

Submission Form

At its 35th session (UNESCO Paris, 2011), the World Heritage Committee (Decision 35COM12D.7) “requested the World Heritage Centre, with the support of the Advisory Bodies, **to develop, for further consideration the proposal** contained in Document WHC-11/35.COM/12D [...] and to further **explore ways of recognising and rewarding best practice through a one-off initiative** at the closing event of the 40th anniversary of the World Heritage Convention (November 2012, Japan)...”.

States Parties to the World Heritage Convention are invited to participate in this initiative by proposing World Heritage properties in their country that they regard as an example of successful management and sustainable development.

In order to be eligible the site has to apply with the following criteria:

- The suggested site must be a property inscribed on the World Heritage List;
- Successful management and sustainable development has to be clearly demonstrated;
- Best practices are considered those that are tried, tested and applied in different situations and in a wider context;
- An overall good performance on all headings mentioned in the submission form, with an exemplary performance in at least one of the areas;
- An outstanding example of innovative management in dealing with one or more management challenges / issues that could offer lessons to other sites.

Each State Party may propose a maximum of two properties, preferably relating to one cultural and one natural site.

This form contains 9 topics for demonstrating best management practice – it is not necessary to comply with all of them but it would be appreciated if you could provide a comprehensive response to as many topics as possible. In your responses to the question, please provide all facts and figures to substantiate the answers, and describe the before and after situation of implementing the best practice intervention. The objective is to illustrate clearly why the example can qualify as a best practice and can be used as a source of inspiration for other World Heritage properties.

The topics are based on questions dealt with in the Periodic Reporting questionnaire.

Recognizing and rewarding best practice in management of World Heritage properties

State Party: China

Title proposed World Heritage property: Mogao Caves

Brief description of the property: [you may use the Brief description provided through <http://whc.unesco.org>]

Situated at a strategic point along the Silk Route, at the crossroads of trade as well as religious, cultural and intellectual influences, the 492 cells and cave sanctuaries in Mogao are famous for their statues and wall paintings, spanning 1,000 years of Buddhist art.

Please answer the questions below demonstrating the successful management and sustainable development of the World Heritage property and why it is an example of a best practice.

Topics for demonstrating best management practice:	Please indicate in this column why your World Heritage property is a best practice in relation to the topic:
<p>1. Conservation:</p> <p><i>What innovative management practices or strategies are being applied in order to ensure the conservation of the Outstanding Universal Value (OUV) of the property (e.g. better resource management, restoration and rehabilitation, addressing various man-made or natural threats and challenges, etc.)?</i></p>	<p>The Mogao Grottoes at Dunhuang fulfill all six criteria of a world heritage site (as laid down in the UNESCO Convention). The Mogao Grottoes are one of the most important heritage sites in China and the site is highly representative of world heritage along the Silk Road. As the organization responsible for the conservation and management of the Mogao Grottoes, the Dunhuang Academy has adopted a guiding philosophy of ‘conservation, research and dissemination education’ to direct all work undertaken at the site and to continue to improve the level of conservation and management. We now have close to one hundred professionals undertaking conservation and research. The site now has advanced technology and equipment for heritage conservation and undertakes research into the science of heritage conservation as well as conservation of the wall paintings. The main conservation measures undertaken at the site include:</p> <p>i. systemized analysis of the threats to the preservation of the site along with the use of various types of technology to carry out real time monitoring of various types of threats such as wind and</p>

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	<p>sand erosion, changes to the climate and setting, changes to the cave's micro-climate, erosion of the cliff face, water and moisture movement and the affect of visitation. Research is undertaken to determine what degree of threat exists in the preservation of the wall paintings and the site for every threat category. Management and modern conservation techniques are then used to prevent or reduce the various categories of threats faced by the site.</p> <p>ii. established a complete archive system on the preservation of the site; have undertaken research into and established a modern methodology to assess risks to the grottoes. Regular inspection and monitoring of the site is undertaken and this is used as a basis for undertaking a comprehensive assessment of the caves including a review of the site's values, state of preservation, changes to the setting and visitation. The results of this assessment have been used as the basis for making decisions about the site's conservation, management and visitation.</p> <p>iii. undertook research into and developed a complete methodology for the treatment of some of the most common forms of deterioration found in the site's wall paintings. A basic process and technical standards have been devised to treat and conserve the wall paintings and we have adopted these techniques to treat the most serious forms of deteriorations in wall paintings thereby ensuring the safety of the wall paintings at the site.</p> <p>iv. in order to reduce the effect of visitation to the site, we have undertaken a joint research project with the Getty Conservation Institute (USA)entitled the Mogao Grottoes Visitor Capacity Study to draw up safety criteria for preserving the site and setting in terms of the effects of visitation. The results of this study will assist in controlling the affects of visitation to the site;the study also determined the site's maximum visitation capacity (for various conditions).</p> <p>v. through joint research projects with Chinese and international organisations such as the Getty Conservation Institute (USA) and the Tokyo Independent Administrative Institution National Research Institute for Cultural Properties on topics relating to the science of conservation wall paintings we continue to improve our understanding of the problems in preserving the site. This research has enabled us to get a better understanding of physical changes occurring at the site and has led to safer and more reliable methodologies in the treatment and conservation of wall</p>

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		<p>paintings thus continuing to improve the level of site conservation technology and site management.</p> <p>Through the implementation of the above measures, and guided by the Principles of Conservation of Heritage Sites in China, as well as observing the principle of ‘minimal intervention’, the Dunhuang Academy has written and implemented treatment, conservation and stabilization plans for the wall paintings and cliff face. We have treated approximately 3,100m² of wall paintings and thirty-four sculptures. We have stabilized the cliff face at the Mogao Grottoes and have undertaken steps to prevent weathering. We have undertaken a program of systematic treatment of the movement of sand that has reduced the amount of sand deposited in the Grotto Zone by over 70 per cent thus greatly reducing the impact of sand erosion to the site; it has also reduced the affect of sand storms on visitation. We undertake real time monitoring of the site through technology linked to the site’s intranet. This allows us to monitor potential threats to the site as well as to undertake conservation measures to affected areas in a timely manner. This Visitor Capacity Study has determined the appropriate visitation levels for the site. By implementing a visitor booking system and devising a number of different visitation routes through the site we have been able to reduce to a minimum the potential human related risks to this fragile site’s wall paintings and statues as well as effectively managing orderly visitation at the site.</p>
2.	<p>Local People:</p> <p><i>What exemplary practices are you using in order to effectively address the needs of local stakeholders within the management system for the property, and enable their full and active participation?</i></p>	<p>The Mogao Grottoes are located some twenty-five kilometers south of Dunhuang Municipality. The grottoes have evolved over a dozen centuries. The local community is very concerned and interested in the long-term conservation of the integrity and authenticity of the site. The local community has a strong sense of pride towards the site. The Dunhuang Academy, the management organization for the grottoes, has drawn up policies to educate the local community and public as a whole on the conservation and management of the site and encourages the local community to take an active part in participating and working with the Dunhuang Academy in the management of the site. In addition, the Dunhuang Academy has a policy of allowing the local community to visit the site at discounted rates and is proactive in organizing local primary and high school students visits to the site free of charge. Each year, on the eighth day of the fourth month of the Chinese</p>

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		lunar calendar (Buddha's birthday) and China's Heritage Day, the Dunhuang Academy allows the local community free access to some locations on site (including some caves) as well suitable locations for them to undertake Buddhist rites that are appropriate to the usage of site.
3.	Legal framework: <i>What special measures have you taken to ensure that the legal framework for the World Heritage site is effective in maintaining the OUV of the property?</i>	<p>The Mogao Grottoes were among the first group of National Priority Protected Sites promulgated by the State Council (National Government) in 1961 and thus have been conserved and managed at central government level since then. In 1982 the national government promulgated the Law of the Peoples Republic of China on the Protection of Cultural Relics (revised in 2007) which gives legal status at a national level to the protection of the Mogao Grottoes. Since being listed as a World Heritage Site, the Gansu Peoples Provincial Government promulgated the Regulations concerning the Conservation of the Mogao Grottoes in Gansu Province based on the Convention Concerning the Protection of World Cultural and Natural Heritage and relevant international charters. In 2010 the Gansu Provincial Peoples Government promulgated the Dunhuang Conservation Master Plan 2006-2025. The Dunhuang Academy has established a system and drawn up measures for routine conservation and management of the site based on these laws, regulations and plans. The existence of these laws, regulations and plans has been instrumental in the effective preservation of the outstanding and universal values of the heritage site.</p>
4.	Boundaries: <i>What innovative ways of dealing with the boundaries of the property, including for management of the buffer zone do you have in place, to effectively to manage the site and protect its OUV?</i>	<p>The Mogao Grottoes were one of the first group of sites listed as National Priority Protected Sites in 1961. When the site was listed the boundaries of the site were demarcated. In 1992 the Gansu Mogao Grottoes Protection Regulations were promulgated which confirmed the demarcation of the heritage site's boundaries along with management regulations thus clarifying the special legal status enjoyed by the protected zone of the site. The promulgation of the Mogao Grottoes Conservation Master Plan also confirmed the area designated as the buffer zone for the site along with the management regulations for the buffer zone. As the designated management organization for the Mogao Grottoes, the Dunhuang Academy has the conservations of the outstanding and universal values of the site as its goal and believes in the principle of minimal intervention in maintaining the present condition of the site and its natural setting within the parameters</p>

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	designated. There has been no construction within the central areas of the site within only a few structures used for the conservation of the caves and visitation erected. The Dunhuang Academy has worked together with the local government and community to remove all modern graves at the site and the buffer zone. The conservation of the Mogao Grottoes has also been adopted of the local Township and Rural Development Plan so as to ensure that the landscape in the buffer zone and the surrounding setting continues to blend in with the site.
<p>5. Sustainable finance:</p> <p><i>What effective strategies have you developed and implemented to assure adequate and sustainable financial resources for implementing the management measures required to maintain the site's OUV?</i></p>	<p>The central and local government have supported conservation projects at the Mogao Grottoes by providing project funding. All gate takings are used for conservation, research and education at the site. Non-profit organizations such as the China Dunhuang Grottoes Conservation Research Foundation, the Hong Kong Friends of Dunhuang Corporation Pty and the American Dunhuang Foundation provide donations to the site. Chinese and international organizations and individuals also provide the site with donations that are used to conserve the grottoes. The above sources of funding are able to provide a sufficient and sustainable source of funds to conserve the outstanding and universal values of the Mogao Grottoes.</p>
<p>6. Staffing training and development:</p> <p><i>What approaches and strategies have you developed and implemented to assure that the human resources are adequate to manage the World Heritage property?</i></p>	<p>Each year the management organization of the Mogao Grottoes, the Dunhuang Academy, recruits graduates and specialists in the field of heritage conservation, heritage management, Dunhuang Studies and other relevant disciplines to undertake in-depth research into the values of the Mogao Grottoes and to conserve the precious Mogao Grottoes.</p> <p>The Dunhuang Academy selects the best specialists to undertake post graduate studies or training at tertiary institutions based on the site's needs in site management and conservation – problems faced with the conservation of present condition. Some are sent overseas to international heritage conservation research organisations for training or studies. The Dunhuang Academy also has taken full advantage of opportunities to undertake collaborative projects with government and non-government international institutions such as the Getty Conservation Institute (USA), the Tokyo Independent Administrative Institution National Research Institute for Cultural Properties, Tokyo Fine Arts University, Osaka University, the Courtauld Institute of Art and the Australian Department of Heritage and Environment and through these joint projects have provided training to our in-house specialists.</p>

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	<p>Each year the Dunhuang Academy provides training to all the site narrators on the various aspects of the site such as its values and conservation along with training in foreign languages in order to improve the quality of narration, education and dissemination.</p>
<p>7. Sustainable development:</p> <p><i>What are the effective mechanisms in place to ensure that resource use permitted in and around the World Heritage site is sustainable and does not impact negatively on OUV?</i></p>	<p>The Dunhuang Academy strictly enforces the regulations for the management of the site and its buffer zone so prevent any negative impact on the outstanding universal values of this world heritage site and to ensure that the natural appearance of the topography, waterways, desert and the oasis as well as man-made elements such as temple fronts, stupa and the archways do not change over time.</p> <p>The Dunhuang Academy has established a department that is responsible for the management of the Grotto Zone. This ensures that the caves are conserved and managed in a modern and effective manner.</p> <p>The Dunhuang Academy has established a visitation system for the caves that takes into consideration the following factors: the contents and period of the wall paintings, the present condition of the wall paintings and the size of a cave. We have a policy of changing what caves are available to be viewed in the peak season and the low season, along with backup caves that can be used if necessary. Access to the caves is limited and only certain caves are open to the public. The Dunhuang Academy gives first priority to the conservation of the site and visitation is only permitted if it does not impact on conservation. When caves are open to the public we try to achieve a good balance between conservation and visitation and feel that this is advantageous to the site's sustainability.</p> <p>In recent years the Dunhuang Academy has been faced with the challenge of increasing numbers of visitors to the site. We have experimented with interpreting the caves using digital virtual reality displays so as to lessen the pressure to open up the caves up to visitation; we have found this approach extremely effective in the conservation of the caves. We now plan to have the capability to interpret the entire site using this technology.</p> <p>In order to guarantee the sustainability of the site in addition to writing the Mogao Grottoes Conservation Master Plan (2006-2025), and in order to meet our developmental needs we have started to devise sub plans that sit under the master plan. They included a Conservation Sub Plan</p>

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		<p>and a Use Sub Plan. It is planned that the site will implement all the strategies and in these plans and reach the goals and objectives of these plans within a twenty year period.</p> <p>The Dunhuang Academy actively cultivates its relationship with the local government and has good channels of communication with the government. This guarantees that the local government takes into considerable the need for the site to be sustainable in the long term as the township grows and develops.</p>
8.	<p>Education and interpretation programmes:</p> <p><i>How do the education, interpretation and awareness programmes you have developed and implemented significantly enhance the understanding of OUV of the site among stakeholders?</i></p>	<p>The Dunhuang Academy has a policy of being proactive in undertaking education and dissemination activities about the conservation and management of the site in accordance with the needs of managing the site. Through our efforts in this regard we hope to raise the public's level of understanding of the outstanding universal values of the site.</p> <p>The Dunhuang Academy regularly invites primary and secondary school students to visit the Mogao Grottoes and organizes activities for them that assist in their understanding of the site. Each year the Academy organizes displays for the local community and primary and secondary schools so people can get a better understanding of the outstanding universal values of the site and an understanding of problems faced in conserving the site. We have found the public to be very supportive of such activities. We have adopted various different ways of undertaking education and dissemination activities, such as establishing good channels of communication with the local government, the tourism management departments of the government, travel agents and professional guides. We use these channels to educate and explain our policies and actions regarding the site's conservation and the management of visitation. This enables our interlocutors to gain a better understanding of the outstanding universal values of the site and how we go about conserving and managing the site which in turn leads to the public's support in these endeavours. Each year on China Cultural Heritage Day we set up portable displays, provide written materials, pictures, photographs and displays about the conservation of the wall paintings. We focus on educating the public about the site's values, the ideas behind conservation and conservation methods. We have found these activities to be extremely effective.</p> <p>The Dunhuang Academy also uses media such as its own web site, exhibitions in China and abroad, the production of documentaries and the publishing (and donation) of printed materials to educate</p>

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<p>9. Tourism and interpretation:</p> <p><i>What innovative plans have you designed and successfully implemented to ensure that visitor management does not negatively impact on the maintenance of the property's OUV?</i></p>	<p>people about the values of the site and its conservation.</p> <p>To prevent any impact by visitation on the conservation of the outstanding universal values of the site, the Dunhuang Academy is exploring implementing a series of measures which include research into and the determination of an appropriate carrying capacity for the site based on monitoring data, present condition of management and the present state of the cave's preservation.</p> <p>In order to guarantee visitor safety and ensure a good visitor experience to the Mogao Grottoes we implemented a visitor booking system in 2003. In 2011 we completed the stabilization of the cliff face and upgraded the walkways by widening them.</p> <p>To reduce the impact that a huge increase in visitor numbers could have on the outstanding universal values of the site and to enable visitors to gain a better understanding of the values of the site and its conservation we have used modern digital technology to display and interpret the outstanding universal values of the site and to change the situation where a narrator accompanying groups to the cave has been the sole fashion of interpretation in the Grotto Zone. By employing this technology we have been able to effectively control visitor flow and reduce the length of time that visitors remain in the caves; this is a win-win situation for both conservation and visitation.</p> <p>We have increased the number of visitation routings around the site and make timely adjustments to route selection, visitor flow and visitation hours to reduce the pressure on cave visitation during the peak season.</p> <p>The Dunhuang Academy has put into place a real time monitoring system of the micro-climate in the caves and visitor flow. We have installed probes that are capable of measuring temperature, humidity, CO2 as well as apparatus that counts visitor numbers to the cave. This data is transmitted in real time to the dispatch office. Environmental monitoring done in real time also informs us when CO2 or humidity levels have exceeded acceptable levels on rainy or windy days as well as inside the grottoes. When this occurs we close the caves to visitation. We have found that this strategy of using science and technology to manage visitation to the site and to avoid adversely impacting on the values of the wall paintings.</p>

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	<p>In order to gain an understanding of the visitor experience and do gain an understanding of problems we face with visitor management the Dunhuang Academy undertakes visitor surveys each year. The results of these surveys are a good point of reference and assist us in the management of the site.</p> <p>The Dunhuang Academy attaches importance to education and dissemination of the sites values and its conservation and we continue to improve the facilities provided to visitors. Site narrators are also given training so as to improve their standard of narration and service quality. During their narration, site narrators not only explain the values of the site, they also talk about the site’s conservation and basic conservation methodology and the conservation process so that visitors are left with a strong impression of how we are striving to conserve the outstanding universal values of the site. Giving the general public an appreciation of how we conserve the site should lead to their support in our cause in the future. We continue to make improvements to these management measures based on practice and experience so that potential threats that visitors may pose to the site are reduced to a minimum.</p> <p>The Dunhuang Academy is presently drawing a Use Sub Plan for Mogao Grottoes as a sub plan attached the master plan. This sub plan will outline the objectives and strategies for undertaking visitor management at the site over the next twenty years.</p>
Additional comments:	
None.	
Brief description/ summary of the best practice, including a statement on how it can be useful for other sites (max.600 words)	
<p>The Dunhuang Academy has through many years of trial and error adopted an effective conservation methodology to conserve the Mogao Grottoes. We have been able to guarantee that within the parameters of the site that there has been no damage to the heritage components and the cliff face. The landscape and setting within the site parameters as officially demarcated along with the buffer zone are compatible with the site itself.</p> <p>We have used real time monitoring and preventative control technology to check any factors that may negatively impact on the site as well as put into</p>	

place conservation measures in a timely manner.

We have adopted many ways and means to educate the public on the site's values, conservation and management. We have basically completed a Site Carrying Capacity Study and have drawn up appropriate visitation plans for different circumstances. We have also introduced a new interpretive model with digital technology to interpret the site.

We have a significant number of highly-qualified professionals that guarantee that the conservation of the site is based upon modern concepts and methodologies. We have a high quality team of site narrators who are able to accurately and faithfully tell the story of the site values as well as the site's conservation and management. Our professionals and site narrators continue to raise their professional standards through various forms of training.

We have drawn up conservation and management rules and regulations for the site that conform to international conventions and charters on the conservation of cultural heritage and sit comfortably within China's legal framework while drawing on our own unique realities. The Dunhuang Academy is rigorous in the implementation of these regulations so as to ensure no damage occurs as the site. Through various media we educate the public about the laws and regulations on cultural heritage as well as general knowledge on the conservation and management of a heritage site. Due to these efforts we have been successful in gaining the understanding and support of the local community in observing these rules and regulations.

National and local governments, community organizations and individuals attach a great deal of importance to the conservation of the Mogao Grottoes. Ticket/gate income is our main source of revenue. We also receive funding from central and provincial governments as well as funding from foundations. These sources of funding provide us with sufficient and sustainable funding for the conservation of the site.

The Dunhuang Academy attaches a great deal of importance in obtaining a good balance between conservation and use. We have always given priority to conservation over use and will long allow visitation in a way that does not impact on the conservation of the site. When opening up the site to visitation we pay a great deal of attention to conservation thereby guaranteeing the site's sustainability. In the conservation and management of the site we ensure that the outstanding and universal values of the site will not be affected.

We believe that the conservation and management experience we have gained working at the site is worthy of other sites drawing on. We have undertaken a systemic analysis of the various threats facing the preservation of the site. We have set up a comprehensive monitoring system and undertake preventative conservation. We work together with international partners to draw on advanced conservation notions and technology thereby improving our overall level of conservation. We train our personnel in many ways and in many disciplines. We have various channels of raising funds and undertake academic research. We have tried to interpret all values at the site and have created new ways and means of opening up the site to the public. We have introduced digital storage and interpreting technology so that we are able to interpret the outstanding and universal values of the site in a comprehensive and multi-layered manner.

Finally, please provide us, if possible, with up to ten images of the concerned World Heritage property that can be used free of rights in UNESCO publications (commercial and/or non-commercial), and on the UNESCO website. Please provide the name of the photographer and the caption along with the images (he/she will be credited for any use of the images).