. Ultimately, cultural heritage is the reflection of the people who identify with that culture. To protect it against disasters is to protect the community and preserve its legacy for future generations.

#### *Finding Entry Points for CURE in DRM*

The inclusion of culture in the different phases of the DRM process, in both pre- and post-disaster scenarios, is central to opening entry points for integrating CURE into DRM. The flexible, iterative process of the CURE Framework shows the value of

- detailed knowledge of the intervention context, which a risk identification approach can facilitate;
- project scope that encompasses the entire city and not just historic areas, as risk drivers and connections will not be located solely in historic areas; and
- responding rapidly to emergency situations, while allowing time for the consultative processes necessary to ensure people’s priorities are identified and respected.

DRM planning for areas with significant cultural value can integrate relevant sectors for the site, such as tourism, transport, communication, energy, and water and sanitation, and should consider how the interruption of services by a disaster might affect the heritage site, local community, and visitors.

DRM programs for cultural heritage at the national level should include an evaluation of the different heritage assets and their value for both the country and their local communities. Their potential international value should also be assessed, as in the case of World Heritage Sites; locally, a crucial factor is community engagement and involvement during the different phases.

To operationalize the CURE Framework in post-disaster situations, practitioners should collect information about the previous physical status of the cultural properties affected by the disaster, previous restoration work, intangible practices and traditions associated with those assets, and the relationship of the assets to the local community in terms of social values and economic activities related to the site.

Table 1 provides an overview of the primary operational rationale and these entry points, as aligned with the seven CURE principles and the DRM phases. The DRM phases are broadly divided into (1) risk identification; (2) disaster risk reduction; (3) emergency preparedness and response; and (4) recovery.

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<sup>16</sup> <https://www.worldbank.org/en/news/feature/2016/08/08/supporting-lebanons-cultural-heritage-as-a-driver-of-job-creation-and-local-economic-development>.

<sup>17</sup> Randall Mason, “Economic and Historic Preservation: A Guide and Review of the Literature,” discussion paper prepared for the Brookings Institution Metropolitan Policy Program, September 2005, <https://citeseerx.ist.psu.edu/viewdoc/download;jsessionid=104EAA94A49E3F121D9642596082AEE8?doi=10.1.1.506.784&rep=rep1&type=pdf>.

**Table 1:** Matrix of Entry Points for CURE in DRM

<b>CURE principles</b>	<b>DRM phases</b>	<b>DRM role and actions</b>	<b>CURE support and contributions</b>
1. Acknowledging the city as a “cultural construct,” where built structures and open spaces are closely linked to the social fabric	1. Risk identification 4. Recovery	- Identification of natural hazards and vulnerabilities of cultural heritage assets and local communities - Risk communication for local community members/visitors	- Improvement of risk assessment process by demonstrating inherent and other value of tangible and intangible cultural heritage assets
2. Starting the reconciliation process with the (re)construction of cultural landmarks and places of significance to local communities	1. Risk identification 4. Recovery	- Risk assessment of both tangible and intangible culture of local community - Resilient recovery strategies focusing on cultural and social needs	- Strengthening of linkages between local communities with shared culture, helping to understand the risk to their cultural values
3. Fostering cultural expressions to offer appropriate ways to deal with post-crisis trauma and reconcile affected communities	3. Emergency preparedness and response 4. Recovery	- Establishment of emergency response measures according to local culture - Resilient recovery strategies focusing on cultural and social needs	- Identification of the key communities’ cultural expressions to inform resilient recovery and risk preparedness and response strategies
4. Prioritizing culture early in the planning process, starting with needs assessments and the implementation of emergency interventions that reflect community priorities	2. Disaster risk reduction 4. Recovery	- Identification, design, and development of measures to reduce or mitigate risk to cultural heritage assets, tangible and intangible, strengthening community preparedness	- Cultural and social assessments of local communities to identify and highlight the key cultural heritage assets to be prioritized in the disaster risk reduction strategies and actions/measures
5. Engaging communities and local governments in every step of the recovery process	2. Disaster risk reduction 3. Emergency preparedness and response 4. Recovery	- Community engagement and involvement during all the DRM phases	- Identification of key local cultural assets or expressions to facilitate the engagement with the community
6. Using finance models that balance immediate/short-term needs with the medium-/long-term development time frame of reconstruction plans	3. Emergency preparedness and response 4. Recovery	- Establishment of financing systems for emergency response, earlier recovery, and long-term resilient recovery, including cultural heritage assets	- Improvement of financing strategies for recovery by identifying key priorities for the community and facilitating engagement through its cultural assets
7. Ensuring effective management of the reconstruction process by striking a	4. Recovery	- Resilient recovery plans and strategies, including social and cultural components	- Establishment of the connection among people, places, and policies to strengthen the recovery



balance between people’s needs and the recovery of a city’s historic character

strategy and process, highlighting the cultural character of the site and its community

## Checklist for Operational Teams

To support teams (1) incorporating culture in pre-disaster contexts to reduce disaster risk or (2) formulating a post-disaster reconstruction and recovery investment program that includes cultural elements, the following checklist can serve as a guide.

1. Identify the DRM-related agencies and key actors responsible for the cultural sites or assets, as well as local sources of cultural expertise and historical information about tangible and intangible heritage, to integrate
  - a. a multidisciplinary working group to develop and review initiatives for DRM for cultural heritage; and
  - b. a sounding board for project design teams and leaders of community consultations.
2. Establish a roster of international experts that can be activated, if needed, to support and complement the local expertise.
3. Gather key information about cultural assets and practices and their environments, including
  - a. confirming whether an inventory of the heritage sites or assets of the country (tangible and intangible) may exist, providing details about their associated values and, if possible, classified according to previously established categories;
  - b. determining if hazard information exists, including maps (for example, seismic macro-zonation maps; flood hazard layer maps), which, following verification by relevant experts, can be compared to heritage inventory maps, as available;
  - c. identifying exposure and vulnerability information that can be used to gain an understanding at the physical site (for example, information on transport and infrastructure networks; structural studies of specific monuments/sites) and wider social exposure and vulnerabilities (national/regional poverty maps); and
  - d. in post-disaster situations, collecting damage assessments.
4. Set a roadmap with short-, medium-, and long-term priorities, which may include
  - a. identifying high-priority actions at the national level, based on the analysis of the current situation, to establish risk reduction strategies for cultural heritage;
  - b. developing necessary documents (for example, heritage risk assessments, preparedness guidelines, and high-priority actions in case of emergency) to contribute to the process of risk reduction, preparedness, and response;
  - c. establishing protocols for emergency response and resilient recovery at the national level (including the development of a recovery strategy);
  - d. analyzing specific cases to establish risk reduction measures at the site level and carrying out case studies to test the implementation of specific actions; and
  - e. establishing a timeline of actions and collecting lessons learned throughout the process, to be applied in successive phases.
5. Develop communication campaigns to help people understand risk and how to protect cultural heritage, targeting both the local community—to be engaged during the whole DRM process, particularly with preparedness and response actions—and visitors and tourists, who are usually more vulnerable because of their unfamiliarity with the area, hazards, and, sometimes, the language.

6. Develop templates for estimating the cost of different types of cultural interventions, with financing measures to develop and maintain the DRM plans for cultural heritage, particularly with regard to planning the budget for emergency situations.

**Table 2:** Examples of actors and actions to integrate culture and DRM in post-disaster situations

Who	What	Where	When	How
Central government/DRM and cultural institutions	<ul style="list-style-type: none"> <li>• Work groups</li> <li>• Databases</li> <li>• Research</li> <li>• Asset inventories</li> </ul>	<ul style="list-style-type: none"> <li>• National institutions/local branches</li> <li>• Research centers</li> <li>• Universities</li> </ul>	During crisis Early recovery phase	<ul style="list-style-type: none"> <li>• Interinstitutional workshops</li> <li>• Data compilations and desk reviews</li> <li>• Interviews of local stakeholders</li> </ul>
DRM authorities	<ul style="list-style-type: none"> <li>• Emergency response to cultural heritage</li> <li>• Recovery strategy</li> </ul>	<ul style="list-style-type: none"> <li>• Affected area</li> <li>• Historic urban centers</li> <li>• Identified heritage sites</li> </ul>	Early recovery phase	<ul style="list-style-type: none"> <li>• Damage assessments</li> <li>• Collaboration with cultural agencies</li> <li>• Integration of cultural landmarks</li> </ul>
Local specialists/communities	<ul style="list-style-type: none"> <li>• Know-how</li> <li>• Definition of cultural value</li> <li>• Intangible culture</li> </ul>	<ul style="list-style-type: none"> <li>• Historic urban centers</li> <li>• Areas surrounding important landmarks</li> </ul>	After first response phase Early recovery phase	<ul style="list-style-type: none"> <li>• On-site assessments</li> <li>• Surveys</li> <li>• Workshops and trainings</li> </ul>
DRM-Culture International institutions/experts	<ul style="list-style-type: none"> <li>• Specialists support</li> <li>• Capacity building</li> </ul>	<ul style="list-style-type: none"> <li>• International institutions</li> <li>• Deployment</li> </ul>	During crisis	<ul style="list-style-type: none"> <li>• Technical assistance</li> <li>• Support on response actions</li> </ul>

### Case Studies Connecting CURE with DRM

The integration of culture and cultural heritage into DRM post-disaster operations is being progressively developed in different contexts. The following illustrate two different DRM approaches that include a focus on cultural heritage.

#### *The Bagan Disaster Risk Management Plan (DRMP): Myanmar*

The cultural heritage site of Bagan, in Mandalay Region, covers an area of 18,146.83 ha, including the Bagan World Heritage Property of 5,005.49 ha.<sup>18</sup> On August 24, 2016, an earthquake of magnitude 6.8 struck the area, damaging more than 350 monuments. In 2017, Myanmar's Department of Archaeology and National Museum (DANM), under the Ministry of Religious Affairs and Culture, requested support from the World Bank and the Global Facility for Disaster Reduction and Recovery (GFDRR) to develop a disaster risk management action plan for Bagan.

<sup>18</sup> Inscribed in the World Heritage List in July 2019; see <https://whc.unesco.org/en/list/1588/>.

Development of the DRM Plan for Bagan integrated key efforts under the *Myanmar Action Plan on Disaster Risk Reduction (MAPDRR)*,<sup>19</sup> which set four pillars for action with specific targets and priority actions. Under pillar 4, the government of Myanmar recognizes the importance of cultural heritage and establishes priority action 9—Disaster and Climate Risk Management of Historical Monuments and Archaeological Heritage in Myanmar—led by the Ministry of Religious Affairs and Culture. Under MAPDRR target 3 to reduce direct economic loss from disasters to the gross domestic product (GDP) of Myanmar by 2030, the government aims to reduce damage to and destruction of cultural heritage.

Bagan was the capital of the largest Buddhist empire of the medieval world from the ninth to the thirteenth century CE. More than 3,595 tangible cultural assets from the empire have survived, including a palace and fortifications, stupas, temples, monasteries, and ordination halls, in addition to associated inscriptions, sculptures, murals and cloth paintings, archaeological deposits, and water management features. Most of the structures date from the peak of the empire from the eleventh to thirteenth centuries CE, known as the Bagan Period.

The DRM Plan for the heritage site of Bagan presents an integrated approach to managing risk in terms of (1) risk to physical monuments and the integrity of the site, (2) risk to the cultural and economic activity in and around the site, and (3) risk to the well-being of the local people and the communities in and around Bagan. It has four key objectives:

1. To understand the risks to the heritage site of Bagan, particularly in terms of the cultural heritage attributes, visitors, and residents
2. To clarify and consider the management frameworks relevant to the site
3. To document measures planned and being completed by Bagan’s stakeholders to manage and reduce risks
4. To set out an action plan to enhance disaster risk management in Bagan

The Bagan Disaster Risk Management Plan (DRMP)<sup>20</sup> was finalized in January 2018 and included in the government of Myanmar’s submission to the UNESCO World Heritage Committee. In July 2019, Bagan was inscribed in the UNESCO World Heritage List.

#### *Resilient Cultural Heritage in Antigua Guatemala: Guatemala*

The historic city of Antigua Guatemala has been on the UNESCO World Heritage List since 1979. During the eruption of Volcan de Fuego on June 3, 2018, the pyroclastic cloud reached Antigua, with ash falling over streets, squares, and buildings and affecting the city’s cultural heritage. In the following days, rain fell on the accumulation of ash on roofs, causing leaks and other problems that were especially serious in historic buildings. The cleaning process lasted approximately one month, with tons of volcanic material collected and removed at an estimated cost of US\$50,000, according to the damage and loss assessment (DaLA) conducted in July 2018. In addition to the deleterious effects on cultural heritage and daily life, the tourism sector in Antigua Guatemala suffered from the eruption during the first month, partly because

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<sup>19</sup> National Disaster Management Committee, Republic of the Union of Myanmar, *Myanmar Action Plan on Disaster Risk Reduction, 2017: Fostering Resilient Development through Integrated Action Plan*, October 2017, [https://www.mm.undp.org/content/myanmar/en/home/library/environment\\_energy/Myanmar\\_Action\\_Plan\\_DR\\_R\\_2017.html](https://www.mm.undp.org/content/myanmar/en/home/library/environment_energy/Myanmar_Action_Plan_DR_R_2017.html).

<sup>20</sup> World Bank, *Bagan Disaster Risk Management Plan (DRMP) (English)* (Washington, DC: World Bank Group, 2018), <http://documents.worldbank.org/curated/en/671391544633861934/Bagan-Disaster-Risk-Management-Plan-DRMP>.

international media exaggerated the extent and seriousness of the damage to the city. To clarify the situation and restore tourism to normal, the municipality and the Guatemalan Institute of Tourism (INGUAT) launched communication campaigns, at an estimated cost of over US\$150,000.

The disaster was a turning point for the authorities, who decided to make cultural heritage a cornerstone of their recovery strategy. A workshop held in Antigua Guatemala in March 2019 provided an opportunity for representatives of different entities and professionals from on fields to share their experiences and actively participate in the design of specific joint proposals to strengthen institutional cooperation to establish DRM for Guatemalan cultural heritage.

Guatemala has a very rich and varied cultural heritage, including around 2,200 archaeological sites dating from pre-Hispanic times (c. 2000 BCE to 1524 CE) and numerous monuments, buildings, and churches from the colonial era (1524–1821), the republican era (1821–98), and contemporary times (1898–1944). The country is also well known for its traditions and celebrations, such as Easter festivities, its artisans, and its creative industries. At the same time, Guatemala is among the countries most affected by climate events and geophysical hazards. Located on the Ring of Fire between the Atlantic and Pacific oceans, it is frequently affected by earthquakes, landslides, volcanic eruptions, and climate-related events, such as floods, hurricanes, and other extreme weather.

The integration of Guatemalan cultural heritage into its disaster recovery strategy and the collaboration of agencies and authorities from DRM and heritage fields to prioritize culture in the recovery process and protect and preserve it in the future has been a key innovation and a good practice to share. The effort began with the development of a roadmap with six areas of action:

1. **Collaboration among institutions.** DRM for cultural heritage is a multidisciplinary process that does not correspond with a single institution; rather, it must be developed through the collaboration and cooperation of different actors. A key action is to foster capacity building for both technical personnel and local communities to ensure they are aware of the risk to cultural heritage as well as committed to protecting and conserving it.
2. **Generation of information.** Workshop participants highlighted a lack of necessary information in some areas to carry out risk analysis for cultural heritage. Preparation is needed of (1) inventories of heritage assets and historical documentation, (2) studies of natural hazards and vulnerability, and (3) databases that combine both types of information, regularly updated.
3. **Risk communication for cultural heritage.** The establishment of clear communication channels is fundamental to sharing information related to heritage at risk, not only among practitioners but also with local populations. This may include covering risk and heritage issues in school programs, incorporating risk management measures in tourism plans, and conducting campaigns in local communities, among others.
4. **Pre-disaster technical actions.** Technical actions that can reduce risk to cultural assets in advance of disasters include implementing specific risk identification programs focused on cultural heritage, through the selection and prioritization of heritage sites or buildings to carry out preventive restorations, and the updating of emergency response plans, including advice from heritage experts.

5. **Post-disaster technical actions.** Actions that may be taken after disasters include the development of mechanisms to assess damage and losses to cultural heritage assets, such as standard forms for rapid evaluation to collect key data and information on movable and immovable heritage assets.
6. **Administration and logistics.** Measures can be supported to simplify and facilitate administrative processes, as well as communication among institutions—for instance, abbreviating the procedures for providing intervention permissions, ensuring they are endorsed by heritage conservation professionals, and establishing focal points in each institution.

## CONCLUSION

Culture is a source of identity, knowledge, and resilience. The consideration and integration of culture in its different forms—including tangible cultural heritage, intangible cultural practices, and traditional knowledge—can make a significant difference in post-crisis recovery and helps the whole DRM process contribute to strengthening the resilience of communities. Culture is about people, and the social recovery of local communities affected by crisis, caused either by conflict and violence or the impact of disasters caused by natural hazards and climate change, must be supported. An emphasis on culture can also help improve engagement with local communities and strengthen resilience overall through the different phases of the DRM practice.

The CURE Framework provides a useful conclusion:

From cultural heritage to cultural and creative industries, from sustainable tourism to cultural institutions, culture enables and drives the social, environmental, and economic dimensions of sustainable development. It is a crucial factor for social cohesion and poverty alleviation and supports transversal issues such as education, urban development, and gender equality to enable the full achievement of development outcomes. It has become clear that culture can no longer be a dividend of development, but is rather a prerequisite to its achievement.

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## RESOURCES

Culture in City Reconstruction and Recovery (CURE Framework):

<http://documents.worldbank.org/curated/en/708271541534427317/Culture-in-City-Reconstruction-and-Recovery>

PDNA GUIDELINES VOLUME B on Culture:

[https://gfdrr.org/sites/gfdrr/files/WB\\_UNDP\\_PDNA\\_Culture\\_FINAL.pdf](https://gfdrr.org/sites/gfdrr/files/WB_UNDP_PDNA_Culture_FINAL.pdf)

Technical Deep Dive on “Resilient Cultural Heritage and Tourism” Summary Report, DRM Hub, Tokyo (2018): <http://pubdocs.worldbank.org/en/785411525912147053/drmhubtokyo-ResilientCHT-Summary.pdf>

World Bank Disaster Risk Management Hub, Tokyo “Resilient Cultural Heritage and Tourism, Supporting Countries to Safeguard the Irreplaceable” Solutions Brief (May 2018):

<http://pubdocs.worldbank.org/en/291701525912090801/drmhubtokyo-ResilientCHT-Brief.pdf>

“Cultural Heritage Conservation” Chapter from Safer Homes, Stronger Communities: A Handbook for Reconstructing after Natural Disasters (World Bank, January 2010):

[https://www.gfdrr.org/sites/gfdrr.org/files/Chapter\\_11\\_Cultural\\_Heritage\\_Conservation.pdf](https://www.gfdrr.org/sites/gfdrr.org/files/Chapter_11_Cultural_Heritage_Conservation.pdf)

City Strength Resilience—Cultural Heritage Module:

<http://documents.worldbank.org/curated/en/531801525758790702/Cultural-heritage-optional-sectoral-module>

Heritage and Resilience: Issues and Opportunities for Reducing Disaster Risks. A publication of UNESCO, ICCROM, ICOMOS-ICORP, UNISDR, and Marsh International. Prepared for the Global Platform 2013:

<https://www.unisdr.org/we/inform/publications/33189>

Strategy for Reducing Risks from Disasters at World Heritage Properties. Strategy adopted by the World Heritage Committee at its 31st session (Christchurch, New Zealand) in 2007:

<http://whc.unesco.org/archive/2007/whc07-31com-72e.pdf>

Managing Disaster Risks for World Heritage. A resource manual produced by UNESCO, ICCROM, ICOMOS and IUCN: <http://whc.unesco.org/en/managing-disaster-risks/>

Integrating traditional knowledge systems & concern for cultural & natural heritage into risk management strategies: <http://whc.unesco.org/uploads/events/documents/event-538-1.pdf>

Reducing Disaster Risk at World Heritage Properties – UNESCO: <http://whc.unesco.org/en/disaster-risk-reduction>

Learning with Intangible Cultural Heritage for a Sustainable Future:

[http://www.unescobkk.org/fileadmin/user\\_upload/culture/ICH\\_ESD/Integration\\_of\\_ICH\\_UNEDOC.pdf](http://www.unescobkk.org/fileadmin/user_upload/culture/ICH_ESD/Integration_of_ICH_UNEDOC.pdf)

ICCROM Programme on Disaster and Risk Management: A Background Paper. April 2013:

[http://www.iccrom.org/wp-content/uploads/RDRM-Background-paper\\_AT\\_REV\\_30-April-2.pdf](http://www.iccrom.org/wp-content/uploads/RDRM-Background-paper_AT_REV_30-April-2.pdf)

Protecting Cultural Heritage in Times of Conflict (ICCROM):

[http://www.iccrom.org/ifrcdn/pdf/ICCROM\\_18\\_ProtectingHeritageConflict\\_en.pdf](http://www.iccrom.org/ifrcdn/pdf/ICCROM_18_ProtectingHeritageConflict_en.pdf)

World Heritage and Tourism in a Changing Climate:

<http://www.preventionweb.net/publications/view/49009>

Sustainable Tourism for Development Guide: [http://www.e-](http://www.e-unwto.org/doi/book/10.18111/9789284415496)

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### **About the Global Facility for Disaster Reduction and Recovery**

The Global Facility for Disaster Reduction and Recovery (GFDRR) is a global partnership established in 2006 to support developing countries in understanding, managing, and ultimately reducing risks stemming from natural hazards and climate change. GFDRR's mission is to facilitate implementation of the Sendai Framework for Disaster Risk Reduction and to contribute to the achievement of the Sustainable Development Goals and the Paris Agreement by ensuring that development policies, plans, and investments—including post-disaster reconstruction—are designed to minimize disaster risks and build the resilience of people and economies to climate change. GFDRR provides grant financing, technical assistance, training and knowledge sharing activities to mainstream disaster and climate risk management in policies and strategies. For more information, please visit <http://www.gfdr.org/>.