Guiding Principles for Cultural Heritage Conservation

- Cultural heritage conservation helps a community not only protect economically valuable physical assets, but also preserve its practices, history, and environment, and a sense of continuity and identity.
- Cultural property may be more at risk from the secondary effects of a disaster than from the disaster itself, therefore quick action will be needed.
- Built vernacular heritage offers a record of a society’s continuous adaptation to social and environmental challenges, including extreme events, such as past disasters. This record can often be drawn on to design mitigation strategies for new construction or retrofitting.
- Communities should prioritize which cultural assets to preserve, considering both cultural meaning and livelihood implications, although reaching a consensus may be difficult.
- Cultural heritage conservation plans are best designed before a disaster, but, in their absence, heritage authorities can and should collaborate to develop effective post-disaster heritage conservation strategies.
- Because vernacular cultural properties are sometimes capable of withstanding local climate conditions, they may serve as safe havens where surrounding communities can temporarily relocate.

Introduction

Once restricted to monuments, archeological sites, and movable heritage collections, the definition of cultural heritage now includes historic urban areas, vernacular heritage, cultural landscapes (tangible heritage, which include natural and cultural sites), and even living dimensions of heritage and all aspects of the physical and spiritual relationship between human societies and their environment (intangible heritage).

The World Bank uses a broad definition of physical cultural resources: “Movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance.” The World Bank also recognizes that “physical cultural resources are important as sources of valuable scientific and historical information, as assets for economic and social development, and as integral parts of a people’s cultural identity and practices.”

This chapter addresses the importance of protecting the cultural heritage of communities, especially traditional housing, which should be an integral part of any post-disaster recovery program.

Key Decisions

1. Immediately after a disaster, government should mobilize the lead agency for post-disaster heritage conservation, if one is already designated, or if not, appoint one to address damage to resources of national significance and to assist local communities.
2. The lead agency for heritage conservation should collaborate with the lead disaster agency and local governments to ensure cultural resources are considered in post-disaster damage and loss assessments.
3. Communities in collaboration with local government and the lead agency for heritage conservation should identify and prioritize cultural resources that require conservation during recovery and reconstruction and document the condition of these resources.
4. Communities in collaboration with local government and the lead agency for heritage conservation should decide whether adequate instruments or plans are in place to address post-disaster cultural heritage risks. If so, they should be activated. If not, stakeholders should work together to carry out the cultural heritage planning.

This Chapter Is Especially Useful For:
- Lead disaster agency
- Cultural heritage specialists
- Local officials
- Affected communities
- Project managers

3. See Resources section for names of organizations that provide assistance.
5. The lead agency for heritage conservation should decide whether available local resources are adequate to address the post-disaster cultural heritage risks that have been identified. If not, it should identify and mobilize outside financial and technical assistance.  
6. Churches, tribal organizations, and other guardians of cultural resources should ensure that their resources are included in post-disaster assessments and should request assistance in conserving them, if required.  
7. Communities being relocated and receiving communities should demand that the conservation of cultural resources be a consideration in resettlement planning, site selection, and relocation plans.

Public Policies related to Cultural Heritage Conservation

Local planning departments and local disaster management agencies are responsible for the implementation of the instruments mentioned in this chapter (disaster management plans and urban development plans, for example). They should be involved when heritage conservation issues arise in a post-disaster situation, as should historical societies involved in protection of the affected cultural assets, academic institutions involved in heritage research, and local government arts and cultural agencies.

Heritage conservation may be guided by national-level policies and by public agencies, such as the Iranian Cultural Heritage Organization, or quasi-public entities, such as the Indonesian Heritage Trust. The Swiss system is considered an international good practice for integrated disaster management planning. The Swiss Federal Office for Civil Protection, which provides aid in the event of a disaster and protection from armed conflict, includes a heritage section. The office mandates that localities provide legislative and administrative support to safeguard heritage and that they make specific financial contributions.  Entities of this nature should also be involved when cultural properties are affected by a disaster.

At the international level, the 2005 Kyoto Declaration on the Protection of Cultural Properties, Historic Areas, and Their Settings from Loss in Disasters established a framework for work on the preservation of cultural properties and historic areas. The United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM), and the International Council of Monuments and Sites (ICOMOS) are closely involved in the implementation of the Kyoto Declaration, including working to reduce disaster risk at World Heritage sites. These agencies are often active in post-disaster situations and may provide technical assistance to public officials and owners of heritage assets.

Technical Issues

Disaster Preparation for Cultural and Natural Heritage Properties

Ideally, awareness about the socioeconomic value of cultural heritage and measures to protect it are established in “normal” times. This way, risks to cultural heritage and the related losses of livelihoods, cultural identity, and social cohesion can be mitigated before disaster strikes. In this scenario, the concern after a disaster is only with implementation. Cultural heritage risks can be addressed by various means, including the instruments listed below:

- Disaster risk management plans that incorporate cultural heritage consideration
- Culturally sensitive land use and spatial plans
- Raising the cultural sensitivity of disaster management authorities, the families, and other users that occupy heritage properties
- Systematic documentation of cultural heritage
- Regular maintenance and monitoring for risk reduction of heritage properties
- Post-disaster response and recovery programs that are consistent with management plans for heritage sites

But even if these measures are not in place, post-disaster reconstruction is an opportunity to “build back better,” even for heritage properties, without compromising on their value. Reforms can be
made and measures taken to reduce risks to cultural heritage from normal development and from future disasters. An example of preventive conservation is described in the case study, below, on cultural heritage in Georgia.

**Conserving Cultural and Natural Heritage following a Disaster**

**Coordinating disaster management with heritage authorities.** Lack of coordination between disaster management and heritage authorities often causes much of the damage to heritage within the framework of emergency operations and reconstruction programs. This can be avoided through an immediate cooperation between disaster management and heritage authorities following a disaster. (The first 48 hours following a disaster are considered very important to avoid irremediable losses to cultural heritage sites.) Natural and cultural heritage sites may be affected by the location of temporary camps for displaced populations that place increased pressure on related resources. It is therefore important to consult with and involve representatives of heritage agencies in planning reconstruction.

A **multidisciplinary approach to damage and assessments.** Damage assessment teams need to be multidisciplinary and include the expertise of heritage and conservation experts, including archeologists, conservation architects, seismologists, engineers, and social anthropologists. As a rule, the damage assessment should be carried on as a comprehensive exercise, avoiding separate assessments, because an integrated assessment allows timely identification of priorities. However, depending on the context, the nature of local heritage assets, and the type of damage, separate damage assessments—including detailed inspection of the building fabric—may have to be undertaken for cultural heritage buildings and sites. Temporary works may also be needed, including suturing and shoring walls, temporary roofing, underpinning, and protection of integral works of art/cultural property (e.g., carvings, murals). The World Bank financed an innovative project in Yunnan, China, that combined rules for earthquake-resilient construction with historic preservation regulations, as described in the case study, below.

**Recognizing the value of built vernacular heritage.** Vernacular housing and building practices often offer an affordable, environmentally sustainable, aesthetic and culturally appropriate response to people’s sheltering needs. Their value, however, is often not recognized. While post-disaster reconstruction can be an opportunity to upgrade a community’s housing condition, it should not result in the systematic demolition of vernacular houses and their surrounding habitat. Such practices can be avoided through culturally sensitive planning that recognizes the functional and aesthetic value of the vernacular.

**Creating incentives for the conservation of vernacular housing.** If new houses are provided for free without timely, adequate support for repair and retrofitting, reconstruction policies may directly encourage the demolition of undamaged or partially damaged vernacular houses. Reconstruction policies often give priority to the construction of new houses. Even though repair and retrofitting programs can at times be initiated almost immediately and at lower cost, they are often given marginal attention as housing strategies or incorporated only at a later stage.

**Developing building codes compatible with vernacular building practices.** Historic or vernacular buildings should not be condemned, destroyed, or stripped of their beneficial use simply because they do not or cannot comply with building codes for new construction. Building codes are important to ensure safety of new construction and repairs. However, the same codes may not be appropriate for historic buildings. Land use and site plans, building guidelines, and codes being developed for post-disaster reconstruction must reflect local building designs, culture, technologies, skills, and materials. The lead agency may need international technical assistance with this aspect of code revision.

**Harmonizing new housing and settlements with local cultural and natural heritage.** It is important that new construction be built in harmony with local building culture and settlement layouts, especially when building new houses within or near existing historical or vernacular settlements. If reconstruction entails relocation, the heritage value of a new site needs to be assessed so that irreversible losses can be mitigated or avoided altogether. The need for making tradeoffs in reconstruction is illustrated by the case study on the 1993 Latur earthquake reconstruction, below.

**Providing storage for movable heritage properties.** Storage facilities allow communities to store salvaged materials with heritage value and use them later during reconstruction, helping
ensure much-needed cultural continuity after a disaster. Without adequate inventory and storage facilities, movable heritage properties with high cultural and emotional value for their owners or the community may be subject to looting and further damage.

**Using authentic materials and skills for repairing and retrofitting heritage buildings.** Repairing and strengthening heritage buildings may be necessary elements of a post-disaster reconstruction program. Ideally, repairs should have no impact on the heritage value, authenticity, or integrity of a building and its surroundings. However, in cases where this is not possible, the impact should be minimal and reversible and the work should reflect recommended international practices. Using local skills and materials may be the best way to achieve these aims. If traditional craftspeople are given a significant role in restoration activities, conserving cultural heritage can also help restore local livelihoods. The case study on the 2003 Bam earthquake reconstruction, below, describes the challenges of rebuilding using traditional materials.

**Ensuring community participation.** The cultural heritage significance of a place or element may be very localized. Even within a community, there may be variations in the spiritual and emotional importance attributed to specific sites or elements. Accordingly, effective protection of cultural heritage can be achieved only through wide community participation in recovery and reconstruction planning. This participatory planning should focus both on cultural importance and on the cultural and livelihood activities that depend on the conservation of these properties.

**Risks and Challenges**

- Cultural heritage is affected by primary risks, that is, direct damage from the natural disaster.
- Cultural heritage is also threatened by secondary risks that arise during recovery and reconstruction, including:
  - rescue and relief measures that are carried out with no regard to heritage value of damaged areas (e.g., water damage from fire fighting and debris removal with no regard to heritage value);
  - looting of heritage buildings; and
  - reuse of cultural and natural heritage resources as fuel, food, and reconstruction materials.
- Infrastructure repair or replacement (e.g., road widening) disregards or encroaches upon cultural assets.
- Temporary camps are sited without regard to cultural heritage concerns.
- Illegal and uncontrolled relocation and reconstruction spoil heritage landscapes or damage other assets.
- Financial assistance policies encourage demolition of heritage buildings.
- Authenticity and integrity may be lost because of inadequate repair and retrofitting measures.

**Recommendations**

1. Coordinate disaster management with heritage authorities beginning in the first 48 hours following a disaster to avoid irreparable losses to cultural heritage sites.
2. Make sure that temporary camps for displaced populations are not located so that they create risks to heritage sites or properties.
3. Incorporate heritage and conservation experts in housing damage assessment teams or conduct specific assessments of cultural heritage housing and community resources.
4. Determine whether temporary works, such as strutting and shoring walls or temporary roofing, are needed to protect cultural properties or specific components (e.g. carvings, murals).
5. In post-disaster reconstruction, avoid the systematic demolition of vernacular houses and their surrounding habitat in an attempt to upgrade a community’s housing condition.
6. Create incentives for the conservation of vernacular housing, or consider declaring historic properties community property if the owners are not able or willing to save them.
7. Develop building guidelines and codes that are compatible with vernacular building practices.
8. Harmonize designs and building materials of new housing and settlements with local cultural and natural heritage.
9. Provide storage facilities for movable heritage properties so that they are not looted, sold, or removed from the community.
10. Use authentic materials and skills in repairing and retrofitting heritage buildings.
11. Ensure community participation in decisions regarding heritage conservation, and realize that the cultural and spiritual importance of heritage sites and properties may be very location-specific.
Case Studies

2003 Bam Earthquake, Iran

How Reconstruction Affected the Architectural Landscape

The newly rebuilt city of Bam, Iran, retains few features of the architectural fabric of the old city that existed before the 2003 earthquake. In the course of the city’s reconstruction, the overall landscape was significantly altered. What is especially notable to the city’s residents is the loss of the harmony between the beautiful, commonly used, and climatically appropriate mud-brick houses and other physical structures and the city’s extensively damaged citadel (Arg-e-Bam), a harmony that had endured for centuries. The changes were largely due to pressure to speed up reconstruction by using pre-made steel frame structures and conventional building materials. Other factors that contributed to the changes included (1) fears about the safety of old mud-brick construction techniques, (2) the lack of skills to apply old construction techniques in a way that ensured risk reduction, (3) the lack of an approved national building code or guidelines for promoting the mud-brick construction (the Iranian 2,800 building codes and national building regulations discourage mud-brick construction), and (4) the slow pace of construction with mud-brick techniques compared to conventional building techniques and the perception of higher costs. In fact, if government subsidies for production and transport of conventional building materials, such as cement, steel, and bricks, were removed, the traditional technique would have emerged as the more cost-effective choice. Since the earthquake, CRATerre-EAG (the same French construction research center that cooperated in the Housing Foundation of the Islamic Revolution/United Nations Development Programme demonstration project in Bam) has mobilized resources from the European Community to assist the Building and Housing Research Center of the Ministry of Housing and Urban Development of Iran in reincorporating the mud-brick construction techniques into Iran’s building codes.


1993 Latur Earthquake, Maharashtra, India

Traditional Housing and Settlement Patterns after Reconstruction

As part of the rehabilitation program following the 1993 earthquake in Marathwada, India, more than 52 villages were relocated and reconstructed, using a layout and a construction technology selected on the basis of earthquake safety. The large number of deaths in Latur villages was attributed to the traditional mud and stone houses with common walls that had grown incrementally over time, encroaching on common spaces and restricting streets to narrow lanes. The villages also consisted largely of caste clusters: all dalits lived together, and higher caste members lived in the center. When large Gaddi houses collapsed, they often fell on the huts and small houses with common walls. The chaotic growth made it nearly impossible to construct in-situ due to the excessive cost to remove the vast quantities of debris needed and the difficulty of getting all to agree on the demolition of common walls and reestablishment of property boundaries.

Traditional settlements in this area were characterized by a hierarchy of public and private open spaces used for various activities and clusters of housing of distinct types. In the new relocations, village sites had wide streets forming a grid pattern; housing with no common walls that could lead to a house collapsing and destroying other neighbors’ houses; and well-defined, unencroachable common spaces and streets. The new settlements also broke the caste clusters.

However, the spatial plans of these reconstructed villages and the new house designs were a significant departure from the local population’s traditional way of life. The new settlement was more spread out and provided limited spaces for traditional activities, especially those of artisans. While town planners perceived that the plan would encourage the development of backward rural areas, it took a number of years for people to make the necessary modifications so that the houses and settlements better suited their way of life. As one official involved noted, there are no easy answers in post-disaster planning. While reconstruction cannot correct all existing and underlying social imbalances, it should address the most important concerns.


CHAPTER 11: CULTURAL HERITAGE CONSERVATION
1998, Cultural Heritage Project, Georgia

Preventive Conservation of Historical Buildings and Traditions

Preventive conservation and maintenance play an important role in protecting historical buildings and artifacts from the ravages of natural disasters. In 1998, to promote economic growth through development of the tourism industry, a World Bank cultural heritage project was launched in Georgia to rehabilitate historic sites and revitalize cultural traditions. Because Georgia is prone to seismic activity, preventive conservation was included in the project through an Emergency Rehabilitation Program. In fact, toward the end of project implementation, two earthquakes shook Georgia’s capital, Tbilisi.

The project provided US$1 million to prevent the loss and damage to cultural heritage throughout Georgia, and was implemented through a selection process run by the Georgian Cultural Revival Board. The selection committee and beneficiary groups received assistance from the Fund for the Preservation of Culture Heritage of Georgia. The project received proposals for stabilizing buildings, archiving old manuscripts, and recording traditional songs and dances, and ultimately funded the protection of more than 100 cultural and historic treasures. It is noteworthy that several projects were implemented jointly by different ethnic groups, meaning that the project may have helped strengthen social cohesion and foster a sense of national identity in these areas.

The project also sponsored conservation of historic buildings in Tbilisi’s Old Town. According to the World Bank’s evaluation, the project contributed to the revitalization and economic development in the city’s historic core, and media coverage of the project increased the public’s interest in preserving Georgia’s varied and rich cultural heritage.


1996 Lijiang Earthquake, Yunnan, China

Post-Earthquake Conservation in a World Heritage City

The 1996 earthquake in Yunnan, China, killed 200 people and injured 14,000 more. Approximately 186,000 houses collapsed, and 300,000 people were forced out of their damaged homes. There was widespread destruction of dwellings; businesses; schools; hospitals; and water, power, and transportation systems. There was also significant damage to the Old City of Lijiang’s historic homes, bridges, paving, and infrastructure. (The city was later designated a UNESCO World Heritage site.) Here, the traditional construction technique of loosely attaching mud-brick walls to timber frames allowed the frames to shake without collapsing. However, the walls collapsed. Residents’ low income levels and dislocation made rebuilding a daunting task.

Using a loan from the World Bank, the Lijiang Country Construction Bureau (CCB) provided grants for home repair and guidelines on reconstruction techniques that emphasized earthquake-resilient materials and techniques. Within a few weeks of the earthquake, CCB issued the “Design and Construction Technical Requirements for Houses in Lijiang Prefecture.” These guidelines explained the materials and reinforcing techniques that should be used, which included vertical and horizontal reinforcement poles; netting walls; and fired, hollow-cement brick instead of sun-dried mud-brick. In support of existing historic preservation regulations, residents were also advised against using nontraditional materials or visibly contemporary building techniques. A village committee appraised the damage to each house and households received grant funds for purchase of materials—US$95, US$120, or US$300, depending on the degree of damage. In addition to the grant program, residents used a mutual self-help approach in which families organized to repair one house before moving on to the next. CCB staff reported that the amount of private money put into the housing reconstruction was often 5–10 times the amount of the grant.

Resources

Organizations


Documents


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Additional chapters, other resources, and ordering information for the handbook can be found at the handbook Web site:

www.housingreconstruction.org.