THE OLYMPIA PROTOCOL. ACTION FOR DEALING WITH THE EFFECTS OF
NATURAL DISASTERS ON CULTURAL HERITAGE MONUMENTS

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ABSTRACT

Risks from natural disasters always have been a major concern because they can cause extensive damage to World Natural and Cultural Heritage. This is particularly so today because many natural disasters are brought about, or increased, by climate change throughout the world.

Reducing and managing the risk of man-made and natural disasters are major challenges before the world community. Disasters are the consequences of uncontrolled human activity and poor environmental management, bringing damage to World Heritage monuments inevitably exposed to these dangers.

In 2007 we had devastating forest fires in the area of Ancient Olympia. These extensive fires burned more than 150,000 ha in forest and agricultural land in five days.

UNESCO, has adopted a Strategy on Risk Reduction at World Heritage Properties, and the World Heritage Centre developed a program to include Disaster Risk as a factor of management, which at the same time, also involves familiarizing the general public with this subject. It is for this reason that Ancient Olympia was chosen as the venue for an International Workshop on the Management of Disaster Risk to World Heritage Monuments in November 2008.

The Workshop of Olympia constitutes the foundation stone of our international mobilization towards potential danger and the development of capacity building, which will be able to protect properties. Outcome of the Olympia Workshop was a series of recommendations known as the “Olympia Protocol for International Cooperation”.

INTRODUCTION

Risks from natural disasters always have been a major concern because they can cause extensive damage to World Natural and Cultural Heritage. This is particularly so today because many natural disasters are brought about, or increased, by climate change throughout the world.

Reducing and managing the risk of man-made and natural disasters are major challenges before the world community. Disasters are the consequences of
uncontrolled human activity and poor environmental management, bringing damage to World Heritage monuments inevitably exposed to these dangers.

In 2007 we had devastating forest fires in the area of Ancient Olympia. These extensive fires burned more than 150,000 ha in forest and agricultural land in five days\(^1\) (fig. 1a-d).


The fire in Olympia certainly is not the only case of extreme weather conditions affecting the natural and cultural environments in Greece. The story of the flood of Deucalion is one of the best known of ancient Greek myths, one of the world’s many flood myths. It is based on the real occurrence in the distance past of torrential rains causing catastrophic damage to human life in the Mediterranean basin and the Mesopotamian valley.

The catastrophic results of extreme natural events are recorded not only in myth, but also appear at various times in the archeological record. The volcanic explosion on Thera in 17 c. B.C. and the destruction by earthquake of the ancient city of Helike in the northern Peloponnesse in 373 B.C. are the two most extensive disasters in ancient Greece.

Fig. 3. Plate motions after active tectonics in the Aegean and surrounding area (Papazachos, 1997). From the “Research Report on International Cooperation in the Recovery Process of Disaster-affected Cultural Heritage, Greece, ed. Masuda, Knefuda, Ritsumeikan-Global Innovation Research Organization, Ritsumeikan University, 2009".
Humans, of course, cannot rule nature. We can, however, limit the consequences that disastrous natural events have upon us and the natural and human environment. One example of human efforts to prevent problems caused by extreme natural events is the steps taken by archeologists today in the area of Delphi, which has been on the list of World Heritage Sites since 1987. Delphi is located on the steep slopes of Mt. Parnassos in a beautiful, inspiring setting (fig. 4).

Fig. 4. Delphi. The temple of Apollo from the north-west (Kapon Ed. archive). From “Greece, World Heritage Monuments and Sites, ED. Korka Elena, Hellenic Ministry of Culture, Kapon editions, 2009”.

The archeological site’s relationship with nature has been inseparable throughout history. We know from ancient sources that the site suffered from rock falls in antiquity, and it continues to do so today (fig. 5). Recent heavy rains and the effects of great variations in temperature upon the cliffs have again raised the issue of protecting the archeological site of Delphi from falling rock. After closely examining the area, specialists from the Ministry of Culture and Tourism and scientists from the Aristotle University of Thessaloniki developed a plan to protect the site that includes setting up special metal barricades at specific locations without these structures harming the beauty of the site.
Another case are the Early Christian and Byzantine monuments of Thessaloniki, which have been included on the List of World Heritage Sites since 1988 [8] and have been severely damaged by earthquakes and fires during their long history[9].

Five active or potentially active fault lines have been mapped in the greater area of Thessaloniki. The epicenter of seismic activity is near the surface, making powerful earthquakes more destructive[10].

Furthermore the largest fire in the modern history of Thessaloniki broke out on August 18, 1917. Several of the city’s monuments were destroyed along with many buildings by the fire’s destructive fury.

A brief survey of the damage sustained by World Heritage Monuments in Thessaloniki from earthquakes and fires contains the following:

The Rotunda, the Church of Aghia Sophia, of Panaghia Chalkeon, of Holy Apostles and of Saint Panteleimon in 1978[11] were seriously damaged by earthquake[12]. In the Church of St. Demetrius[13], the 1917 fire destroyed most of the brilliant sculpture and decorative painting, of which only a very few sections remain.

People interested in disaster risk management at World Heritage Sites have been particularly interested in the work carried out at one of the most important monuments of the Middle Byzantine period, the Monastery of Daphni, which has wonderful mosaics, in the principle church, dating to the 11th century[14].

The monument has been on UNESCO’s World Heritage List since 1990[15]. The area around the Monastery of Daphni, where recent tectonic movement has been recorded, is prone to seismic activity. During the last 150 years fourteen powerful earthquakes have occurred, similar to the one that took place during the Crusader occupation, after which the Cistercian monks occupying the monastery made extensive repairs to the outer narthex of the principle church.
In our time this unique World Heritage Site was damaged on September 7, 1999 by a powerful earthquake measuring 5.9 on the Richter scale with its epicenter 18 kilometers from downtown Athens.

The damage of the earthquake could be seen in cracks, alterations in the dome and the brickwork, structural weakening at many points in the monument, and damage to the unique mosaic decoration. In order for specialists of the Ministry to better understand the structure’s response to seismic activity a seismometer that works 24 hours a day was installed\(^{[16]}\) (fig.6-10).

Fig. 6. View of Daphni Monastery from the south. (Xenikakis). From “Greece, World Heritage Monuments and Sites, ED. Korka Elena, Hellenic Ministry of Culture, Kapon editions, 2009”.


I also wish to mention, briefly, the Temple of Apollo Epicurius in Bassae near Figaleia in the Peloponnese, one of the most important temples of ancient Greece. (Fig. 11).
In 1986 the Temple of Apollo Epicurius was the first archeological monument in Greece to be included in the UNESCO World Heritage List. The temple was built of a hard limestone quarried locally. Unfortunately, the limestone used in the construction contains layers of other elements which, in contact with water and submitted to the considerable variations in temperature at the site, cause the architectural components to disintegrate. In addition, ice causes pieces of the stone to break off from the surface.

A critical issue for the Temple’s structural weakness in the face of earthquakes has been human intervention. Because the ancient builders of the temple knew that the area was prone to seismic activity they incorporated metal clamps at points that could not be seen in order to protect the building. Abandonment of the temple over time led to these clamps being removed and the metal put to other uses.

The building’s structural stability is a major problem in that subsidence in the foundation has caused the western colonnade to deviate considerably from the vertical.
Because of such major problems through the world, UNESCO has adopted a Strategy on Risk Reduction at World Heritage Properties, and the World Heritage Centre developed a program to include Disaster Risk as a factor of management, which also involves familiarizing the public about this subject. This is the reason that Ancient Olympia was chosen as the venue for an International Workshop on the Management of Disaster Risk to World Heritage Monuments, held in November, 2008. This seminar, which is the outcome of collaboration between the Hellenic Ministry of Culture and the World Heritage Centre of UNESCO and ICOMOS, ICCROM and ICOM, was the first in the series of similar, future meetings to exchange views and technical expertise on the crucial question of dealing with risks from man-made, as well as natural disasters which, given the nature and extent of climate change, is now common concern of all.

The Workshop of Olympia constitutes the foundation stone of our international mobilization against potential danger and our development of the capacity to protect properties.

Prevention and our readiness to deal with emergency cases ensure the protection and safeguard of our history and heritage.

The Olympia Workshop produced a series of recommendations known as the Olympia Protocol for International Cooperation. The proceedings of this Workshop are available on the website of the WHC.

The main points of the protocol are:

**Conservation**

1. Establishment of a Clearing House on Disaster Risk Reduction
2. International Workshops to introduce the Protocol, identify pilot sites, and facilitate the establishment of twinning arrangements
3. Workshops to build capacities of concerned stakeholders and launch the development of appropriate disaster risk reduction strategies at selected sites
4. Risk Assessment at selected pilot properties
5. Socio-economic analysis and research on traditional skills and local knowledge systems relevant to disaster risk reduction
6. Inter-institution Workshops on Disaster Risk Reduction at site level
7. Seminars with local communities
8. Mid-term International Workshop to review progress of the activities and validate methodologies for developing an appropriate risk management strategy at site level
9. Development of disaster risk reduction strategies at selected World Heritage properties
10. Follow up at Pilot Properties
Capacity building and Communication

1. Publications and dissemination of materials on the web
2. Distribution of information to each region
3. Development of a curriculum for a training course on disaster risk reduction
4. Development of a component on disaster risk reduction within the World Heritage in Young Hands School Kit and activities
5. International Day of Disaster Reduction at World Heritage Properties

Israel decided to host the second international workshop in Acre. The Acre Workshop on Disaster Risk Reduction to Cultural Heritage held in November, 2009, helped to further develop this initiative and resulted in the formulation of a concrete action plan to be brought to the attention of the World Heritage Committee at its next Session in July/August 2010 in Brasilia[21].

The Acre Workshop[22] built on the results of the Olympia meeting of 2008 and also took into account other strategic policy documents on subjects related to DRR, notably the Policy Document on the Impacts of Climate Change on World Heritage Properties adopted by the General Assembly of the States Parties to the World Heritage Convention in 2008. During the workshop, a number of case studies from all regions were presented highlighting the main issues faced by managers and administrators of World Heritage cultural properties with respect to disaster risks. With regard to climate change, the Acre Workshop clarified that, the effects of climate change and especially global warming, such as rising water levels, constitute underlying risk factors that, in the presence of some primary hazards, may aggravate their consequences through change in physical characteristics with moisture variation or through accelerated coastal erosion.

The Acre workshop recommended that the World Heritage Committee should urge the States Parties to the Convention:

- To encourage greater research and DRR training and planning at universities and institutions and prioritize national funding for these programs.

- To integrate movable and intangible heritage in archives, museums, and libraries included in or related to World Heritage properties in their DRR planning and seek focused scientific assistance from specialized international and national organizations such as ICOMOS, IUCN, ICOM and others.

- To develop, with support from the World Heritage Centre and the Advisory Bodies, and if necessary with assistance under the WH Fund, “debriefing” reports on World Heritage properties hit by a disaster, highlighting the lessons learnt, for dissemination among the WH community.

These new principles and the management of risk reduction should be applied to every site or monument and training should be provided for the personnel in charge.

In closing, I want to mention in particular how important it is to make the younger generation aware of and educate them about these risks, to provide them special educational programs, training, and information. A book entitled The Land of Two Suns [23] will been printed for this purpose under the auspices of the World Heritage Center and ICCROM. It is a fairy tale which I created that seeks to make primary and
middle school students aware about the effects of natural disasters upon both the natural and cultural environments and the need for common action to deal properly with them. It is a personal contribution to this issue, which needs the dedication and devotion of all.


