

# Protection of Cultural Heritage from Natural and Man-made Disasters

**Santosh Ghosh** contributes the following piece on protecting cultural heritage, based on his experience as President of the Centre for Built Environment, India



*Culture includes the townscape and architecture, the cultural practices of the people, and religious and secular festivals, etc.*

**C**onservation is an essential way to protect cultural heritage, which can be damaged extensively by both natural and man-made disasters. With scientific and management techniques, conservation can be instrumental in maintaining the identity and continuity of human civilisation. The conservation approach includes extensive studies and documentation along with a policing system, as well as the use of 'geographical information' and low-resolution maps, education, training and awareness-raising programmes. Destruction of cultural heritage can be reduced, and international laws against vandalism also require attention and strict implementation (the wars in Kosovo and Iraq provide lessons).

## Introduction

'Heritage' has been defined as something "transmitted by or acquired from a predecessor" or "property that descends to an heir". Legacy is "something received from an ancestor or predecessor from the past".<sup>(1)</sup> Unesco defines culture as "the whole complex of distinctive spiritual, material, intellectual and emotional features that characterise a society or social group".<sup>(2)</sup> The conservation of cultural heritage, however, covers a broader meaning, and so does cultural legacy.

Culture, not to be perceived as an isolated subject, includes: (a) the cultural heritage of townscape and architecture; (b) the cultural

practices of the people, religious and secular festivals, etc.; and (c) the cultural expression of the individual and society, such as arts, music, films, literature, etc..<sup>(3)</sup> Both the intangible and tangible cultural properties are what make a country rich. The people of each country have a memory and identity of places, buildings, areas, archaeological sites, building apurtenances, objects of arts, crafts, etc. which form its cultural heritage. In the context of globalisation and modernisation, conservation is now indispensable.

## **Disaster Mitigation**

Both natural and man-made disasters cause extensive damage to life and property throughout the world. Natural disasters include tsunamis, cyclones, typhoons, floods, fires, earthquakes, land erosions, etc. and man-made factors that cause disasters include wars and conflicts, riots, impact of large construction, building of large dams, and ecological and environmental disasters such as air, water and land pollution, depletion of resources, loss of flora and fauna, hazardous waste, silting of rivers, etc..

In disaster mitigation, it is necessary to develop integrated planning with emphasis on preparedness and prevention. It involves civil defence, education and training, community awareness and active measures.<sup>(4)</sup>



*Tangible cultural property adds to the richness of a country*

A critical cultural heritage issue is that of the destruction and damage of monuments and archaeological sites despite the existence of international conventions or legislations. During a discussion organised by the Getty Conservation Institute in 1995, an international conference audience was informed that “the threats during armed conflicts can be direct or indirect, and whether the danger arising is intentional

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or not, the responsibility for damage to a cultural site lies with each military force.”<sup>(5)</sup>

The 1954 Hague Convention prohibits the direct targeting of cultural heritage sites, but heritage buildings and sites nonetheless continue to be damaged. Civil conflicts or wars such as what had occurred in Cambodia (threatening the famous Angkor Wat) make protection of property difficult, and generated a long history of looting. Acquisitions and the bounty of conquered territories can be found in the museums of conquering armies. The First Sumerian writing on terracota is, for example, in the British Museum; and Ishtar Gate of Babylon is in the Berlin Museum. The World Monuments Fund, a New York-based non-governmental organisation, has launched major programmes to identify imperiled cultural sites, and campaign for restoration, with global efforts focussing on the most important cultural patrimony, including threatened vernacular architecture, archaeological areas, and man-made landscapes.<sup>(5)</sup>

The International Decade for Natural Disaster Reduction (1990-2000) encouraged the culture of prevention, and provided guidelines for safer cities which are appropriate for consideration.<sup>(6)</sup> It also promotes the following:

1. Making development policies that reduce vulnerability to disaster.
  - Land use
  - Risk assessment
  - Disaster impact assessment
  - Disaster construction maintenance
  - Integration
2. Preparing community members to address emergency situations.
  - Public awareness and education
  - Community-based programmes and selection
3. Implementing special programmes for high-risk situations.
  - Internal settlements
  - Essential settlements

- **High-risk groups**
- **Cultural treasures**
- **Buildings with hazardous materials**

## **Studies and Documentation**

Studies and documentation on damage assessment of cultural heritage have been undertaken by Unesco. It was found that damages caused by armed conflicts or wars and natural disasters are similar. Sometimes those caused by wars are more devastating, but the damage to cultural property could be less extensive if the right measures were taken to reduce its vulnerability and to ensure that appropriate actions are carried out during emergency situations to safeguard against disaster. Protection of the cultural heritage is rarely integrated in civil and military protection plans, so when a disaster occurs, looting and unnecessary destruction may well follow.<sup>(7)</sup>

There can be a variety of damages: (a) damage concentrated in a few places; (b) damage occurring at many points over a relatively wide area; and (c) damage affecting cultural heritage, population, etc.. The classification criteria is based on the following:

- (a) Monument totally destroyed
- (b) Monument partly destroyed
- (c) Monument damaged
- (d) Guard needed
- (e) Movable property to be evacuated
- (f) Temporary covering method
- (g) Monument intact.

To protect monuments and sites, they should be marked by adopting the blue and white emblem of the Hague Convention (1954) which identifies the cultural property as protected in the event of armed conflict. In engineering aspects, there are several concerns, such as safe-guarding the structure, strapping, shoring, dismantling, repairing roof, protecting non-transportable items, removing and sorting debris, etc.. Today, policing systems have been established in the protection of forests and other protected areas. Such systems are also necessary in the protection of monuments and archaeological sites.



*Policing systems are necessary in the protection of monuments*



Surveying, documenting, and listing are essential activities in the management of cultural heritage. In Japan, the custom of publishing reports on restoration was started well before World War II, the first dating from 1925. Since then, 1,586 reports have been published and 300 copies of each document are distributed to various places. <sup>(8)</sup>

Restoration can also create confidence. For instance, the old bridge in Mostar represented the existence within a society of a rich urban social fabric and multi-cultural environment. In November 1993, the bridge was destroyed and violence commenced in Bosnia-Herzegovina. The bridge was later restored as a part of post-conflict reconciliation and peace effort. Lawrence M Hannah writes:

“The efforts to rebuild the old town and the bridge – built in the fifteenth century – were integrated with a long-term concern for lasting peace and suitable preservation management of the common heritage.” <sup>(9)</sup>

### **Post-Conflict Actions**

The mapping capacity and satellite images of the Geographical Information System (GIS) have become useful tools in assessing damages in the Kosovo war. A GIS is a sophisticated computerized system which gathers, synthesises, and analyses geographic information. In Kosovo, it was used for humanitarian purpose in determining operations. An example has been given by the UNCHS (United Nations Centre for Human Settlements-Habitats) which relates to NATO's mission in Kosovo that supplied the first ‘layer’ of data showing the overall areas where mines were unexploded or might exist. UNEP (United Nations Environment Programme) and UNCHS jointly assessed the consequences of the conflict for human settlements and the environment in Kosovo. Various satellite images were used to monitor visible impact. Although military authorities do not generally release documents, the US Defence Department – through its National Imagery and Mapping Agency – presented printouts of satellite images of damage in the case of Kosovo. In September 1999, the first commercial high-resolution satellite (named IKONOS after the Greek word for ‘image’) was launched. Images are digitised for ortho-maps which provided necessary information<sup>1</sup> for cadastral surveys. <sup>(10)</sup>

However, images obtained this way are expensive, yet more detailed maps are required for reconstruction.

The World Heritage sites and archaeological sites require precise information and data. It is necessary to develop a database to document invaluable cultural, archaeological and natural heritage



*Sites in remote areas*

sites, and to safeguard and conserve them. There are various kinds of sites, such as those in remote areas, in historic districts, in natural areas, and those surrounded by urban development, etc.. The scientific and technological development of GIS data storage helps to ensure the above tasks are undertaken. A common data layer for any GIS is a digital elevation model (DEM) that maps the terrain, and recently, the American Space Agency (NASA) has proposed to develop a low-resolution DEM. <sup>(11)</sup>

A collaborative project on awareness, education, and training is being developed by Unesco's World Heritage Centre, Paris and the Globe program (Global learning and observations to benefit the

Environment), Washington DC. The project develops student interest and enhances the environment and cultural heritage sites, with the objective of improving the scientific understanding amongst the youth. <sup>(12)</sup>



*More historic buildings have been destroyed by real estate development than by war*

### **Education, Training and Awareness**

The protection, maintenance and restoration of cultural heritage require political will and change of priority, apart from the issue of non-availability of funds and the absence of trained professionals. During the General Assembly held in Colombo, Sri Lanka, in August 1993, the International Council on Monuments and Sites (ICOMOS) adopted guidelines for education and training in conservation. A multi-disciplinary collaboration was advocated. It should enable the partners to “work with inhabitants, administrators and planners to resolve conflicts and to develop conservation strategies appropriate to local needs, abilities and resources.” <sup>(13)</sup>

In every developing country today, there are conflicts between tradition and modernisation. The conflicts have increased as a result of the pressures of globalisation. Public interest of social and cultural values is in conflict with the private interest of profit-making. More historic buildings have been destroyed by real estate development than by war.

With the concern for sustainable development and the environment, cultural heritage is now included in the environmental programme. Public awareness campaigns have been initiated by museums, institutes, heritage societies and raised through seminars, exhibitions, and publications, etc.. Awareness can be raised through information; while understanding can be achieved through education; and pride can be built through motivation. All stakeholders, government, community and private bodies are encouraged to “bring assets to the public through the cycle of preservation, optimization and exploitation and to bring the public to the assets through awareness, appreciation and interaction”. <sup>(14)</sup>

## Iraq

Arbil, a town in north Iraq, is believed to contain different layers of civilisations that are still unexcavated. The ancient ruins, archaeological remains, historical monuments and sites are everywhere. Despite the looting and theft of objects of cultural heritage over the centuries, the museums of Iraq contain a rich treasure of history and civilisations.

During the recent war started by the US, the world was shocked by the looting of cultural, artistic and archaeological treasures in Iraq. Initially, it was estimated that 3,000 pieces went missing from the Baghdad museum. Some have since been recovered and returned.

It was reported that Unesco alerted the United Nations and the US State Department about the 1954 Hague Convention, and in particular, the two protocols related to the protection of cultural property in the event of armed conflicts, and submitted to them a detail map of the positions of Iraqi archaeological sites and museums. Unesco also invited Interpol, the World Customs Organization, and other parties to ensure compliance with the 1970 convention on the means of prohibiting and preventing the illicit import, export and transfer of ownership of cultural property. A number of missions were sent to assess the damage, while meetings of experts were held to chalk out plans. On May 22, 2003 when the UN Security Council lifted sanctions against Iraq, "it also took the unprecedented step of putting an embargo on the trafficking of Iraqi cultural heritage."<sup>(15)</sup>

### Tourism in protected areas

Sustainable tourism in protected areas is important for the conservation of natural and cultural heritage. Many areas which have



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*The role of the public and private sectors in protected area tourism can be both mutually supportive*

been damaged by tourism generate financial benefits, and thus a proper management plan, including public awareness-raising, is essential. In this regard, culturally sensitive design and operations are also required in the provision of visitor services. ICOMOS has been developing approaches to the conservation and use of cultural heritage, while the guidelines on the following issues with reference to environmentally and culturally sensitive facilities have been provided by the World Commission on Protected Areas. <sup>(16)</sup>

- (a) Environmental impact assessments
- (b) Landscaping and site design
- (c) Built facilities
- (d) Resource conservation and consumption
- (e) Materials
- (f) New and low impact technologies
- (g) Services
- (h) Quality control
- (i) Green practice
- (j) Programming
- (k) Relation with the local community.

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**Koichiro Matsuura (Director General), Unesco, has said "We need to help restore the capacity of countries in crisis to protect their heritage, respond to emergency situations and maintain our day to day efforts for heritage conservation all around the World."**<sup>(17)</sup>

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It is said that the role of the public and private sectors in protected area tourism can be both mutually supportive as well as a cause of conflict. The government has the responsibility of resource protection and public safety, while the private sectors provide most of the services and consumer products. A monitoring programme co-ordinated with the involvement of the sectors is therefore necessary to ensure that damage to cultural heritage properties by visitors is kept to a minimum. Current effective monitoring has become scientific and professional, and includes the participation of the police, security guards, school and college volunteers and citizens in the community.

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