

ICOA1802: SUSTAINABLE POST-EARTHQUAKE REHABILITATION IN KATHMANDU AND BAGAN

Subtheme 01: Integrating Heritage and Sustainable Urban Development by engaging diverse Communities for Heritage Management

Session 1: Sustainable Development and Community Engagement

Location: Gulmohar Hall, India Habitat Centre

Time: December 13, 2017, 09:25 – 09:40

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Kai Weise is a Nepali national of Swiss origin. He completed his Masters in Architecture from the Swiss Federal Institute of Technology, Zurich in 1992. He has facilitated management systems for World Heritage properties such as Kathmandu Valley, Lumbini, Samarkand and presently Mountain Railways of India and Bagan. Kai Weise was responsible for establishing the response and rehabilitation strategy for the culture sector after the 2015 Gorkha Earthquake and the 2016 Chauk Earthquake in Myanmar.

Abstract: Two recent earthquakes, the 2015 Gorkha Earthquake in Nepal and the 2016 Chauk Earthquake in Myanmar, had devastating effect on cultural heritage. In Nepal some 853 monuments collapsed or were damaged while in Bagan 389 monuments were registered as having been affected. Under very different circumstances the response and rehabilitation of the devastated heritage sites were established. The comparison between the two case studies shows differing involvement of government, international partners and community. The question that arises is how to ensure sustainability in the rehabilitation process for the culture sector in an earthquake prone area.

The approach to rehabilitation of monuments have been greatly contested with differing viewpoints between the conservation community, structural engineers and the community who have had the role of user and caretaker. This raises the questions concerning who the monuments belong to, who decides on the rehabilitation procedures and for what they are being rehabilitated. Assessing the reasons for collapse, in both cases there are indications that the predominant causes were lack of upkeep and inappropriate past interventions.

Rehabilitation cannot just focus on rebuilding the monuments. The tangible is an expression which has over the centuries always been damaged and rebuilt. The paper focuses on showing how important community involvement is in maintaining monuments and ensuring appropriate interventions. Traditional crafts-persons must be regularly involved. Where applicable the use of the monuments must be linked to communities who have a clear understanding of the structure and materials while ensuring maintenance. Sustainability is achieved when the community ensures continuity. The concept of continuity of culture then becomes the basis for rehabilitation.

Key words: *post-earthquake, rehabilitation, community, sustainability*

Introduction

Two major earthquakes struck Nepal and Myanmar in 2015 and 2016 respectively causing great damage to cultural heritage. The impacts of the two earthquakes were very different, though both caused particular damage to monuments and historic structures. The response and rehabilitation process has been dramatically different due to numerous factors. The response to the Gorkha earthquake was defined by traumatic events that lead to desperate measures of finding lost friends and relatives. This trend seemed to continue into the rehabilitation phase where there is a lack of coordination and agreement between the key actors. On the other hand in Bagan the ownership of the immediate response was taken by the government with clear directions to work slowly and systematically which paved the way to developing the procedures required for sustainability.

Rehabilitation however does not consist of merely recreating the material structures as they might have been, but would need to take into account a whole plethora of considerations linked to the cultural context and community sentiments. Having participated in the process of response and rehabilitation of both earthquakes, and work on various parts of the respective culture sector strategies, it is an opportunity to provide insight into the lessons to be learned from the experiences. This paper will present some of these factors assessing the respective rehabilitation processes within a broader framework of sustainable development.

The immediate response to the two earthquakes

The 7.8 magnitude Gorkha Earthquake with the epicentre near the village of Barpark in Central Nepal occurred on April 25, 2015 at 11:56 am. The destruction was extensive with half a million houses collapsed, another quarter million damaged and about eight thousand fatalities (OCHA 2015). Entire villages were flattened, with the slopes being destabilized and even threatening the possibility of rehabilitation. Hundreds of monuments were destroyed or damaged. According to the information collected at the Earthquake Response Coordination Office at the Department of Archaeology, there were 39 totally collapsed and 189 damaged monuments within the Kathmandu Valley World Heritage monument zones. Additionally in the Kathmandu Valley and affected districts there were in total 151 collapsed and 474 damaged monuments. This means in total there were 190 totally collapsed and 663 partially damaged monuments (ERCO 2015).

The immediate response to the Gorkha Earthquake consisted of search and rescue for human survivors. The first 72 hours were crucial, however this process continued on for practically a week. The trauma of losing friends and relatives affected the approach to earthquake response, covering it with a blanket of pain and sorrow. Many initial actions were carried out in desperation, often not following any rational procedures. Heavy equipment such as excavators was brought into historic areas to clear sites of collapsed structures endangering not only the remains of the monument but also anyone trapped beneath the structure (Fig.1).



Fig.1– Kastamandap, Kathmandu Durbar Square, Heavy equipment being used in post earthquake response (K. Weise)

In many areas there were however community groups along with teams of the armed forces that helped salvage various components of the monuments, particularly important carved wooden elements and metal artefacts. These were stored away in secure locations. Lists of salvaged materials were prepared which were then signed by representatives of the community, the local government and the police. Sadly most of the other material such as bricks, tiles and the earth from mortar as well as undecorated wooden elements were considered rubble and carted away from the site.

The 6.8 magnitude Chauk Earthquake with the epicentre near the town of Chauk in Central Myanmar occurred on August 24, 2016 at 5:04 pm. There was little damage done to the town and villages where most structures are still constructed of light, flexible traditional materials. There were no direct casualties to the earthquake. The major impact was however on the monuments in and around the cultural heritage site of Bagan. Detailed assessment provided information that there were 389 monuments that had been affected by the Earthquake

The response to the Chauk Earthquake was very different from that experienced in Nepal. There were no casualties and therefore the entire focus went directly to affected monuments. The importance of Bagan to the people of Myanmar was apparent when the entire country responded. A lot of funds and other forms of donations were collected. Many teams from far-flung villages hired mini-trucks, loaded generators and equipment and drove to Bagan to provide their contribution (Fig.2).

The immediate response was defined by a short text on the dos and don'ts that was prepared, translated and distributed in Bagan. This text which expressed the need to carry out response in a slow and systematic manner was quoted by the President as well as the State Councillor Aung San Suu Kyi. This defined the actions that followed allowing for largely coordinated process of securing the sites, salvaging displaced objects and stabilizing damaged structures.



Fig.2– Sulamani Pagoda, Bagan, Post-earthquake salvaging by community members, monks and solders (K. Weise)

The concept of sustainable development in cultural heritage sites

Linking sustainable development to cultural heritage has become a very fashionable topic. Great efforts have been made to integrate cultural heritage into the Sustainable Development Goals (SDGs) and the New Urban Agenda as well as the Sendai Framework and Post Disaster Needs Assessments (PDNA). There is still a great deal of trial and error going on, particularly when it comes to determining the parameters within which cultural heritage is considered. It has been difficult to establish the immediate link between sustainable development and cultural heritage due to lack of data, particularly on socio-economic factors.

Sustainable Development as defined by the Brundtland Commission for the 1990 Rio Conference focused on the three pillars of economic, social and environmental sustainability and ominously excluded culture. For more practical purposes, it is better to focus on the more basic concept that sustainable development is <<development that meets the needs of the present without compromising the ability of future generations to meet their own need>> (World Commission on Environment and Development 1997: 41).

There is an interesting link between this last definition of sustainable development and the definition of cultural heritage. This parallel is clearly evident when we define cultural heritage to be something we inherit from the past, is of value and worthy of preservation for future generations (Weise 2011). Sustainability lies in the understanding that it is necessary for us to plan for the needs of future generations and we pass on that which is significant. Should we introduce cultural heritage into the definition of sustainable development, it would fit right in and even provide the added dimension of the past. Sustainability cannot be achieved without learning from past experiences.

Changing definition of cultural heritage and its management

The conservation of cultural heritage is a struggle against time. There are numerous factors constantly affecting cultural heritage that induce change. To stop this process is not possible. However there are means of dealing with change, managing degradation or alterations, which allows for certain continuity.

This continuity must be understood and defined as the core of conserving cultural heritage. Appropriate change must be accepted to address present needs but without losing the significance of the heritage which needs to be passed on to future generations.

Cultural heritage itself is a term that is undergoing regular transformation. The concept of heritage conservation began in the 19th century exclusively dealing with ancient monuments. The focus, though still very much on the grand monuments, has generally expanded to include the site within which they are located as well as the intangible such as related local significance, functions and craftsmanship (Fig.3). This means that even the natural environment is part of cultural heritage, particularly when such landscapes are defined by human activity or projected significance. In many of these sites we find people living and carrying out their daily activities. There are many sites that actually highlight the normal, the vernacular and the way ordinary people live.

The response to the factors affecting cultural heritage with such broad scope requires the consideration of numerous sectors and their cooperation. For example community members must be part of a discussion on activities including festivals, rituals and even those related to livelihood. Agricultural landscapes are dependent on farmers continuing their activities. Conserving the natural setting is an important part of ensuring that cultural heritage is safeguarded. The skills and traditional materials are required to ensure that monuments are maintained over time. Such aspects of management cannot be dealt with through the authoritarian rules often set by government authorities. It is necessary to develop a democratic means of managing the heritage with communities actively participating as caretakers of their heritage.



Fig.3– Kathmandu Durbar Square, vibrant living heritage during Seto Macchendranath Chariot festival (K. Weise)

Post-earthquake rehabilitation and sustainable development

Post-earthquake rehabilitation must be based on the principles of sustainability. This means that that which is of value inherited from the past must be passed on to future generations. This can only be achieved by a resilient society that has retained the means and the motivation to ensure the continuity of their cultural attributes and artefacts. The destruction caused by earthquakes has been recurring incidences in the past and that which has endured past disasters are due to the efforts of past generations. This

resilience lies in the communities to maintain the skills and knowledge that was necessary to create and maintain the tangible heritage.

The international community has introduced the Post Disaster Needs Assessment (PDNA) and flash appeals for funds, often without ensuring appropriate processes are in place for rehabilitation. The tendency of equating loss to monetary equivalence does not resolve the essential requirement for rehabilitation. There are the two critical aspects that such an approach doesn't consider in the rehabilitation process. The first aspect is that rehabilitation cannot suffice with the restoration of the tangible monuments alone, but must be closely related to these monuments being reaccepted by the community in respect to their significance and function. In certain cases purification rituals are required to ensure that any defilement is washed away. The second aspect is the need for local artisans to restore the monuments using traditional skills and materials to ensure that the monuments remain repositories of ancient knowledge.

The rehabilitation process after the 2015 Gorkha Earthquake, particularly in the culture sector has been floundering on the fact that there are no appropriate procedures in place for rehabilitation. Some monuments are being reconstructed through a tendering process with little regard to traditional knowledge and technology. Others have reconstruction works implemented through international teams with very little link to the communities. Such grand monuments such as Kastamandap which collapsed due to lack of maintenance and inappropriate interventions in the past still lie in limbo. Nepal needs to adopt a rehabilitation strategy which is based on improving the knowledge and skills of traditional construction and get local artisans to drive the rehabilitation process.



Fig.4– Dhammayazika Pagoda, Bagan, ongoing restoration work (K. Weise)

The rehabilitation process in Bagan was carefully planned and strictly implemented. The response phase which included securing the site, assessing the monuments, salvaging displaced objects and stabilizing damaged structures lasted for 3 months. This was followed by the planning of the five year rehabilitation phase based on the rehabilitation guidelines and procedures. A check list was prepared which ensured distinct preparation phase, design phase and implementation phase. The 389 affected monuments were

prioritized and implementation was started on the ones easily consolidated. A technical expert team was established to help determine appropriate means of intervention.

In Bagan the knowledge and skills required to construct the magnificent monuments as well as the intricate ornamentation was already lost in the past. There is however a growing tendency for the local communities to repossess the monuments by creating Pagoda Trustees. The monuments that are being cared for and maintained by Temple Trustees were considered “living monuments” to be restored as per the requirements and sentiments of the community members (Fig.4). The monuments that are not considered to be “living monuments” are being consolidated while retaining as much of their original fabric as possible. This distinction has allowed the sentiments of the communities to be considered while ensuring that inappropriate additional to the historic monuments which were largely damaged would not be restored.

The sustainability of rehabilitation lies in the resilience of the communities. This means that cultural continuity must be ensured in respect to knowledge and skills linked to the technical aspects of maintenance but also for the carrying out related rituals. The close link between the communities and the monuments must be maintained, or where necessary restored.

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ICOA1802: UNE REHABILITATION DURABLE APRES LES SEISMES DE KATMANDOU ET DE BAGAN

Sous-thème 01: Intégrer le patrimoine et le développement urbain durable en engageant Diverses communautés pour la gestion du patrimoine

Session 1: Développement durable et engagement communautaire

Lieu: Hall Gulmohur, India Habitat Centre

Date et heure: 13 Décembre, 2017, 09:25 – 09:40

Auteur: Kai Weiss

Kai Weise est un ressortissant népalais d'origine suisse. Il a achevé sa maîtrise d'architecture à l'institut fédéral suisse de technologie de Zurich en 1992. Il a contribué à des plans de gestion pour des biens du Patrimoine mondial comme Katmandou, Lumbini, Samarcande et actuellement les chemins de fer de montagne de l'Inde et de Bagan. Kai Weise a été responsable de l'élaboration de la stratégie de réhabilitation pour le secteur culturel après les tremblements de terre de Gorkha en 2015 et de Chauk au Myanmar en 2016.

Abstrait: Deux séismes récents, Gorkha 2015, et Chauk 2016 en Birmanie, ont eu un effet dévastateur sur le patrimoine culturel. Au Népal, 853 monuments se sont effondrés ou ont été endommagés alors qu'à Bagan 389 monuments ont été enregistrés comme ayant été affectés. Dans des circonstances très différentes, des réponses pour la réhabilitation des sites patrimoniaux dévastés ont été mises en place. La comparaison entre ces deux études de cas montre une implication différente des gouvernements, des partenaires internationaux et des habitants. La question qui se pose est de savoir comment assurer la durabilité du processus de réhabilitation du secteur culturel dans une zone sujette aux séismes.

L'approche de la réhabilitation des monuments a fait l'objet de fortes contestations avec des points de vue divergents entre le groupe des conservateurs, les ingénieurs en structure et le groupe des utilisateurs et des gardiens de monuments. Cela soulève la question de savoir à qui appartiennent les monuments, qui décide des choix de restauration et pour quels usages sont-ils réhabilités. Lors de l'évaluation des raisons des effondrements dans les deux cas, des indices concordants ont montré que les causes prédominantes étaient le manque d'entretien et des interventions passées inappropriées.

La réhabilitation ne peut pas uniquement se limiter à la reconstruction des monuments. La réalité est que tout au long des siècles les monuments ont été endommagés et reconstruits. L'article met l'accent sur l'importance de l'investissement de la communauté dans l'entretien de leurs monuments de manière à assurer des interventions appropriées. Les artisans traditionnels doivent être régulièrement impliqués. Là où l'on peut s'attacher à un bon usage des monuments, il faut les relier à des communautés qui ont une compréhension claire de leur structure et de leurs matériaux de construction, afin d'assurer leur maintenance. La pérennité du monument est assurée lorsque la communauté assure la continuité. Le concept de continuité de la culture devient alors la base de la réhabilitation.

Mots Clés: *Interventions post-séismes, réhabilitation, communautés, durability*