Event Report

Cultural Heritage Management in Post-Earthquake Nepal

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Nepal is known for its wealth of numerous temples and monuments, of gods and goddesses. Besides Lumbini, the birthplace of the Buddha, and the Everest, the highest peak of the world, Nepal hosts six additional historical places that the UNESCO has declared as World Heritage Sites. The Valley of Kathmandu alone boosts with seven various UNESCO recognized World Heritage sites. However, lack of financial means and resources, Nepal has already been facing problem in preservation and conservation of these historically and religiously important monuments. Furthermore, the deadly earthquakes that struck Nepal from 25 April 2015 onwards not only took away the precious lives of nearly 9,000 people but also damaged and destroyed numerous religiously and historically important temples, shrines and monuments, affecting all the World Heritage sites in Nepal except Lumbini. In the aftermath of the massive destruction, the people of Nepal are now left but with the enormous task of restoration and reconstruction. Step by step, a process of rebuilding and restoration of all these historical monuments and heritage sites must take place. This will not happen without proper plans by involving efficient organizations and acquiring financial means.

To discuss past experiences of heritage conservation in Nepal and the future course for Nepal, in the aftermath of the massive destructions of the April 2015 earthquake, EIAS welcomed Dr Maheswar Rupakehti (Institute for Advanced Sustainability Studies, Potsdam), and Dr Bal Gopal Shrestha (International Institute for Asian Studies, Leiden). H.E. Mr Ram Mani Pokharel, Ambassador of Napal to Belgium, Luxembourg and the EU, delivered the introductory remarks and Dr Alexander Spachis, Senior Associate of EIAS, moderated.

The April earthquake has severely impaired Nepal's cultural heritage, particularly in the Kathmandu Valley – a World Heritage Site known for its unique temples, stupas and historic houses – where more than half have either collapsed or been seriously damaged. The international community (UNESCO, national governments and numerous other organizations) has been quick to respond. Dr Alexander Spachis highlighted some examples of international support in his introductory remarks:

- A cooperation agreement was signed Sunday between the Buddhist Association of China and the Boudhanath Area Development Committee of Nepal on the project of repair and maintenance of UNESCO World Heritage site Boudhanath Stupa. According to the agreement, the Chinese side will provide 2 million Chinese Yuan to the renovation of Boudhanath Stupa which was damaged by the earthquake.

- UNESCO and Nepal's Department of Archaeology signed agreements on Monday, 5 October 2015, to implement projects funded by the Government of Japan and Fok Ying Ting Foundation of Hong Kong. The projects will be implemented by the UNESCO Office in Kathmandu in close cooperation with the Department of Archaeology to support Nepal in its efforts in protection and rehabilitation of cultural heritage damaged by the 2015 earthquakes. The former project will monitor selected damaged monuments at risk of collapse, assess further risk and will consolidate and restore three selected monuments in the Hanumandhoka Durbar Square. While the project funded by the Fok Ying Ting Foundation will provide protection to the affected monuments of the Kathmandu Valley World Heritage Site and other affected heritage sites to prevent them from further decay.

- In September, the US announced two Ambassador's Fund for Cultural Preservation (AFCP) awards totaling USD 320,000 to support structural assessments, stabilization, and restoration of historic sites in Lalitpur and Kathmandu that were damaged by the earthquake.

Further projects are under negotiation with other donors. UNESCO in particular stands ready to continue its coordinating role and garner international support including fund-raising to help recover Nepal's culture sector. However, questions remain on how these will be implemented and materialized.

Introduction

In his introductory remarks, H.E. Ambassador Mr Ram Mani Pokharel highlighted that Nepal is a land of many monuments and heritage sites of religious, cultural and historical significance. They are intrinsically associated to rich practices of different cultures, traditions and religions. Therefore, they function as the focal point of Nepalese civilization, the foundation of which dates back to pre-historic times. In particular, Nepalese cultural heritage sites are the unique embodiments of the centuries-old Hindu and Buddhist traditions. These heritages have invested the Nepalese people with values and identity. Nepal's architectural heritage, temples, palaces and courtyards have inspired both Nepalese and foreign visitors including many writers and artists. Such

outstanding significance of these monuments and heritage sites has also been recognized by UNESCO.

The devastating earthquake and its repeated aftershocks that hit Nepal in April and May this year caused a huge damaged to life, property and cultural ambience. Besides the economic and human impact, Nepal's cultural and archaeological sites were damaged or decimated by those powerful shocks. The centuries-old monuments and temples, some world heritage sites, were reduced to rubble. The Post-Disaster Needs Assessment (PDNA) shows that the total damage to tangible heritage is equivalent to USD 169 million. The intangible loss including that of people's ethnic and cultural identity and sense of historicity is incalculable.

The Government of Nepal has always considered heritage management as one of the top most priorities. It has become more so in the post-earthquake scenario. The PDNA, which was released in the eve of International Conference on Nepal's Reconstruction, also accords high priority to the complete restoration of damaged heritage.

The United Nations General Assembly resolution A/69/L.66 on the Nepalese earthquake, which was co-sponsored by 127 member states, also stresses the need for restoration of heritage monuments and sites at the earliest possible.

The PDNA outlines both short-term recovery and repair needs and long-term restoration and rebuilding plans. It envisages accomplishing the total restoration of the damaged heritage sites within six years. This would cost about USD 206 million, which is 20 percent more than the estimated damage.

For the reconstruction and management of heritage, the Ministry of Culture, Tourism and Civil Aviation has been given the role of overall coordination as envisaged by the PDNA. The phase-wise programmes are being developed for carrying forward the reconstruction works, in the hope that this will help rebuild and restore Nepal's heritage sites in a planned and structured manner.

Furthermore, the government has recently submitted to the Legislature-Parliament a bill on reconstruction. Once it is passed by the Parliament and National Reconstruction Authority is constituted, reconstruction works will be expedited.

Nepal now has got a Constitution promulgated by the Constituent Assembly after a 8-year long consistent effort. A new government has been formed following the promulgation of the constitution. And, with this, the Nepalese people have renewed their hope of building a peaceful and prosperous Nepal. They are all committed to rising again. The whole nation is bound by a shared goal of reconstruction and resolve to rebuilding a more resilient Nepal.

The international community has fully supported efforts for the recovery and restoration of Nepal's heritage. However, more support, cooperation and technological expertise is needed in the time to come.

Lastly, Ambassador Pokharel remarked that there are no obvious and given set of pathways to better undertake reconstruction works. Past post-disaster experiences have shown that moving fast forward is pertinent but there is also a need ensure that Nepal does not stop way short. For this, it is essential to take innovative approaches to rebuild and manage heritage monuments and sites better.

Heritage Conservation in Nepal in the Aftermath of the Devastating 2015 Earthquakes: Past Experiences and Future Paths

Nepal is known for its wealth of numerous temples and monuments, of gods and goddesses. Besides Lumbini, the birthplace of the Buddha, and the Everest, the highest peak of the world, Nepal hosts six additional historical places that the UNESCO has declared as World Heritage Sites. The Valley of Kathmandu alone hosts seven UNESCO recognized World Heritage sites: Swoyambhu, Baudha, Pasupatinath, Changu Narayan, Bhaktapur Durbar Square, Hanumandhoka Durbar Square and Patan Durbar Square. In addition, all traditional settlements in the Valley are adorned with magnificent temples, monuments, rest places, and traditional stone water sprouts. The people of Nepal are proud of all these extraordinary temples, god houses, monuments and historical buildings. However, lack of financial means and resources, Nepal has already been facing problems in the preservation and conservation of these historically and religiously important monuments.

Furthermore, the deadly earthquakes that struck Nepal from 25 April 2015 onwards not only took away precious lives of nearly 9,000 people but also damaged and destroyed numerous religiously and historically important temples, shrines and monuments, affecting all the World Heritage sites in Nepal except Lumbini. More than 600,000 houses collapsed and 2.8 million people are in need of assistance. This is a huge setback to the great civilization of the Valley. In the aftermath of the massive destruction, the people of Nepal are now left but with the enormous task of restoration and reconstruction. Step by step, a process of rebuilding and restoration of all these historical monuments and heritage sites must take place. This will not happen without proper plans by involving efficient organizations and acquiring financial means. The question of how to reinstate the past glory of this country still remains.

On the one hand local inhabitants are anxiously talking about the restoration of these heritage while on the other hand the Government of Nepal is also showing its great concern. At the same time there is a significant interest shown by the international communities such as UNESCO and numerous other organizations. It is however not yet known how these will be implemented and materialized. Presenting a historical background of the temples and monuments of the Kathmandu Valley, Dr Shrestha's presentation focused on discussing past experiences of heritage conservation in Nepal and the future course for Nepal, in the aftermath of the massive destructions of the April 2015 earthquake.

Evidence found from excavations and inscriptional sources confirm that already during the Licchavi period (2nd to 9th century CE) there used to exist highly sophisticated settlements, art and architecture in Nepal. The art and architecture that survives till today in Nepal is mostly dated from the Malla period (12th to 19th century CE). Some of it survived the two major earthquakes that occurred in Nepal in 1833 and 1934 that destroyed most buildings. Most of the destroyed buildings especially public places, such as temples and rest places were reconstructed later. In the reconstruction process, many of them lost their original shapes while others disappeared altogether.

Throughout the Kathmandu Valley and beyond, especially in all Newar settlements, traditional houses are garnished with artistically carved windows and doors. More specifically temples, god houses and rest places are adorned with carved windows and doors. These religious monuments, pagoda style temples, stupas, god houses, rest

places, public buildings and monuments in the Kathmandu Valley are considered one of the important cultural heritages of Nepal.

Major concerns include the loss of the guthis, which were responsible of maintaining traditional monuments, the inaction of the authorities (including rampant corruption), the fact that NGOs had only spent a fraction of the amount raised in the first 3 months after the quake, while not making clear to donors in online appeals they were working with local partner agencies.

Furthermore, despite international donor pledges of USD 4.1 billion for Nepal, the country's government spent nothing on reconstruction in the first four months after the quake, the UN has said. A poll by Ground Truth Solutions, an NGO financed by the British Government, found 51 percent of people affected by the quake felt their main problems were being addressed but only 5 percent said their needs were being met completely.

Some recommendations advanced by Dr Shreshta include prioritising local initiatives, local resources and local expertise, the proper management of donation, training Nepalese youth with traditional craftsmanship, stop sending out youth abroad (brain drain) and attract those already working abroad back to Nepal with attractive salaries.

Hazardous air quality in Lumbini

Siddhartha Gautama, the Lord Buddha, was born in 623 BC in the famous gardens of Lumbini in southern Nepal. The sacred garden in Lumbini is one of the most holy and most significant places of one of the world's great religions. The site, with the valuable archaeological remains of the Buddhist *Viharas* (monasteries) and *Stupas* (memorial shrines), is a center of attraction for and visited every year by hundreds of thousands of pilgrims, scientists and scholars, yogis, and tourists alike. Lumbini is a UNESCO world heritage site of outstanding universal value to humanity. At present a great concern for all is how to safeguard its outstanding universal value from any factors arising in and around the property, including the impacts of the growing environmental pollution (air/noise/water pollution, garbage etc.).

In terms of air pollution, Lumbini is located on the northern edge of highly populated and heavily polluted vast Ingo-Gangetic plains, one of the most polluted regions of the world. Over recent years, an increasing concern has developed on air quality degradation in Lumbini and the surrounding regions to due local as well as regional sources of air pollution. There is no regular monitoring of air quality in Lumbini. There are only very limited air quality observations available from this region. Measurement of air pollutants in Lumbini is important for, first understanding the levels of various air pollutants that are important from both human health and environmental perspective, and second, understanding the key characteristics of air pollutants in the region: local versus regional sources, composition (including chemicals corrosive to archeological remains), and transport of air pollutants from other parts of Nepal as well as from across the border.

As the first attempt to understand air quality in Lumbini, Dr Rupakheti and colleagues carried out continuous measurements of the ambient concentrations of key air pollutants (particulate matter, black carbon, carbon monoxide, ozone) and other auxiliary measurements (Aerosol optical depth, meteorological parameters) in Lumbini, recording

data every 1-5 minutes during an intensive measurement period of three months (April-June) in the pre-monsoon season of the year 2013. These are the first measurements of this nature in Lumbini, and generally in southern Nepal. The measurements were carried out as a part of the *SusKat-ABC* international air pollution measurement campaign led by the Institute for Advanced Sustainability Studies (IASS).

Dr Rupakheti presented the findings of the measurement campaign. For example, the 24-h average PM2.5 concentrations exceeded the WHO-recommended guideline of 25 microgram per cubic meter during 94% of the sampling period (50 out of 53 days of measurements), and were typically 2-6 times higher than the WHO guideline. The 8-hour maximum ozone concentrations were higher than the WHO guideline (50 ppb) during 88% of the sampling period. Air quality in Lumbini frequently exceeds WHO guidelines especially between November and May. In order to gain a better understanding of these observations and attribute these pollutants to their origins, atmospheric simulations for the observation period are being conducted with an atmospheric chemical transport model (WRFChem model). The study has provided valuable initial insights into air quality in the world heritage site of Lumbini and the larger region.

One of the major factors contributing to Lumbini's pollution is the presence of the at least 62 major industries, including 12 cement factories between Bhairahawa and Lumbini. An increase in demands of construction materials, especially cement, and relaxed environmental regulations in the wake of April 2015 earthquakes, is likely to put additional pressure on already deteriorating air quality in greater Lumbini area.

As a result, there is a clear need for setting up air quality monitoring stations urgently in Lumbini and the surrounding regions for long-term air quality monitoring in the region, and inform the general public about the air quality situation in Lumbini. Recently, Nepal's Department of Environment initiated a plan to set up at least one such air quality monitoring station in Lumbini in collaboration with the Lumbini Development Trust (LDT) and other collaborating partners. Any development activities within KT Master Plan Area and LPZ must go through a rigorous environmental impact assessment to fully safeguard Buddhist heritage and culture in Lumbini.

In short, air pollution in Lumbini is emerging as a major threat to preservation, protection and promotion of Lumbini and Buddhist heritage and culture. As such, the situation in Lumbini calls for an immediate collective action on addressing air pollution to safeguard the environment and heritage in Lumbini. Clean air in Lumbini must be considered as an integral part of the management of this world heritage site which will help not only maintaining serenity of the site but also in preservation, protection and promotion of Buddhist heritage and culture.