KATHMANDU VALLEY WORLD HERITAGE PROPERTY
REF 121bis
State of Conservation Report

SUBMITTED TO THE UNESCO WORLD HERITAGE CENTRE
1 FEBRUARY 2020

DEPARTMENT OF ARCHAEOLOGY
MINISTRY OF CULTURE, TOURISM AND CIVIL AVIATION
GOVERNMENT OF NEPAL

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The World Heritage Committee,

1. Having examined Document WHC/19/43.COM/7B,
2. Recalling Decisions 39 COM 7B.69, 40 COM 7B.41, 41 COM 7B.95 and 42 COM 7B.12, adopted at its 39th (Bonn, 2015), 40th (Istanbul/UNESCO, 2016), 41st (Krakow, 2017) and 42nd (Manama, 2018) sessions respectively,
3. Acknowledges the ongoing commitment of the State Party and of national and international organizations towards the recovery of the property, through the implementation of the Recovery Master Plan (RMP), as well as through repair and conservation works already undertaken;
4. Reiterates its requests that the State Party integrate the RMP within an overall socio-economic revitalization programme for urban communities, encourage residents and local business to engage in the recovery process, and ensure that it delivers wide-ranging social and economic benefits;
5. Notes again the scale and scope of the 2015 earthquake disaster, as described in the reports of the 2015 and 2017 joint World Heritage Centre/ICOMOS/ICCROM Reactive Monitoring missions to the property, and expresses concern at the serious deterioration of the property's architectural and town-planning coherence;
6. Considers that the recovery process needs to be further improved and hastened, and requests the State Party to:
   1. Initiate with technical support from, and in on-going dialogue with, the World Heritage Centre and the Advisory Bodies, an International Scientific Steering Coordination Mechanism tasked with assisting with the development of structures and resources to guide the recovery of the property and its OUV,
   2. Invite a joint World Heritage Centre/ICOMOS/ICCROM Reactive Monitoring mission to assess the state of conservation of the property, to review progress with the implementation of the recommendations of the October 2015 and March 2017 missions, to assist with the development of a strategy for the implementation of the six-year RMP, and to provide guidance on its review,
   3. Seek further technical support from the World Heritage Centre and Advisory Bodies in order to coordinate and guide the recovery of the property, based on documentation, research, analysis and use of appropriate traditional methods and materials, and
   4. Ensure all recommendations and outcomes of the above are fully integrated within the 6-year RMP;
7. Also requests the State Party to implement fully the recommendations of the ICOMOS Technical Review of the Patan Durbar Square Monument Zone sewer project;
8. Further requests the State Party implement fully its already declared six-year plan and complete all rehabilitation works by the end of 2021 and report to the World Heritage Committee;
9. Calls upon the international community to continue supporting the State Party’s recovery work through financial, technical or expert assistance, including support for local communities and their housing and social needs;
10. Requests furthermore the State Party to submit to the World Heritage Centre, by 1 February 2020, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 44th session in 2020, with a view to considering in the absence of significant progress in the implementation of the above recommendations to address the ascertained danger to the Outstanding Universal Value of the property, the inscription of the property on the List of World Heritage in Danger;
11. Underlines that the State Party’s cooperation in conducting the requested and overdue mission will be a key consideration for the Committee at its 44th session;

Finally reiterates, consistent with Decision 40 COM 7, that the inscription of a property on the List of World Heritage in Danger, should not be viewed negatively by the State Party; its purpose is to marshal international support to help the State Party effectively address the challenges faced by the property by engaging with the Advisory Bodies to develop a programme of corrective measures to achieve the desired state of conservation for the property as provided for under Paragraph 183 of the Operational Guidelines.
1. Executive Summary of the report

A review of the discussions held at the 43rd World Heritage Committee session in Baku and the World Heritage Committee decisions have been presented to the Honourable Prime Minister of Nepal Mr K.P. Sharma Oli. The Prime Minister has shown concern and is committed to ensuring that the government carries out necessary steps for the appropriate rehabilitation of the Kathmandu Valley World Heritage property to protect its Outstanding Universal Value. Accordingly, the Honourable Minister for Culture, Tourism and Civil Aviation Mr Yogesh Kumar Bhattarai and the newly appointed Director General of the Department of Archaeology Mr Damodar Gautam, have initiated a detailed review of the present status of post-earthquake rehabilitation of the Kathmandu Valley World Heritage property. The State Party is committed to put aside the required funds to ensure the required activities can be carried out smoothly as defined in this report.

A joint ICOMOS/ICCROM Reactive Monitoring Mission (RMM) took place from 16 to 21 October 2019. The outcome of the discussions was noted, however, the RMM report has not yet been received by the State Party. An International Scientific Committee is being established with international partners that have been working within the Kathmandu Valley World Heritage property. The State Party requests the international community to assist in carrying out a workshops and research, particularly focused on technical issues such as structural assessments of traditional load-bearing structures, as well as material dating and testing.

Furthermore, the State Party has initiated the process of reviewing and amending the Integrated Management Framework (IMF) document. The IMF will address the architectural and town-planning coherence within the World Heritage property. Furthermore, the socio-economic recovery of the World Heritage Monument Zones, which has largely already taken place, will continue to be monitored and, where necessary, further economic revitalization of the urban communities will be initiated.

The State Party has carried out a detailed review of the rehabilitation process which will be realigned to the changing circumstances through an updated Rehabilitation Master Plan (based on the Recovery Master Plan RMP). Focus must be set on ensuring appropriate rehabilitation procedures are followed, while hindering hasty reconstruction. Rehabilitation is being prioritized; however, healing takes time, and the initially targeted schedule (six-year plan) must be seen as an indicator which needs to be adjusted according to circumstances.

A detailed review and analysis of the present status has been prepared, which will be further detailed out over the following months, looking into individual issues. A detailed schedule of activities that will take place over the following six months has been attached and progress will be reported to the World Heritage Centre to convey to the World Heritage Committee for their 44th Session in Fuzhou, China.

With the renewed commitment expressed by the Honourable Prime Minister of Nepal Mr K.P. Sharma Oli, the State Party does not consider it presently necessary for Kathmandu Valley to be inscribed on the List of World Heritage in Danger.
2. **Response to the Decision of the World Heritage Committee**

The State Party has taken definite steps to address all the points included in the World Heritage Committee’s 43rd Session Decisions.

**HERITAGE COMMITTEE 43 SESSION (BAKU 2019)**

The World Heritage Committee,

1. **Having examined** Document WHC/19/43.COM/7B,
2. **Recalling** Decisions 39 COM 7B.69, 40 COM 7B.41, 41 COM 7B.95 and 42 COM 7B.12, adopted at its 39th (Bonn, 2015), 40th (Istanbul/UNESCO, 2016), 41st (Krakow, 2017) and 42nd (Manama, 2018) sessions respectively,

The State Party has reviewed the previous decisions of the World Heritage Committee since the 2019 Gorkha Earthquake, as well as the reports of the Reactive Monitoring Missions of 2015 and 2017. The State Party has not yet received the report of the Reactive Monitoring Mission of 2019 till date.

3. **Acknowledges** the ongoing commitment of the State Party and of national and international organizations towards the recovery of the property, through the implementation of the Recovery Master Plan (RMP), as well as through repair and conservation works already undertaken;

A lot of work has been carried out since the 2015 Gorkha Earthquake. An assessment commissioned by the State Party to the Institution of Engineering and experts from ICOMOS Nepal has been annexed to this report (Refer ANNEX 8). This will be the basis for further work on reviewing and updated Rehabilitation Master Plans (RMP) and Integrated Management Framework document (IMF).

4. **Reiterates its requests** that the State Party integrate the RMP within an overall socio-economic revitalization programme for urban communities, encourage residents and local business to engage in the recovery process, and ensure that it delivers wide-ranging social and economic benefits;

The socio-economic recovery of the World Heritage Monument Zones has largely already taken place. Assessments will be carried out to ensure any further requirements that might be required for the economic revitalization of the urban communities. A report on this will be submitted by end of May 2020, for the World Heritage Committee to review. Furthermore, the required long-term management mechanism for sustainable socio-economy for the urban communities will be addressed by the amended Integrated Management Framework document.

5. **Notes** again the scale and scope of the 2015 earthquake disaster, as described in the reports of the 2015 and 2017 joint World Heritage Centre/ICOMOS/ICCROM Reactive Monitoring missions to the property, and **expresses concern** at the serious deterioration of the property's architectural and town-planning coherence;

The architectural and town-planning coherence within the World Heritage property is being carefully monitored. An initial assessment has also been carried out, within the framework of assessing the overall post-earthquake rehabilitation. This has been included in the Institution of Engineering and ICOMOS Nepal Report attached as an annex (Refer ANNEX 8). Furthermore, the required long-term management mechanism for architectural and town-
planning coherence will be addressed by the amended Integrated Management Framework document.

6. **Considers that the recovery process needs to be further improved and hastened, and requests the State Party to:**
   (6)1 Initiate with technical support from, and in on-going dialogue with, the World Heritage Centre and the Advisory Bodies, an International Scientific Steering Coordination Mechanism tasked with assisting with the development of structures and resources to guide the recovery of the property and its OUV.

An **International Scientific Committee** is being established to institutionalize and help coordinate the assistance that the State Party is already receiving from various international organizations and experts. The ISC will also facilitate closer collaboration with the advisory bodies and the World Heritage Centre.

   (6)2 Invite a joint World Heritage Centre/ICOMOS/ICCROM Reactive Monitoring mission to assess the state of conservation of the property, to review progress with the implementation of the recommendations of the October 2015 and March 2017 missions, to assist with the development of a strategy for the implementation of the six-year RMP, and to provide guidance on its review.

A joint ICOMOS/ICCROM Reactive Monitoring Mission (RMM) took place from 16 to 21 October 2019 represented by Ms Catherine Forbes and Dr Gamini Wijesuriya respectively. Site visits to the seven monument zones were carried out as well as discussion with the site managers. The outcome of the discussions was noted, however, the RMM report has not yet been received by the State Party.

   (6)3 Seek further technical support from the World Heritage Centre and Advisory Bodies in order to coordinate and guide the recovery of the property, based on documentation, research, analysis and use of appropriate traditional methods and materials, and

The State Party **requests the international community to assist** in carrying out a series of workshops, particularly focused on technical issues such as structural assessments of traditional load-bearing structures. This should also be linked to research, particularly focusing on traditional materials, technology along with history and dating.

   (6)4 Ensure all recommendations and outcomes of the above are fully integrated within the 6-year RMP;

The State Party has initiated the process of reviewing and amending the Integrated Management Framework document which was adopted by the State Party in 2007. The review and amendment process were going on when the Gorkha Earthquake struck in 2015. The core system of coordination through the Coordinative Working Committee, representing the seven monument zones still continues, proving to be resilient. However, certain mechanisms will need to be amended and updated to address the changing circumstances, particularly integrating the lesson learned by experiencing a major catastrophe. The IMF will address the architectural and town-planning coherence within the World Heritage property. Furthermore, the socio-economic recovery of the World Heritage Monument Zones, which has largely already taken place, will continue to be monitored and, where necessary, further economic revitalization of the urban communities will be initiated.
The State Party has carried out a detailed review of the rehabilitation process which will be realigned to the changing circumstances through an updated Rehabilitation Master Plan (based on the Recovery Master Plan RMP). Focus must be set on ensuring appropriate rehabilitation procedures are followed, while hindering hasty reconstruction. Rehabilitation is being prioritized; however, healing takes time, and the initially targeted schedule (six-year plan) must be seen as an indicator which needs to be adjusted according to circumstances.

A detailed review and analysis of the present status has been prepared, which will be further detailed out over the following months, looking into individual issues. A detailed schedule of activities that will take place over the following six months has been attached and progress will be reported to the World Heritage Centre to convey to the World Heritage Committee for their 44th Session in Fuzhou, China.

7. Also requests the State Party to implement fully the recommendations of the ICOMOS Technical Review of the Patan Durbar Square Monument Zone sewer project;

The State Party has noted this request and ensures that the recommendations of the ICOMOS Technical Review of the Patan Durbar Square monument Zone sewer project will be implemented. A short report has been attached under ANNEX 4.

8. Further requests the State Party implement fully its already declared six-year plan and complete all rehabilitation works by the end of 2021 and report to the World Heritage Committee;

The rehabilitation process must be carried out in a systematic manner. Focus must be set on ensuring appropriate rehabilitation procedures are followed, while hindering hasty reconstruction. The rehabilitation process will be prioritized and progress ensured, however, consideration must be made to the fact that healing takes time and cannot be hastened. Accordingly, the proposed time schedules (six-year plan) must be seen as targets which need to be adjusted according to the circumstances. This will be presented in the updated Rehabilitation Master Plan (RMP), while ensuring that long-term sustainable management is addressed through the updated Integrated Management Framework (IMF) document, both which will be submitted for review by end of May 2020. The State Party will keep the World Heritage Committee informed on progress on planning and implementation, as well as the successful completion of rehabilitation.

9. Calls upon the international community to continue supporting the State Party's recovery work through financial, technical or expert assistance, including support for local communities and their housing and social needs;

The State Party is committed to collaborate with the World Heritage Centre and the Advisory Bodies and, where necessary, request for international assistance particularly for research and to build capacity. The State Party requests the international community, coordinated by the International Scientific Committee (ISC) to assist in carrying out a series of workshops, particularly focused on technical issues such as structural assessments of traditional load-bearing structures. This should also be linked to research, particularly focusing on traditional materials, technology along with history and dating. The State Party, within the broader scope of post-disaster recovery has been addressing the housing and social needs of the local communities, and this will be further assessed within the World Heritage property. These activities will also be integrated into the Recovery Master Plan (RMP).
10. **Requests furthermore the State Party to submit to the World Heritage Centre, by 1 February 2020**, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 44th session in 2020, with a view to considering in the absence of significant progress in the implementation of the above recommendations to address the ascertained danger to the Outstanding Universal Value of the property, the inscription of the property on the List of World Heritage in Danger;

As requested by the World Heritage Committee, this report is being submitted to the World Heritage Centre by 1 February 2020. A detailed review and analysis of the present status has been prepared, which will be further detailed out over the following months, looking into individual issues. A detailed schedule of activities that will take place over the following six months has been attached and progress will be reported to the World Heritage Centre to convey to the World Heritage Committee for their 44th Session in Fuzhou, China.

11. **Underlines** that the State Party’s cooperation in conducting the requested and overdue mission will be a key consideration for the Committee at its 44th session;

A joint ICOMOS/ICCROM Reactive Monitoring Mission (RMM) took place from 16 to 21 October 2019 represented by Ms Catherine Forbes and Dr Gamini Wijesuriya respectively. Site visits to the seven monument zones were carried out as well as discussion with the site managers. The outcome of the discussions was noted, however, the RMM report has not yet been received by the State Party. The review and assessment process of the Kathmandu Valley World Heritage property has been initiated with an initial report attached as an annex (Refer ANNEX 8). This can be used as the basis to carry out any further recommendations that might be included in the RMM report.

**Finally reiterates**, consistent with Decision 40 COM 7, that the inscription of a property on the List of World Heritage in Danger, should not be viewed negatively by the State Party; its purpose is to marshal international support to help the State Party effectively address the challenges faced by the property by engaging with the Advisory Bodies to develop a programme of corrective measures to achieve the desired state of conservation for the property as provided for under Paragraph 183 of the Operational Guidelines.

The State Party is committed to collaborate with the World Heritage Centre and the Advisory Bodies continue improving on the measures required to achieve the desired state of conservation of the property. Steps are being taken to ensure that the review and update of the Rehabilitation Master Plan as well as the Integrated Management Framework is finalized, adopted and submitted by end of May, while ensuring that site management and activities are carried out accordingly.

**With the renewed commitment expressed by the Honourable Prime Minister of Nepal Mr K.P. Sharma Oli**, the State Party does not consider it presently necessary for Kathmandu Valley to be inscribed on the List of World Heritage in Danger.
3. **Other Conservation Related Issues**

The World Heritage Committee decisions are quite comprehensive, particularly when linked to the previous World Heritage Committee decisions since 2015 and the Reactive Monitoring Mission reports. The outcome of the detailed assessment of the present situation will provide the basis for establishing the Rehabilitation Master Plan as well as the updated Integrated Management Framework document. This will address all ongoing conservation issues related to the Kathmandu Valley World Heritage property.

There are several related issues that have been raised numerous times during the post-earthquake rehabilitation process will be reviewed in detail. These also relate to the lack of implementation of the Post Disaster Recovery Framework PDRF for Culture Sector, a document that was prepared with assistance from ICOMOS Nepal and published by the National Reconstruction Authority (NRA) in April 2016 (Refer ANNEX 6).

To ensure improvement to heritage management, while ensuring sustainable and resilient urban communities, and cultural continuity of the Kathmandu Valley World Heritage property, the State Party has committed to reviewing and amending the following:

1. (1) To provide full assistance to traditional artisans to allow for them to pass on their skills and knowledge to the next generation, to provide traditional artisans certification to ensure the work and livelihood, to develop a programme to honour master-craftspersons as ‘national treasures’, and ensure that the government provides resources to ensure continuity of traditional crafts.

2. (2) To carry out documentation and research on traditional building technology and knowledge, while disseminating this information through various means including publications and museum exhibitions.

3. (3) Ensure that the heritage management of the monument zones comes under a single coordinated authority, which ensures the protection of the attributes conveying OUV, and all authorities follow a single Master Plan, agreed upon and adopted by the Department of Archaeology. This includes authorities such as the Pashupati Area Development Trust (PADT), the municipal authorities of Kathmandu, Lalitpur, Bhaktapur and Changu Narayan, and the various committees and federations that are responsible for the management of specific monument zones.

4. (4) The capacity and organization of the Department of Archaeology will be reviewed, particularly in respect to protocols and responsibilities in managing World Heritage. The activities of the Engineering and Survey Section under the Divisional Engineer will be reviewed and the process of converting this into a Conservation Division headed by a Conservation Architect will be initiated immediately.

5. (5) Community involvement will be promoted, particularly in respect to site monitoring, maintenance, as well as safeguarding intangible heritage within the World Heritage property monument zones.

6. (6) Establishment of standardized and official Heritage Impact Assessment (HIA) procedures and format (Refer ANNEX 7).

7. (7) The construction process defined by the Public Procurement Act will be reviewed for conservation projects and provisions will be adopted to ensure required expertise in traditional construction methods using traditional artisans to improve work quality.

These activities will be endorsed and initiated together with adopting the updated Integrated Management Framework document and the Rehabilitation Master Plan by the State Party at highest level.
4. **Potential Major Restorations, Alterations, New Construction**

The destruction caused by the 2015 Gorkha Earthquake has brought about the requirement for major restoration and reconstruction of monuments. This has been the case for monuments as well as historic urban fabric, within the monument zones of the property, as well as in the buffer zones.

A detailed assessment of the present circumstances is being undertaken, particularly to understand the impact of what has happened over the past five years since the earthquake and to plan how further work needs to be guided. The initial report prepared by a team from Tribhuvan University, Department of Architecture, with assistance from ICOMOS Nepal, has been attached as ANNEX 8. A more detailed assessment will be carried out over the next six months along with the updating of previous recovery plans to establish comprehensive Rehabilitation Master Plans for each of the seven World Heritage monument zones.

The overall impact of the 2015 Gorkha Earthquake, including the response and rehabilitation activities, should not be considered to have significantly affected the Outstanding Universal Value of the property, including authenticity and integrity, though this does need more detailed investigation. With the commitment of the Honourable Prime Minister of Nepal Mr K.P. Sharma Oli, assessments and detailed planning will continue, to ensure that required rectification will be carried out to the system and approach, which will be institutionalized through an updated and amended Integrated Management Plan (IMP), along with the Rehabilitation Master Plans (RMP).

5. **Public access to the state of conservation report**

The State Party accepts open access to the full report

6. **Signature of the Authority**

![Signature]

Name: Damodar Gautam

Designation: Director General

Date: 29 January 2020

Department of Archaeology, Ramshahpath, Kathmandu, Nepal.
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ANNEX 1: Comments on Rehabilitation Master Plan (RMP)  
(also referred to as Recovery Master Plans)

The initial Recovery Master Plan was a basic list of damaged monuments prepared based on the Post Disaster Needs Assessment (PDNA) of 2015. This has been regularly updated and implementation has been taking place based on the Post-Earthquake Rehabilitation Guidelines of 2016. Due to the different circumstances in the seven monument zones, particularly in respect to the degree of damage, as well as the system of local governance, approaches have varied. This can be considered to be positive, however needs to be carefully monitored.

The Recovery Master Plan is being reviewed and updated (as a Rehabilitation Master Plan RMP) based on the recent assessment carried out. Initially the progress of rehabilitation is going to be a general overall assessment, however, information on each project will be compiled and assessed over time to get a better idea of the various restoration and reconstruction projects that have been carried out. In the process of post-earthquake reconstruction, we have appropriate and inappropriate examples, nevertheless, with detailed documentation of the interventions, future monitoring and possible rectifications can be carried out if found to be absolutely necessary.

The RMP will be updated and reviewed based on the RMM Reports of 2015, 2017 as well as the 2019 when received. In the 2015 RMM Report we have the recommendations for the RMM on page 6 and an outline on pages 41-42. The 2017 RMM Report states that an RMP has not been submitted by the State Party and underlines the importance of establishing this plan to ensure a coordinated and effective recovery process, points that are mentioned in various parts of the report with a summary on page 43. This will surely again be included in the report for the 2019 RMM. These recommendations will be used as a basis to review, amend and augment the RMP, while ensuring that these points are reflected in the overall Integrated Management System, which will be the basis for long-term management of the property.

The site assessment as summarized in ANNEX 8, also looks into the urban fabric within the World Heritage boundaries, as well as the Buffer Zone. Development controls with the World Heritage boundary will be reviewed and seriously discussed within the context of reviewing the Integrated Management System, particularly the Integrated Management Framework document (refer section 3 of this report). Rehabilitation Master Plans (RMP) will be finalized and adopted for each of the seven monument zones of Kathmandu Valley World Heritage property.

The Rehabilitation Master Plan will be prepared within the following six month (by mid-July 2020), in close consultation with the local authorities and community representative, aligned to the recommendations of the 2019 RMM (once the report has been received by the State Party) with a draft being provided for review before the 44th World Heritage Committee Session.

A more detailed Plan of Actions will be established for each of the monument zones based on the recent assessments of the monument zones, particularly focusing on remaining reconstruction / restoration works and general recovery considering the livelihood and sentiments of the local communities.
ANNEX 2: Comments on review of Integrated Management Framework (IMF) document

The Integrated Management Framework (IMF) document was prepared as part of the Management System that was set up for Kathmandu Valley World Heritage property between 2005 and 2007. On establishment of the Integrated Management Plan (IMP) and the adoption of the Integrated Management Framework (IMF) document by the cabinet of the Government of Nepal in 2007, Kathmandu Valley was then taken off the List of World Heritage in Danger. The IMP that was established was highly praised by the WHC/ICOMOS Mission Report that took place in June 2006 led by Prof Herb Stovel: “In brief, the establishment of the IMP of the Kathmandu Valley could be seen as a MODEL PROCESS for all World Heritage Management Plans. It is not a study document to describe the site or to provide ideals for the site-management, but has gone through a thorough process of site-based information gathering and commitment by the concerned site-management authorities, and the draft has incorporated the viewpoints and realistic possibilities of the complex management structure.”

The management system ensured coordination between the seven monument zones through a Coordinative Working Committee (CWC) with the Department of Archaeology (DOA) running the secretariat. During the period between 2012 and 2015 various community-based interaction programmes were organized to review the IMP system. This led to the preparation of a draft amendment to the IMF document which was finalized as the Gorkha Earthquake struck. The draft document was circulated by email for final review just minutes before the earthquake on 25 April 2015.

Emergency response required a more targeted set of guidelines which were prepared with assistance from ICOMOS Nepal: The Post-Earthquake Rehabilitation Guidelines 2016 (The full title as translated from Nepali: Basic Guidelines for the Conservation and Reconstruction of Earthquake-Damaged Heritage 2072 – provided in ANNEX 5). Furthermore, earthquake response was also based on the Post Disaster Needs Assessment (PDNA) prepared within two months of the earthquake in June 2015. This was updated to the Post Disaster Recovery Framework (PDRF) in April 2016 (PDRF Culture Sector provided in ANNEX 6). These documents will all need to be reviewed in respect to their impact as well as how they can be integrated into the IMP system, particularly to be reflected in the amended IMF document.

The CWC is still functioning and a certain level of coordination was achieved even during the post-earthquake response phase. Based on regular CWC activities, the IMP can continue to be implemented. However, amendments to the original IMF as well as the 2015 draft IMF need to be reviewed and finalized, to be adopted by the Government of Nepal.

The process of reviewing the Integrated Management Framework (IMF) document has begun. A revised and updated draft IMF will be prepared before mid-July 2020. The 2020 IMF document will be based on the 2007 IMF document, the 2015 draft IMF document as well as the post-earthquake response and rehabilitation guidelines and strategies such as the 2016 Culture Sector Post Disaster Recovery Framework (PDRF) and the 2016 Post-Earthquake Rehabilitation Guidelines. A more detailed Plan of Actions will be established for each of the monument zones based on the recent assessments of the monument zones, linked to the Rehabilitation Master Plans.
ANNEX 3: Activity Schedule mid-January to mid-July 2020*  
(*second half fiscal year 2076/2077 Nepali year)

Tasks

1. Preparation of updated and detailed RMP document in close consultation with the local authorities and community representatives. This will focus on assessing the work that has taken place since the 2015 Gorkha Earthquake and planning the remaining reconstruction and restoration works. This will have to lead into a long-term management as defined by the IMF.

2. Review of IMF document and preparation of 2020 IMF Draft Amendment Document. This will focus on the immediate management needs but also provide the framework for long-term management of the overall World Heritage property as well as individual monument zones.

3. Preparation of Integrated Plan of Action for each of the Monument Zones based on site assessments, the RMP and the IMP. These actions would include the reconstruction / restoration of monuments, the overall rehabilitation of the monument zones and regular monitoring and maintenance.

4. In the process of planning, issues will discussed at fortnightly events with stakeholders such as site managers, local authorities, community leaders, activist, experts as well as the authorities that have worked on rehabilitation over since the earthquake.

Planned Activities (to support and augment preparation of RMP and IMF documents)

1. On establishment of International Scientific Committee (ISC) and research
2. Review of approaches to structural assessment of historic buildings
3. On implementation procedures and responsibilities (Guidelines / PDRF / Checklist)
4. Discussions on material reuse, availability and replacement
5. On traditional knowledge and craftsmanship
6. Discussions on lessons learned during the first 5 years (commemoration)
7. Urban context, the HUL approach, and appropriate rehabilitation
8. Community trauma and rehabilitation
9. Review of draft RMP and IMF documents as well as Plan of Action
10. Intangible heritage and World Heritage
11. On establishment of Heritage Impact Assessment
12. Governance of cultural heritage and the new constitution
ANNEX 4:
Status of the Patan Durbar Square Monument Zone Sewer Project

The concerned sewer management project: "NEP: Kathmandu Valley Waste Water Management Project L-3000" is the project initiated by Lalitpur Metropolitan City. It is a highly significant project on waste water management in the core city area including Patan Durbar Square. Patan Durbar Area has been experiencing intense inundation each year during the monsoon season. The poor and insufficient existing sewerage network has been discovered as one of the various causes of that seasonal flood. When the existing pipes are clogged with solid stuff the water overwhelms and causes flash floods. Every year this recurring problem creates a major trouble to local residents and tourists as roads and walk way remains completely blocked. The flood in the Durbar area is also one of the major causes of decay of the heritage structures. The water-logging has been causing foundation damage to heritage structures, as mentioned in the HIA report.

Taking these very unhygienic situations with health risks to the community, municipality sought the support of ADB to solve this chronic problem in the core heritage site.

In request application by Lalitpur Metropolitan City as a Local Government, Department of Archaeology granted principal approval for launching the project with necessary requirement. Though the project proposes to replace existing sewer pipes with new larger diameter sewer pipes in the network to avoid the flooding in main core heritage site and entire core city of Patan, the more area of the development project covers buffer zone. A Heritage Impact Assessment (HIA) was carried out and Geophysical Survey of the area have been undertaken to trace out the probability of archaeological remains underneath. The major portion of the project area where larger new hume-pipe is proposed to be laid is already disturbed area by previous interventions, shown in the Geophysical Survey report. However, HIA has given various measures of mitigation to be applied for less impact on heritage.

It is mandatory that excavation work should be conducted manually and minutely by either consultant archaeologist in presence of the responsible official from Department of Archaeology or by the archaeologists from DoA and also should be recorded scientifically on each findings and the process of earth work/excavation. Though there is not traced any such significant huge archaeological remains underneath, if, in case, such remains would be found during the excavation, preservation of archaeological remains would be in the first priority. HIA also suggested to conduct a heritage/archaeological awareness training as a necessary requirement before commencement of the project.

The point must be taken into account is the sensitivity of Asian Development Bank towards the protection of cultural heritage, which is the development partner of this project. This project is only a small portion of the whole package under Kathmandu Valley Wastewater Management Project (L-3000), ADB.
ANNEX 5:
Post-Earthquake Rehabilitation Guidelines 2016

These guidelines were prepared by the Department of Archaeology with assistance from ICOMOS Nepal to provide a clear framework for post-earthquake rehabilitation. A comprehensive assessment of projects is being undertaken based on the provisions defined in these guidelines.
PREAMBLE

A 7.6 magnitude earthquake that struck Nepal on 25 April 2015 followed by several hundred aftershocks brought a huge loss of life and property in Mid Nepal. Around 8900 have died and 22000 more so have been wounded. Similarly, millions of private and public buildings have been completely damaged and millions of others are damaged partially.

This earthquake has also damaged a lot of our historic and cultural heritages. The assessment done by the Department of Archaeology reports damage to more than thousand monuments in Kathmandu, Lalitpur, Bhaktapur, Nuwakot and Gorkha. The most affected are those listed in Kathmandu Valley World Heritage List. Among 90% of damaged monuments in Hanuman Dhoka Durbar Area, some are partially or completely collapsed, while some other are left with huge cracks. Around 140 important monuments including Kasthamandap and Dharahara are completely collapsed. This has not only inflicted an irreparable damage to several monuments that were symbol of Nepal's pride but has also deeply affected the tourism sector which has been the backbone of country's economy. Thus, the restoration and reconstruction of these monuments in their original form, shape and size has been critical.

Reconstruction and restoration work of historic monuments is different from modern construction works. The restoration and reconstruction of such monument should be carried out as per the established national and international theory, values and philosophy related to historic monument conservation. Since most of the damaged monuments and sites are listed in the Cultural World Heritage List, provisions of World Heritage Convention and Operational Guideline also cannot be overlooked. The restoration and reconstruction work cannot disregard the attributes of the monuments and monument zones that define their outstanding universal value, authenticity etc. But we should also remember that Nepal lies in an earthquake prone zone and that most of our monuments are living heritages. Regular puja is performed in our temples while devotees pay their homage and thousands gather during festivities. Several government offices and museums are housed in historic structures.

Prime concern for the safety of human life has been raised with the experience of this earthquake. Earthquake doesn't kill but weak structures do. There is a general outcry from public, experts and policy makers that the structure constructed, reconstructed or repaired henceforth need to be earthquake resistant or with ability for earthquake risk mitigation. The work 'earthquake resistant' has been highlighted in government policy and program. After such a tragedy, it is but natural to discourse on earthquake resistant construction or earthquake risk mitigation measures and this has also entered the arena of monument restoration and reconstruction lately.

Monuments are important not only because of their art and architecture but also because of their construction technology. Art of traditional construction technology is in itself a part of intangible heritage which is why it cannot be disregarded in the name of earthquake resistant restoration or reconstruction. The continuation of traditional construction technology is one of the prime objectives of heritage conservation. In this context we need special provision for the restoration and reconstruction of earthquake-damaged monuments.
Having felt that ‘Ancient Monument Preservation Methodology 2064’ is inadequate to address all post-earthquake issues, the Department of Archaeology, Ministry of Culture, Tourism and Civil Aviation, Government of Nepal, has adopted ‘Basic Guidelines for the Conservation and Reconstruction of Earthquake-Damaged Heritage 2072’ which was prepared with suggestions from experts and professionals.

1. **Name and date of effect**
   a. This guideline shall be addressed as ‘Basic Guidelines for the Conservation and Reconstruction of Earthquake-Damaged Heritage 2072’.
   b. This guideline shall be effective from the date of adoption by the Department of Archaeology of the Ministry of Culture, Tourism and Civil Aviation, Government of Nepal.

2. **Definition**
   - **Graded Monuments** are the monuments that are classified in A, B and C category according to their value and ownership and as per the provision of Ancient Monument Preservation Act.
   - **Non-Graded Monuments** are the monuments that have not been classified as per the provision of Ancient Monument Preservation Act.
   - **Rehabilitation** is the overall process of rendering original physical-cultural importance and livingness to the monument following all conservation processes and procedures.
   - **Renovation** is the process of partial or full repair, construction etc of the monuments damaged by natural disasters or deteriorated by age subsequently giving them their original or new adaptive functions on the basis of available evidence.
   - **Retrofitting** is the means of maintaining or adding to the strength of any structure when it is proved from engineering perspective that the strength of that structure is supposed to have been compromised.
   - **Stabilization** is the temporary or permanent means of preventing the further damage or collapse of the structure.
   - **Reconstruction** is the process of constructing a completely damaged or fully collapsed monument on the basis of available evidence, normally atop its existing foundation, in its original form, shape, size & construct and using traditional material and technology.
   - **Restoration** is the process of constructing or repairing a damaged or dilapidated monument on the basis of available evidence in its original form, shape, size & construct. It may also imply partial reconstruction.
   - **Rescue Archaeology** is the immediate archaeological activity carried out on sites where the reconstruction of the monument has been proposed. This is generally carried out quickly in short span of time.
   - **Cyclical Renewal** is the process of periodic restoration or maintenance work carried out on a monument using traditional material and technology when it is necessitated by established system of regular monitoring of the condition of its structural members.
   - **Reversible Technology** is the non-traditional material and technology introduced in the course of restoration or reconstruction of a monument where it is felt that traditional material and technology is inadequate to conserve a monument in its original form, provided this newer introduction can be rectified or replaced in the future if it is so required.
   - **Intervention** is any conservation activity carried out by concerned authority where the situation necessitates the protection of a monument from further damage or degradation.
   - **Authenticity** is the historically, socially and scientifically accepted original and inherent value, idea, nature or characteristic of any object or structure.
- **Structural Integrity** is the ability of a structure to support a designed load without breaking, tearing apart, or collapsing.
- **Introduction of non-traditional material & technology in lighter fashion** implies the way they are used as not to compromise the original construct, form and structural integrity of the monument.

3. **Classification of heritages**
   a. For the purpose of this guideline all tangible cultural heritage is categorized in three levels (a) Heritage Sites, (b) Monuments and (c) Objects.
   b. This guideline will address the monuments graded as per Ancient Monument Preservation Act and other non-graded monuments as well.

4. **Scope**
   This guideline mainly deals with tangible immovable cultural heritage; however, it also generally includes related movable tangible and intangible cultural heritage where relevant.

**SECTION 1: GENERAL PROVISIONS**

5. **Authority and responsibility**
   All classified heritage shall come under the direct purview of the Department of Archaeology as defined in the Ancient Monument Preservation Act 1956. The Department of Archaeology may delegate tasks to other national authorities as well as international and national specialized organizations and persons; however, work shall only be carried out adhering to the applicable regulations, following the procedures outlined in this guideline and under the supervision of the Department of Archaeology.

6. **Resource management**
   All resources including funding and technical support and contributions for renovation, conservation or reconstruction of heritages shall be received and managed by the Government of Nepal as per prevailing law. The Department of Archaeology shall carry out proper audit and documentation of the resources employed for each site, monument and object.

7. **Damage Assessment**
   During the restoration and reconstruction of earthquake-damaged monument, assessment of the damage inflicted on monuments, heritage sites & objects, their importance, art and architecture as well as the nature of damage has to be done. Impact on living heritage of religious cultural heritage should also be assessed.

8. **Prioritization**
   During the restoration and reconstruction of earthquake-damaged monument, priority should be given to the restoration of severely damaged monuments.

9. **Documentation**
   Detail documentation of the heritage objects being restored or reconstructed shall be prepared with their clear identification. Documentation of damaged monuments, certain parts of monuments or objects shall be carried out in written form, photographically, visually, with sketches, drawings and clarifying their shape and size.
10. **Response based on evidence**
Renovation and reconstruction of earthquake-damaged monuments shall be carried out based on available evidence. No renovation or reconstruction based on conjecture will be allowed.

11. **Conservation plan**
All conservation approach to the site, monument and object shall be determined on the basis of detailed research and assessment of past conservation works throughout its history.

12. **Preserving the traditional material and technology**
   a. For all restoration and reconstruction works of monuments, generally traditional materials, technology and norms shall be followed. If inappropriate or non-traditional material, technology or norms were found to be adopted in the past restoration or reconstruction works, they shall be rectified based on available evidence while carrying out present restoration or reconstruction works.
   b. Use of non-traditional materials and technology: While restoring or reconstructing any monument, if it is felt that earthquake risk cannot be technically mitigated only by using traditional material and technology, especially for the reconstruction of totally collapsed monuments, non-traditional materials and technology can be invisibly introduced in lighter fashion only with prior approval of the Department of Archaeology. Department of Archaeology reserved the right to approve or disapprove such intervention considering the nature, condition, form, construct and importance of the monument under consideration. Except in special circumstances, such material or technology needs to be reversible in nature. A reliable technical report should be prepared clarifying the need for such non-traditional intervention and attached to the project file of the restoration or reconstruction of related monument.

13. **Involvement of local community**
As the local people are the true guardians of the monuments, their involvement shall be ensured at various stages of restoration or reconstruction works of monuments.

14. **Clarification of ownership**
The ownership of the historic structure shall be clarified in respect to legal, historical and cultural ownership and all owners and stakeholders shall be involved in the implementation process.

15. **Maintenance and cyclical renewal**
   a. The historic buildings will need to persist over time which will require the considerations of renewal and maintenance. All interventions shall take into account how they contribute to the performance of the structure over time.
   b. Provisions for periodic inspection of physical condition of historic buildings and monuments will be made.
   c. Responsibility of regular monitoring and periodic maintenance in format laid out by the Department of Archaeology will be given to specific stakeholders, owner or site manager. Provisions shall also be made for the cyclical renewal of classified heritage based on the regular monitoring under the coordination of the Department of Archaeology.
   d. In line with traditional Guthi system, required trust will be set up for repair and maintenance.

16. **Disaster Management**
Adequate care shall be exercised for every site, monument and object in terms of disaster management against hazards such as earthquakes, flooding, landslides, fires, lightening and possible hazards based on visitors and other factors.

17. Heritage Impact Assessment
Before initiating any development activities within any heritage site or archaeological site, assessment of the direct or indirect impacts those activities can have upon the heritage value, form etc. of any heritage site, monument or cultural object in should be done in format laid out by the Department of Archaeology. Assessment of the impacts on the living heritage of any monument or monument zone shall also be carried out.

18. Conservation and continuation of living heritage
a. Monuments and historic buildings are living heritage. The living heritage associated with the monuments contributes to the significance of the monument, while the monument allows for the performance of or is an expression of the living heritage. The restoration of the historic buildings and monuments shall be carried with provisions of implementation and continuation of related intangible heritage including traditions, customs or beliefs.

b. The destruction of especially the religious structures has a deep impact on the belief of the community. Traditionally specific procedures and rituals were established to deal with such situations, such as the chhema puja or the asking for forgiveness. As these procedures and rituals contribute to the idea of living heritage culturally or religiously, it shall be ensured that traditional procedures and rituals are performed while carrying out the restoration and reconstruction work and coordination shall be done for the same.

19. Original function and new function
a. Generally, reinstating the traditional function of the monument being restored or reconstructed shall be encouraged. For monuments that have lost their original function, a new function might be assigned with consent from related stakeholders however without compromising the form, shape, size, construct and external architecture of the monument.

b. The structures that already have communities involved in using and maintain them, these activities shall be safeguarded and supported.

c. To ensure income, the buildings that have lost their original function might be assigned a new and appropriate function that is not incompatible to its original use.

20. Introduction of modern installations and services
a. The historic buildings that are still being used or are given new functions might require modern installations and services such as electrical and plumbing including installations and equipment dealing with security against theft and fire hazards.

b. Modern installations and services in the various types of historic buildings shall be introduced in prescribed standard considering the vulnerability as well as functions of such buildings and without jeopardizing their authenticity or originality, and their outlook and location.
21. Material availability and specification
   a. The availability and quality of traditional / non-traditional material required for the reconstruction and restoration of damaged monuments shall be accounted for.
   b. The Department of Archaeology will facilitate for the procurement of essential building materials.
   c. Quality of timber - Timber should be without cracks, fully matured and seasoned, hard, with compact grains, with low moisture content and with low flexibility. Timber with knots (aankhla) and palans should not be used. All timbers used for load bearing purpose, for carving, those used in external areas where it can get in contact of water should be of salwood variety. In areas where there is less chance of water contact, other good species timber can be used. All timber should be of Nepalese variety.

22. Crafts-persons availability and training
   a. High priority shall be paid for giving high recognition to the master crafts-persons with the required traditional crafts and to the training of new craftsperson.
   b. It shall be ensured that work is carried out by skilled, qualified and experienced craftsperson or under the guidance of such craftsperson.

23. Supervision and quality control
   a. All conservation, restoration and reconstruction work that is carried out shall comply with the guidelines, and adherence to right specification of materials as well as quality.
   b. The standards and parameters for supervision of the restoration, reconstruction and conservation work shall be established.

24. Research
   During the reconstruction and restoration of damaged monuments, it is essential to carry out appropriate scientific research on the surrounding site, the foundations and the various components of the structure, structural systems of various styles of monuments, load bearing and load transfer technology etc. Similarly, the scientific and technical research on the earthquake risk mitigation provisions in traditional technology shall also be carried out.

SECTION 2: GUIDELINES FOR HERITAGE SITES

25. Defining the heritage at site level
   Heritage sites are defined as sites that are legally proclaimed as “Protected Monument Zones”, “Archaeological Sites” and “World Heritage Site”. It also includes other tentative or potential monument zones, heritage sites and archaeological sites.

26. Conserving and managing historic settlements
   Special provisions will be made for the conservation and management of historic settlements damaged by earthquake.
27. Assessing the damage to the site
   a. Assessments of Protected Monument Zones shall include the overall impact on
categorized monuments and heritage objects. This can include open spaces,
natural landscapes and historic settlement fabric.
   b. Archaeological Sites are composed of excavated and potential areas. The
assessment shall consider the impact on the defined area as well as the
surrounding context.
   c. Assessments of historic settlements shall be carried out taking into account the
impact on settlement structure, spaces, monuments and fabric.

28. Site level interventions
   a. For the ‘Protected Monument Zones’ and historic settlements that have been
impacted beyond individual monuments, a Rehabilitation Master Plan based on
the assessments taking into account physical and socio-cultural aspects shall
be prepared.
   b. The implementation of specific interventions defined within the Rehabilitation
Master Plan shall be facilitated.
   c. Archaeological Sites shall be protected from encroachment and required
interventions shall be planned for immediate and long-term implementation.
Required activities for rescue archaeology shall be carried out when and as
necessary.

SECTION 3: GUIDELINES FOR MONUMENTS

29. Defining the heritage at Monument Level
Heritage at monument level shall be defined as per the Ancient Monument Preservation
Act, specifically categorized monuments which would include all graded monuments as
defined by the Department of Archaeology as well as all monuments that would fall under
the grading criteria.

30. Nature of damage to the monuments
The damage to the monuments shall be categorized under three categories which
are (1) totally collapse, (2) critically damaged and (3) non-critically affected.

31. Interventions for totally collapsed monument
   a. Totally collapsed monuments shall be reconstructed as per previously prepared
detailed documentation and research.
   b. In sites where monuments are totally collapsed, preventive archaeological
interventions or rescue archaeology shall be carried out to perform historic or
archaeological research and to establish construction phases and cultural
sequences of the monument or the site concerned. This should be carried out
in strict approval and guidance of the Department of Archaeology.
   c. The monument shall be reconstructed in its original construct, form, shape and
size. Traditional silhouette, structure, construct and technology shall
be safeguarded as far as possible. Salvaged materials with sound physical
condition shall be reused invariably.
   d. In cases where there is no adequate evidence, no reconstruction shall be
allowed on pure conjecture. In places where the evidence of ornamentation or
images is lacking due to loss or damage, the detailing and ornamentation shall
remain plain and no conjectural artwork shall be allowed.
e. Only if sufficient documentation is available and later alterations are considered inconsistent to the structure’s integrity shall a historic building be restored or reconstructed back to an earlier style.

f. When certain parts or elements of the monument need to be replaced, these will be done by using materials that are as similar to the original as possible in quality, chemical and physical composition and workmanship.

g. The monument shall retain its original structural system, which shall only be improved if there is valid justification. Should any foreign materials be introduced, these shall not be intrusive and shall be reversible.

h. The foundations shall be retained as far as possible and improvisation can be thought of if there is valid justification.

32. Interventions for critically damaged monument
a. Critically damaged monuments shall be those that have major impact on their structural integrity and require major interventions.

b. Critically damaged monuments shall be assessed to determine whether the monument or parts of the monument can be retained. The decision on whether it can be retained or not shall be done based on detailed scientific investigations of the structure and materials.

c. The parts of the critically damaged monuments that need to be demolished shall be documented in detail beforehand which might include photographs of the parts to be demolished, drawings, texts, notes, remarks etc.

d. Damaged structures shall be restored retaining as much of the original as possible while stabilizing with appropriate methods and materials. The use of “foreign” materials shall be provided special consideration when certain interventions are found to be critical and their application is reversible.

e. When a structure has dilapidated beyond conservation efforts, it can be reconstructed anew. In such case a detail technical report with reliable justification for the demolition shall be prepared and submitted to the Department of Archaeology. The approval for demolition shall be invariably sought from the Department of Archaeology.

f. In extreme cases when it is proved by scientific and technical investigation that a critically damaged monument cannot be renovated or rebuilt in its original footprint, adequate justification with reliable evidence for the relocation shall be submitted to the Department of Archaeology. If the Department of Archaeology approves and with common consent of local community and related stakeholder, such monument can be rebuilt in appropriate location nearby in original form and style and as per this guideline.

33. Interventions for non-critically affected monument
a. Non-critically affected monuments shall be those that have not lost their structural integrity and only require minimum non-critical interventions.

b. Monuments that have been assessed as being non-critically affected shall be repaired using materials of original quality, chemical and physical composition and workmanship.
SECTION 4: GUIDELINES FOR OBJECTS

34. Defining the heritage at object level
   Objects are independent, movable, plain or artful elements that are linked to specific sites or monuments. Such objects can be important parts of the monuments or lone standing artefacts within a site. The link to the object’s original location must be maintained.

35. Assessing the damage to the object
   Movable objects that have been damaged by earthquake shall be assessed for their physical state, relation with their place of origin, function etc. The assessment shall include the link of the objects to the function of the site, monument or to the living heritage.

36. Object level interventions
   a. Appropriate and reliable provisions for the conservation, protection and storage of the important movable objects of the monuments shall be made.
   b. Objects that have been displaced shall be returned to its original position. If this is not possible due justifiable reasons such as the lack of protection or loss of function, the displaced artefact may be exhibited in a different secure location however keeping clear reference to its origin.
   c. Objects that have lost their critical functional role whether physical or intangible shall only be replaced if no other possibilities are found. These objects shall continue to be protected and exhibited in an appropriate place with clear indications to its place of origin.

SECTION 5: NON-GRADED MONUMENTS

37. 
   a. Restoration and reconstruction of Non-Graded Monuments shall be carried out as per provisions indicated in ‘Section 1: General Provisions’ and provisions for Graded Monuments. However, all provisions indicated therein may not apply.
   b. Issues related to the restoration and reconstruction of Non-Graded Monuments will be dealt in coordination with stakeholders and with the decision of the Department of Archaeology.

SECTION 6: MISCELLANEOUS

38. Implementation
   All works related to the conservation, restoration and reconstruction of the monuments carried out either directly by the Department of Archaeology or by other agencies with approval and in coordination & collaboration with the Department of Archaeology shall be carried out as per the provisions of this guideline and associated manual.

39. Amendment
   This guideline might be amended in due time on the basis of experience gained in the course of restoration and reconstruction of damaged monuments however without compromising its original spirit.

40. Formulation of methodology
   For implementing and for detailing out the provisions of this guideline, the Department of Archaeology can formulate methodologies and implementation processes within this guideline.
41. Manual for conservation, restoration and reconstruction
   For effective implementation and clarification of technical issues in the provisions of this guideline, 'Basic Guideline for the Conservation and Reconstruction of Earthquake-Damaged Monuments 2072' has been prepared and attached herewith.

42. Issues not covered
   Issues that are not covered or addressed within this guideline will be dealt as per the decision of the Department of Archaeology.

43. Conflict resolution
   The provisions in this guideline shall overrule where they are in conflict with other standards or methodologies. In such cases the Department of Archaeology can also take special decision.

44. Expert committee
   This guideline may not be in a position to fully address all problems and complexities that may arise in the course of restoration and reconstruction of damaged monuments. Each monument may have its own specific problem and complexity. The Department of Archaeology can set up an expert committee to impart expert opinion to the Department of Archaeology and other agencies in such cases.
ANNEX 6:

Post Disaster Recovery Framework 2016 – Culture Sector

This is a section of the Post Disaster Recovery Framework that was prepared by the National Reconstruction Authority (NRA) and adopted in April 2016. As such, in the post-earthquake recovery works, the government has been guided by this document. In the process of reviewing and amending the Integrated Management Framework document, the PDRF will also be considered.
Section 1. Situation Analysis

The 25 April 2015 earthquake and the subsequent aftershocks have had a major impact on cultural heritage. Hundreds of monuments collapsed and many were badly damaged including palaces, temples, monasteries, chaityas, bahals, sattals and patis. Entire historical settlements were destroyed, cultural artefacts and elements from monuments and historic houses displaced. The destruction had also repercussions on the intangible heritage, which includes festivals, daily rituals as well as the traditional way of living that characterizes Nepal. Now, not only the classified heritage must be taken care of, but also traditional settlements along with local customs and lifestyle needs to be restored throughout the affected districts.

The potential long-term impact of the destruction of the earthquake would be the loss of vulnerable tangible and intangible heritage which is not identified and safeguarded. The displacement of communities and the reconstruction of dwellings could lead to the loss of identify of traditional and historic settlements. The threat exists of loss of minor monuments and rituals.

The impact of the earthquake is however also an opportunity to test the resilience of the traditional communities and of the cultural heritage. The long-term impact would be a rejuvenated community with renewed involvement in the care and maintenance of their traditions and heritage. The reconstruction will also lead to the renewal and in some cases revival of traditional skills. The tourism industry can also be further developed by promoting the rehabilitation and restoration process as a tourism product. The opportunity must however be taken seriously and integrated into the rehabilitation process.

Section 2. Strategic Recovery Vision for the sector

Based on the PDNA findings and recommendations, a 6-year recovery period was identified for the complete recovery of approximately 2,000 damaged or collapsed monuments, monasteries and temples in 16 districts. The targets for the initial 6-year recovery period will however be reviewed giving equal priority to the rehabilitation of communities and their traditions.

Over the next five years the vision for the culture sector is to restore and rebuild damaged built heritage and to safeguard the cultural continuity of the affected communities. This will require a comprehensive approach to ensure the rehabilitation of both classified monuments and traditional living environments. This approach will also take into account the intangible dimensions of living heritage including festivals and rituals, and traditional cultural expressions. The rehabilitation of the culture sector must ensure that communities have the motivation and means to rise from the emotional and physical pain. Such dimension will be closely linked to safeguarding the knowledge and promoting the skills required to ensure cultural continuity.

The rehabilitation of the heritage sites, historic settlements, monuments and traditional houses must ensure cultural continuity by maintaining the original design, materials, building technology and traditional craftsmanship. In most cases the process involves re-assembling traditional structures. Due to a limited number of artisans, specialized skilled laborers and quality materials, the work must be done phase-wise. Capacity
building is a critical part of this process. The projects will be prioritized primarily based on the need to stabilize damaged buildings, before beginning with the reassembling of totally collapsed structures. In addition to the World Heritage list, attention will be given to the smaller and significant monuments. Conservation of artefacts and safeguarding of museum collections will start as soon as possible, preferably under the guidance of specialists in the field of metal, wood, ivory and painting restoration.

The Department of Archaeology as the main custodian and implementing government agency will retain its authority in planning, managing and supervising the rebuilding and restoration process. This will include carrying out necessary investigations, research, defining guidelines and procedures including ensuring appropriate quality control mechanisms. The implementation of the rehabilitation process will include, to a large extent, local stakeholders ensuring local community participation in the rebuilding of the heritage sites and monuments. Rehabilitation is not solely about reconstruction; it’s a gradual healing process.

Section 3. Current status of ongoing recovery efforts in the sector

Considering the importance of ensuring acceptable approaches to the restoration of heritage sites, monument and objects, supporting legal framework has been discussed and finalized. While the "National Reconstruction and Rehabilitation Policy" sets the foundation for the reconstruction and rehabilitation, the Department of Archaeology has adopted the "Post Disaster Conservation Guidelines 2072" and the "Post Disaster Rehabilitation Procedures 2072" to provide specific guidance on restoration of cultural heritage sites and monuments.

The Earthquake Response Coordination Office (ERCO) was established at the Department of Archaeology with financial from UNESCO and technical support from ICOMOS Nepal. An overall rehabilitation strategy for the culture sector has been prepared which is comprised of five main categories of approaches (1) legal, (2) research (3) planning (4) project preparation and (5) data management.

Detailed assessments are still being carried out on all the historic sites, monuments and displaced cultural objects. Protecting and covering vulnerable monuments out from the monsoon and providing necessary shoring, propping and temporary stabilization were carried out.

Research includes archaeological investigations, material testing, structural assessments as well as for particular sites geological investigations. The salvaged materials have been identified, inventoried and stored or exhibited in a secure manner for example in Hanuman Dhoka and Patan Durbar Square. Various artefacts have been moved to museums and therefore the museums will need to be supported for improved conservation activities and storage. The identification, assessment and conservation strategy for murals has been implemented along with training. This is continuing particularly for the Shantipur murals being carried out at the national museum.

Planning at site level has mainly focused on the seven monument zones of the Kathmandu Valley World Heritage property and the sites on the World Heritage Tentative List. The coordination of the monument zone of the Kathmandu Valley World Heritage property has been established through the Integrated Management Plan (IMP) along with the Coordinative Working Committee (CWC). Each monument zone has its own local management structure which would be the basis for rehabilitation. In most cases the local site managers will be able
to deal with the rehabilitation or with special support from NGOs or directly through the Department of Archaeology.

Rehabilitation coordination plans are being prepared for World Heritage Tentative List sites that were greatly affected such as "Vajrayogini and early settlement of Sankhu", "Khokana, the vernacular village and its mustard-oil seed industrial heritage", "Nuwakot Palace Complex" and "The medieval palace complex of Gorkha". Some impact has been identified on the two sites of "Medieval Earthen Walled City of Lo Manthang" and "Cave architecture of Muktinath Valley of Mustang".

Initial discussions and international workshop have been carried out to establish a database. The database is to help manage data on heritage sites, historic settlements, monuments, traditional houses and cultural objects and make it accessible for use in the rehabilitation planning process.

Despite many hardships inflicted on the people, amidst traditions that are being reinstated and links that are being re-forged are the three defining festivals in Kathmandu (Indra Jatra), Patan (Rato Machhendranath Jatra) and Bhaktapur (Bisket Jatra) as they are part of the identity of the inhabitants and their faith. All the year-round festivals have been celebrated. The past months after the earthquake saw local people very concerned and they were fully involved in keeping their cultures alive.

Section 4. Expected sector results and indicators

Detailed restoration projects have been listed in the attached chart with estimated costing indicating year of implementation. The results and indicators for each of these projects would be the completed restoration or reconstruction of the monuments.

Each of these projects must follow the prescribed procedures. They will require progress reports and justification of compliance to each step of the defined stages. The stages and steps of the "Rehabilitation Procedures 2072" document will be considered as a mandatory checklist for all projects. The procedures also are aligned with the Rehabilitation Strategy prepared by ERCO with support of ICOMOS Nepal. The procedures also aligned with the "Reconstruction Guidelines 2072" which has been adopted by the Department of Archaeology.

Assessing progress and achievements of rehabilitation and safeguarding of intangible heritage require a different set of indicators which appraises continuity. The vulnerable intangible cultural heritage impacted by the earthquake needs to be identified. Indicators for intangible heritage are the continued practice, performance and implementation of cultural activities.

Section 5. Priority Recovery programmes

Criteria for prioritization

The activities for rehabilitation restoration work for heritage sites, historic settlements, monuments and displaced cultural objects would need to be prioritized and follow standardized rehabilitation procedures. The procedures define three stages with the mandatory steps of (1) documentation / assessment / research, (2) design / planning and (3) appropriate implementation and monitoring. All activities would be prioritized based on these procedures.
Prioritization has been given to salvaging and safeguarding the cultural heritage that is still threatened and could further deteriorate or get lost. This means that the focus would be on repair and maintenance of damaged structures before the reconstruction of collapsed monuments. Prioritization has also been given to the salvaging of important elements of collapsed structures.

The prioritization of projects has considered the holistic approach to rehabilitation. This means that not only the tangible but also the intangible heritage must be safeguarded. The balance between the rehabilitation of classified and non-classified as well as cultural heritage within the Kathmandu Valley and outside the valley are considered.

Prioritized Programmes

The planned programmes are based on the overall rehabilitation strategy and assessments that were initially provided in the PDNA and further elaborated. The elaboration of the funding and time schedule is provided in the attached charts.

The rehabilitation strategy defines that implementation will require a clear institutional, legal and economic frameworks and procedures to ensure a systematic and phase wise rehabilitation of the tangible and intangible heritage. To ensure smooth implementation such bottlenecks as overlapping decision-making, lack of artisans and materials and differences in the understanding of accepted norms for the reconstruction of cultural heritage must be removed.

Legal basis for Rehabilitation of Cultural Heritage: To ensure that there is a clear understanding of how the government authorities are going to proceed in the rehabilitation of the heritage sites, historic settlements, monuments and displaced cultural objects, a specific set of legal provisions need to be agreed upon. This would consist of a policy statement, general guidelines and standard procedures that all government authorities would need to follow. These would be the basis for decision making and providing permission to national and international involvement within the cultural heritage sites. The legal provisions would need to be specific to the post-disaster circumstances and would therefore need to be time bound for a given rehabilitation period. The legal provisions for the rehabilitation period would need to be reviewed at the end of the given period and either extended or dissolved.

Develop a Master Plan: The DoA, with support of the UNESCO and international experts will develop a master plan and schedule for the repair, restoration and reconstruction of collapsed and damaged monuments and sites. The master plan will be based on the comprehensive documentation of all the earthquake affected historic structures with detailed information regarding the type and degree of damage. The master plan will state a clear sequence of and rationale for implementation. Restoration activities will be distributed between all districts, cities, and sites as evenly as possible. Priority will be given to repair and restore damaged structures before tackling ground-up reconstructions.

Post Disaster Research: This is the opportunity to ensure that we learn as much as possible about the impact of the earthquake on the cultural heritage and traditional forms of construction. This would also go hand in hand with observing and documenting the various impacts not only on the tangible but also on the intangible components of cultural heritage. Research would need to be carried out in such as
way so as to ensure that the outcome can be used for practical proposes in planning rehabilitation. This means that focus of the research must be on gaining better knowledge of issues that are key in rehabilitation. The research format would also need to ensure the relevant outcome and reporting so as to be able to use this in the planning process. The research would also need to provide the scientific justifications for conservation procedures.

Rehabilitation Coordination Frameworks: The objective of the RCF is to ensure a planned and appropriate phase-wise rehabilitation of complex heritage sites which have been extensively damaged and where a coordinated effort will be required. The preparation of the RCF shall be carried out through the ERCO by appropriate consultants or experts in close collaboration with the site managers and stakeholders. The preparation of the RMP for each of the earmarked sites shall be supported by funds through the DOA or UNESCO. The implementation of the RCF shall be carried out by a designated site manager under the supervision of ERCO.

Implementation Requirements: To carry out the restoration and reconstruction works over the next years, several key issues would need to be dealt with in a manner ensuring that they don’t become bottlenecks. This would ensure appropriate quality and that work doesn't get stuck due to lack of resources, expertise, skilled workers and necessary materials. The capacity for restoration and rehabilitation activities needs to be drastically improved to be able to address the post-earthquake needs. The approaches to rehabilitation of historic settlements and dwellings must be defined and adopted.

Data Management: Considering the amount of information that was being collected after the earthquake, it was quickly found necessary to develop a functioning data management system for cultural heritage. After discussions with numerous experts it was decided to use ARCHES as the platform for managing the data. The security of information has been a major issue. Access would need to be controlled at various levels depending on the type of data. Once the system is set up, the various inventories and data collection can be compiled into the single database. The formatting of existing information will be required to fit the system and make it possible to easily access and search.

The comprehensive mapping of the intangible heritage elements is still to be carried out with participation of community concerned. The in-depth assessment about the effect and degree of the effect on not only various manifestations of traditional cultures is required but also on the individual creators or practitioners - the "human treasures" who carry legacy of the centuries long traditions, since this loss could even lead to the total halt to some practicing cultures. This is particularly linked with people’s identity and hence should be given high consideration during assessment. Special program is required to safeguard intangible culture of those towns or villages that need to be resettled after the earthquake.

Section 6. Implementation strategy and risk analysis

Potential implementing partners

Government:
- Ministry of Culture, Tourism and Civil Aviation - MoCTCA
- Department of Archaeology - DOA
• Pashupati Area Development Trust - PADT
• Bauddha Area Development Committee - BADC
• Ministry of Federal Affairs and Local Development - MoFALD
• District Development Committees, Municipalities and Village Development Committees
• Ministry of Urban Development
• Department of Urban Development and Building Construction

NGOs:
• International Council on Monuments and Sites - ICOMOS Nepal
• Federation of Swayambhu Management and Conservation - FSMC
• Kathmandu Valley Heritage Trust - KVHT (NGO branch of KVPT)
• Heritage and Environmental Conservation Foundation Nepal – HECFN
• Nepal Heritage Society
• Archaeological Society of Nepal
• Society of Nepalese Architects

Educational institutions:
Close collaboration should be maintained with technical colleges such as the Institute of Engineering (TU), Kantipur Engineering College (TU) and Khwopa Engineering College (PU).

Private sector and community groups:
The private sector must be encouraged to support heritage restoration through the formation of "user-committees" who have direct involvement in the reconstruction. This ensures communities’ ownership and long-term sustainability. Existing Community Based Organizations will be engaged in the preservation and restoration efforts.

International community:
International partners (governmental and private) have provided major support either by directly signing MoUs or by providing support through UNESCO or local NGOs. The following international institutions involved in research were coordinated and funded through UNESCO in close cooperation with the national authority, DoA: Universities such as Durham University (UK), “Sapienza” University of Rome (Italy), IUAV, University of Venice (Italy). Additional research activity by the National Research Institute for Cultural Properties, Tokyo (NRICPT) together with University of Tokyo (Japan), and series of capacity building activities by international organizations such as ICOMOS, ICOM and ICCROM together with Institute of Disaster Mitigation of Urban Cultural Heritage at Ritsumeikan University (Japan) were co-organized by DoA in close cooperation with UNESCO.

Key Issues and recommendations
A common plan and vision are to be developed with clearly defined responsibilities and a logical chain of command between NRA, NPC, MoCTCA, DoA, and also SWC (which is responsible for managing INGO and NGO inputs). Coordination between main authorities must be ensured through regular meetings to review progress and clarify implementation procedures. The coordination needs to include UNESCO to ensure that international conservation standards are applied. Rehabilitation of cultural heritage needs to be carefully planned and sequenced over the next five years.
Pressure to rebuild quickly without consideration of due processes and involvement of the community and stakeholders must be opposed. Preservation of original fabric should be prioritized over rebuilding.

The "National Reconstruction and Rehabilitation Policy", adopted by the National Reconstruction Authority has not accommodated various requirements of the culture sector. Therefore, necessary amendments must be incorporated in the policy.

The CL-PIU should be established soon possible which will help with overall planning, monitoring and coordination with districts/field levels, assisted by a team of specialists with experience in both tangible and intangible heritage areas. The drafting of the envisioned reconstruction, recovery and rehabilitation plan for the cultural sector needs to be carried out in an inclusive manner including all major stakeholders. This should also address specific needs to recover the Intangible Cultural Heritage (ICH) impacted.

DoA requires the necessary support to hire external engineers and architects to continue and complete necessary research, damage assessments and restoration planning. The Department of Archaeology will engage independent researchers to learn as much as possible about the impact of the earthquake on the cultural heritage and traditional forms of construction. This means that the focus of the research must be on gaining better knowledge of issues that are key in the rehabilitation process. Given the numerous tasks involved to recover the culture sector, a wide variety of outsourced experts and specialists of national and international recognition will be required such as: conservationists, art historian, iconographic experts, museum experts/curators, programming and database experts, structural and seismic engineers, geologists and geotechnical experts, architects, restorers, artisans, sociologists, cultural anthropologists, ritual specialists, linguists, ethno-musicologists etc.

Direct international funding extended to specific government organizations, NGOs, cultural institutions and organizations should be encouraged and the permission process for carrying out rehabilitation work simplified with the involvement of international actors, NGOs and community groups.

Detailed damage and recovery assessments are still to be carried out on numerous historic sites, monuments and displaced cultural objects. Research must include archaeological investigations, material testing, and structural assessments as well as - for particular sites - geological investigations. Each site needs a salvage action plan including monitoring and safeguarding by key people from DoA dedicated and accountable for maintaining salvage areas. Salvaged materials must be identified, inventoried and stored or exhibited in a secure environment. Various artefacts have already been moved to museums and therefore, such spaces need to be supported to improve conservation activities and storage conditions. The identification, assessment and conservation strategy for murals has been implemented alongside training - notably for the Shantipur murals now at the National Museum.

Serious efforts are necessary to protect vulnerable monuments from the monsoon and providing necessary shoring, propping up and temporary stabilization. There is further need for improved protection of many significant monuments and historic
buildings from the impeding monsoons. So far, the main focus has been on the seven monument zones of the Kathmandu Valley World Heritage Property.

Importance must be given to the **documentation, assessment and research of damaged heritage sites, monuments, and objects**. Rehabilitation interventions must be justified based on assessments and research, which will also allow improvement of knowledge on the significance and history of the heritage site, monument and object.

The reconstruction within the culture sector must be understood to be different from the reconstruction of contemporary structures and infrastructures. Regarding appropriate implementation, construction must be carried out by those who have the expertise and can ensure quality. Standard tendering procedures are not appropriate since specialized crafts-persons, materials, and procedures are required. **Pre-qualification of contractors**, identification of specialized artisans, and implementation through user-committees must be assured. A basic criterion to be considered for hiring contractors could be devised for the DoA (e.g. they must provide employment to local people and qualified artisans, etc.).

Specialized **master crafts-persons and artisans** must be provided special recognition by the State as carriers of the skills and knowledge required for the rehabilitation of cultural heritage. The master crafts-persons and artisans need to be reimbursed for their skills accordingly. The inclusion of artisans must be ensured. This requires specific arrangements for the identification, promotion and training of artisans. In some countries there is a required minimum percentage of construction budgets reserved for artisans.

**Appropriate production methods and procurement procedures for materials** needed for traditional construction methods must be facilitated by the government. This requires quality control and subsidies for materials such as wood and traditional bricks and tiles. If Nepal’s resources are insufficient (e.g. for hard wood timber), permission for imports needs to be arranged. Strategies for the procurement and production of traditional construction materials must be developed. For example, the Nepal Timber Cooperation should make provisions to provide adequate amounts of quality hard wood and pine timber. If Nepal’s market cannot meet the demand, which is likely, provisions must be made to allow the import from abroad.

The coordination within complex heritage sites and traditional settlements must be ensured through the preparation of **Rehabilitation Coordination Frameworks** which will be prepared in coordination and thereafter followed by all authorities and stakeholders. This is especially relevant for Hanuman Dhoka Durbar Square, Swayambhū, Changu Narayan, Sankhu, Kokhana, Nuwakot and Gorkha.

Special consideration shall be given to the rehabilitation of the monument zones of the Kathmandu Valley World Heritage Property, ensuring close cooperation with UNESCO, ICOMOS and the World Heritage Committee. For the sites on the Tentative List for World Heritage, reassessments shall be carried out to address the possible future nomination for World Heritage inscription in close collaboration with the community and local government. For each of these properties detailed rehabilitation coordination plans shall be prepared by the Department of Archaeology and external...
consultants, in close cooperation with the concerned local management unit or local authorities in charge.

Considering the large amount of information that has been collected before and after the earthquake, a functioning data management system for cultural heritage needs to be established. ARCHES is one such system that is being considered. Once the system is set up, the various inventories and data collections can be compiled into a single heritage management system.

The mapping of the Intangible Cultural Heritage (ICH) is still to be implemented with the participation of the communities concerned. This should be expanded phase-wise to cover the whole country’s rich and diverse ICH. An ICH department needs to be set up and coordinated through MoCTCA with support from UNESCO. Accordingly, capacity building activities as well as community support programs are of great concern to support the ability of communities to continue or recreate traditions within their changed environments and retain their cultural identities. This also implies the need of financing the additional professional staff to MOTCA and its concerned department/division responsible for ICH.

The in-depth assessment on threatened traditions often practiced by just a few individuals - the "human treasures"—should be given priority. Preserving ICH of resettled peoples: a special program is required to safeguard the intangible culture of those towns or villages that need to be resettled. Intangible culture is recognized as part of people’s cultural heritage, transmitted from generation to generation. As a consequence, communities whose cultural practices are at risk (e.g. only one master creator survives or community has to resettle into new location after the earthquake) will be given priority.

Strengthen Guthi associations by supporting smaller and regional festivals that have seen a decline due to peoples’ preoccupation in coping with the effects of the disaster and a general lack of financial means. Consequently, it is of utmost importance to provide adequate financial and technical support to ensure the continuity of all cultural and religious traditions.

Cross-cutting issues

The rehabilitation of traditional settlements in sync with the restoration of monuments needs to be closely coordinated between NRA, UN-Habitat, and the Department of Archaeology. There are 52 identified traditional settlements within the Kathmandu Valley and many more throughout the affected districts that require support to retain their unique identities. This also concerns the two sites on the World Heritage Tentative List that were greatly affected: the "Vajrayogini and early Settlement of Sankhu" and "Khokana, the vernacular village and its mustard-oil seed industrial heritage".

The rehabilitation of traditional settlements shall ensure that historical private houses are conserved, consolidated and reconstructed in their original location. The traditional methods, materials and style as well as the layout and ancient amenities such as traditional hitis (stone water spouts) pond must be preserved to retain the original social and cultural fabric of the cities. Focus should not be on recreating but preserving and improving of what remains of the rich history of these settlements and
facilitate the communities in the continuity of their culture. The process of appropriate rehabilitation to improve standards of living whilst ensuring the long-term sustainability and proper construction of houses must be ensured.

Considering that tourism is one of Nepal’s prime sources of livelihood, the development of the tourism sector needs to be closely linked to the cultural rehabilitation process, more so because culture and tourism come under the same ministry. The rehabilitation of the tourism and culture sector must include the participation of community members, the business community and other stakeholders.

Community resilience

The resilience in respect to the culture sector lies with the communities and their ability and will to ensure that the rehabilitation of the cultural heritage is ensured, be it tangible or intangible. The restoration and reassembling of the historic settlements and monuments must take into account a long-term vision for maintenance and restoration. Decisions of employing engineering solutions that only consider short term solutions of strengthening which then cannot be reversed or elements replaced must be hindered. In the culture sector “build back better” means ensuring that traditional technologies and materials are used to their best performance and ensuring quality.

Gender

The cultural activities developed around religion play an important role in providing support mechanisms for women and men individually and at the community level. The loss of livelihood assets centered around such activities could have a serious impact on the preservation of traditional skills in textile products such as the traditional Dhaka cloth weaving, which is predominantly practiced by women, and metal work done by men. Recovery process will promote preservation of such traditional skills.

Section 7. Financial requirements and planning

The total financial requirement for a full recovery estimated in the PDNA document was approximately USD 205 million. The PDNA included damage to the physical asset and infrastructure (a total of 691 buildings of historic value in 16 districts, temples in remote area and the monasteries in 16 districts) impact in livelihood estimated at 10% of damage, losses from the tourist ticket sales, professional support to the Department of Archaeology, Capacity building trainings and workshops, external technical support and 20% for the cost of recovery and reconstruction.

The PDNA document did not include all the required components mentioned in this PDRF document as per the real requirement which is now prioritized as immediate response, the short-term response and the long-term response. This document includes estimate of restoration and rebuilding of approximately 2200 monuments as per the information collected from the Ministry of Culture, Tourism and Civil aviation, Department of Archaeology, Guthi Sansthan, some municipalities within the Kathmandu valley and Gumba management committee. Other important components of the rehabilitation process for the next 5 years including the immediate protection and consolidation, legal documents preparation, assessments, research and documentation, resource development, expert consultation, traditional materials procurement and artisan integration related projects as well as long term conservation
planning of the sites, monuments and objects has been included in this document. For the support of intangible cultural heritage, no detailed assessment has been conducted yet.

As per the data collected from various sources stated above till date, a total financial requirement of approximately USD 352 million is estimated.

- Committed resources as of April 2016 amount to only NPR 2,903 million (or approximately USD 29 million).
- Additional financial requirements over the next 5 years are projected at NPR 32,328 million (or approximately USD 323 million).

The **immediate response** indicates the activities that need to be carried out in the first year as a preparation for long-term recovery. Among the USD 0.4 million for this immediate priority, 17% of the estimated cost is committed through the government and other development partners. The **short-term response** indicates the activities that need to be carried out mostly in first year and continue for the next 5 years. Among the USD .6 million estimated only 6% fund is committed. The **long-term response** indicates the activities of physical reconstruction and restoration that need to be carried out in the next 5 years. Among the USD 327 million estimated only 8% fund is committed.

<table>
<thead>
<tr>
<th>Budget</th>
<th>Five Years Budget (in Million NRs)</th>
<th>Total Budget for five years (in Million NRs)</th>
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<tr>
<td></td>
<td>FY 16-17</td>
<td>FY 17-18</td>
</tr>
<tr>
<td>Recovery and Reconstruction Budget Needed</td>
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<td>8518.16</td>
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</tbody>
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Projected financial disbursements by year indicated in the table above shows that the projected work target is consistent and feasible over the five years.
ANNEX 7:

Establishment of Heritage Impact Assessment

Various HIAs have been carried out and a system is being set, however to ensure that HIA is not misused and utilized in an inappropriate manner, the process of implementing HIA in Nepal needs to be institutionalize and standardize. The initial framework of procedures and formats have been prepared for further discussion and adoption.
1. Introduction and summary

Proposal for the establishment of an official Heritage Impact Assessment procedure in Nepal

Heritage Impact Assessment (HIA) can be a strategic means of ensuring that development and conservation activities in and around heritage properties do not cause an unacceptable degree of negatively impact. For HIA to be an effective tool, it must have legal justification and be integrated in official procedures. This proposal provides an overview of the how HIA can be established as an official procedure in Nepal. This would additionally require the formats and procedures for carrying out HIA.

Justification
There are no standard procedures for assessing the impact of development and conservation works on cultural heritage. Till present, this task has been dealt with by a component of an Environmental Impact Assessment (EIA). This has not been satisfactory particularly since the EIA procedure is not linked to the governance system of heritage. To address this disparity HIA has been promoted particularly by the World Heritage Committee and the advisory bodies ICOMOS and ICCROM. The HIA procedure once established would of course not only cater to World Heritage, but can be used as standard procedure for all identified cultural heritage sites.

Legislative basis
HIA needs to be embedded in the legislation of the Department of Archaeology. This means that in the sixth amendment of the Ancient Monument Preservation Act (AMPA 1956), the provision for HIA needs to be included. The Act would only mention the establishment of HIA, leaving the details to be formulated separately. This would give the Department of Archaeology the authority to demand HIA wherever found necessary and defined by respective regulations.

Regulations for HIA
The HIA procedure needs to be clearly defined within a set of regulations adopted by the Department of Archaeology. The regulations would identify under what circumstances HIA would be applied, as well as clarifying the format and process of implementation.

This proposal intends on providing recommendations for the detailed regulations for HIA to be established in Nepal.
Process of implementation

Once the need for HIA has been identified, a clear process needs to be followed which is integrated into the system of governance and justified by legislation.

The “Actor” is notified of the need for HIA and is requested to submit detailed project reports along with a request for HIA.

“DOA” assesses the size and complexity of the project based on given indicators and the indicated fee is paid by the “Actor”.

“DOA” selects a “Consultant” from a roster to carry out the HIA fulfilling specific selection procedures and providing a TOR / HIA category.

The chosen “Consultant” prepares the HIA as per the TOR / HIA category and based on defined HIA formats and submits it to “DOA”.

“DOA” sends the HIA to an “Advisory Body” that reviews the HIA and approves or provides comments / recommendations.

Based on the HIA Report and the comments / recommendations, “DOA” prepares the final decision and sends official letter to the “Actor”.

Recourse process if necessary, for “Actor” against the decision of “DOA”.

“Actor” implements as per decision with reporting to “DOA” as indicated in the official letter while allowing for necessary monitoring by “DOA”.

Process of legal action if necessary, against non-compliance to decisions of “DOA” by “Actors”.

On completion of project/action by “Actor” a final review is carried out by “DOA” with the “Consultant” and “Advisory Body” to provide a certification of compliance.
Involved parties:

Actor  the person or legal body that carries out actions that could impact heritage

DOA  Department of Archaeology (Focal Authority) under the Ministry responsible for Culture

Consultant  professional with adequate experience and training to carry out HIA to be listed in a roster prepared by DOA

Advisory Body  a body of experts to advise the authorities on HIA which could be represented by ICOMOS Nepal

Separation must be guaranteed between those intending to carry out a certain action which might impact heritage and those assessing the possible impact. The coordination would be done by the Department of Archaeology as the official focal point and authority for the process.

Objective of the Heritage Impact Assessment (HIA)

The HIA procedure is being established with the following objectives to safeguard heritage in the broad categories of heritage sites, monuments, historic buildings and cultural objects:

1. To provide a permit system to control impact of proposed projects and activities on heritage.
2. To mitigate the impact of past or ongoing projects or activities through assessments and recommendations for rectification.
3. To plan measures to control risk of future projects or activities that could potentially impact heritage.
2. Formats

For the establishment of a Heritage Impact Assessment in Nepal the following formats will be required. Draft formats are being provided in this report. These would still need to be discussed with experts and site managers. Only after several trial runs on practical Heritage Impact Assessments can these be finalized and adopted as standard formats.

**Required Formats**
- Detailed Project Report and Request Letter (*Actor*)
- Project Indicators (DOA)
- Consultant Roster (DOA)
- TOR for HIA preparation (DOA)
- HIA categories / format (Consultant)
- Format for comments / recommendations (Advisory Body)
- Official Letter (DOA)
- Certification of compliance (DOA)
2.1 Detailed Project Report and Request Letter (Actor)

The actor, whether a private person, institution, government agency or international organization, planning on carrying out any activity that would possibly impact heritage shall be required to submit a detailed project report and request letter.

**Detailed Project Report (DPR)**

The report shall include all relevant information required to assess the impact of the project on the heritage. This would mean include the following considerations:

(i) **The report shall have detailed explanations of all project components and activities** to allow for heritage to be safeguarded as per the three objectives of the HIA procedure. The detailed report shall provide all legal justification such as land ownership papers and other permissions.

(ii) **Activities linked to direct impact**: All project activities and project components need to be identified and documented, especially those that have direct impact on heritage. These could have physical impact, but could also have social, economic, chemical or other categories of impact on heritage.

(iii) **Activities linked to indirect impact**: All project activities and project components that could lead to indirect impact on heritage need to be identified and documented. These could be linked to activities that are indirectly generated out of the primary activities that would have impact later on.

(iv) **Activities linked to impact over time**: All project activities and project components shall be documented that would take place during preparation, implementation or during future operations.

(v) **Activities linked to impact over location**: All activities and project components would need to be provided with reference to their exact location relevant to the heritage.

**Request Letter**

The actor shall submit with the Detailed Project Report a request letter addressed to the Department of Archaeology. The letter shall follow the format with the contents as defined below.

(i) Addressed to Director General, Department of Archaeology

(ii) Subject of the letter shall be “Request for Heritage Impact Assessment for (Project / Activity Title)”.

(iii) Short description of and reason for project / activity

(iv) Request statement for HIA

(v) Agreement to pay standard expenses for getting HIA done

(vi) Agreement to follow standard procedures for HIA

(vii) Signature of authorized person with certification
2.2 Project Indicators (DOA)

The project / activity report that is submitted by the Actor will need to be first assessed first for its legitimacy. Once that is ascertained, then the project / activity will be assessed for its scale and complexity in respect to preparing the HIA.

The project indicators are the required considerations for assessing scale and complexity of the project / activity to determine the timeframe and cost for the preparation of the HIA:

A. The HIA would generally have three components: (cost based on scope)
   (i) Assessment of proposed project / activity and recommendations for providing permit or for modifications
   (ii) Assessment of past projects and interventions and recommendation for rectification
   (iii) Assessment of future threats and recommendation for planning mechanisms

B. Complexity (cost based on required expertise and team members)
   (i) Simple project / activity in a simple context requiring straightforward assessment without any specialized experience or expertise.
   (ii) Requiring higher level of expertise but in standard fields of cultural heritage such as architecture, archaeology.
   (iii) Requirement in additional specialized fields which could be in technical or social fields.

C. Scale (cost based on size of the project and required time for assessment)
   (i) Individual activity – activities other than major construction which could include temporary structures
   (ii) Small project – individual buildings or interventions
   (iii) Large project – larger complexes, roads, etc.
   (iv) Special circumstances

D. Location (rough calculations done as per cost to reach site including time)
   (i) Kathmandu Valley
   (ii) Accessible by flight
   (iii) Accessible by road plus up to half day walk
   (iv) Accessible by walking (max 7 days)
   (v) Very remote accessible by helicopter or walking more than a week

The calculations for time and cost shall be done based on the considerations as stated above. Standards shall be developed for each of these points to ensure that they correspond to the actual costs. These calculations shall be shown to the Actor when requesting payment for implementing the HIA.
2.3 Consultant Roster (DOA)

Once the project indicators have been defined and the Actor has paid the cost for the implementation of the HIA, the Department of Archaeology will choose the Consultant who will carry out the HIA. This requires a consultant roster of appropriate consultants who are capable of carrying out the HIA as per the project indicators (especially in respect to the complexity and the required expertise).

The Consultant Roster and choice of contractor shall be done considering:

A. Eligibility
   Individuals or companies that have experience in working on heritage conservation are eligible to register. The registration shall however be reviewed by the relevant office in the Department of Archaeology.

B. Registration Form
   Candidates shall register by filling out a registration form with a detailed curriculum vitae / company profile attached with information relevant to heritage conservation and the preparation of HIAs. Legal registrations along with PAN and/or VAT registrations shall be submitted.

   The registration form shall be prepared to include names, photos, contact details, short explanation on expertise and experience.

C. Categorization based on expertise and capacity
   The consultant (expert individuals or companies) once registered shall be categorized based on type of expertise, capacity and experience.

D. Choice of consultant for specific
   When choosing the consultant for any specific HIA, the requirements in respect to expertise, capacity and experience shall be considered. Should any specific expertise be required, this will be negotiated with the consultant before finalizing the TOR and signing the contract. The consultant shall not have any conflict of interest when carry out the HIA.

E. Required training
   All consultants shall attend at least one training course every year to be allowed to renew their registration. Training courses on HIA shall be provided twice a year by the Department of Archaeology. Such training course would need to be closely linked to the gathered experience in implementing HIA in Nepal and taking into account international trends in HIA.

F. Removal of consultant from roster
   Consultants shall be removed from the roster should they not perform as per the TOR and contract, not join the required training, carry out a HIA despite conflict of interest or be involved in any inappropriate activity for personal gain.
2.4 TOR for HIA preparation (DOA)

As per the Project Indicators and with the choice of consultant, a contract shall be signed between the Department of Archaeology and the consultant to carry out the Heritage Impact Assessment. The consultant TOR shall contain at least the following points. (The TOR can be standardized with parts that would need to be filled as per the specific conditions of the project / activity)

A. Short description of project
   What type of project / activity with short description as per Detailed Project Report and Request Letter from the Actor.

B. Scope of work
   The TOR shall indicate the scope of the assignment in respect to the three possible components responding to the objectives of the HIA process. These would be whether the HIA would need to assess
   ➢ proposed project / activity and recommend permit or modification;
   ➢ assess past projects and recommend interventions for rectification;
   ➢ assess future threats and recommend planning mechanisms

C. Complexity of project / activity
   The TOR shall indicate the complexity of the project based on the requirement of experts and the organization of the team members. The categorization will be based on the following categories used to calculate the remuneration.
   ➢ Simple project / activity in a simple context without specialized expertise.
   ➢ Requiring higher level of expertise but in standard fields of cultural heritage
   ➢ Requirement in additional specialized fields such as technical or social fields

D. Scale of project / activity
   The TOR shall indicate the scale of the project which can be categorized depending on the size but also the extent of the intervention.
   ➢ Individual activity –activities other than major construction
   ➢ Small project – individual buildings or interventions
   ➢ Large project – larger complexes, roads, etc.
   ➢ Special circumstances requiring detailed investigation

E. Location
   Categorization based an ease of access to the location
   ➢ Kathmandu Valley
   ➢ Accessible by flight
   ➢ Accessible by road plus up to half day walk
   ➢ Accessible by walking (max 7 days)
   ➢ Very remote accessible by helicopter or walking more than a week

F. Standard Conditions of Contract
   ➢ Time frame
   ➢ Remuneration and mode of payment
   ➢ Standard contract requirements
2.5 HIA categories / format (Consultant)

The HIA categories are based on the three objectives of the HIA procedure. These would be:

1. **proposed project / activity and recommend permit or modification**

   The project / activity that the actor is proposing to carry out near a heritage site, monument, historic building or cultural object must be assessed in respect to its possible impact. According to the assessment a recommendation is formulated by the consultant for action to be taken by the Department of Archaeology.

   The assessment outcome should either provide a recommendation to allow for the project / action to be carried out (with justification) or if not, detailed recommendations for modifications to the project / activity need to be provided. The Department of Archaeology will need to be able to either allow the project / activity to move ahead as proposed or then should provide specific recommendations to be adopted by the Actor to be allowed to continue.

2. **assess past projects and recommend interventions for rectification**

   Should there be previous projects / activities that have been carried out in the same area impacting the same heritage site, monument, historic building or cultural object, the Consultant shall assess the impact of these. These might be directly linked to the proposed project or might only be linked by location, but all that which is impacting the specific heritage must be assessed.

   Should there be any impact caused by these previous projects / activities, recommendations need to be provided by the Consultant to the Department of Archaeology on what kind of interventions would be required for the rectification. These rectifications might not have anything to do with the Actor which would then require a different approach and means of rectification.

3. **assess future threats and recommend planning mechanisms**

   The assessment of a proposed project / activity in a given heritage site, monument, historic building or cultural object would be the right opportunity to assess future threats and begin putting in planning mechanisms.

   If existing plans or management systems have been established, these can be assessed in respect to their effectiveness. If there are no plans in place, proposed interim measures need to be provided. These would include at least basic buffer zones and control mechanisms for threats that could be implemented by local authorities.

   Any assessment can consist of any one, two or all the components depending on the circumstances.
2.6 Format for comments / recommendations (Advisory Body)

The HIA report that is submitted by the Consultant shall be reviewed by the Advisory Body. The advisory body shall ensure that the basic requirements of the TOR have been fulfilled while reviewing the overall assessment in respect to the three components.

The Advisory Body shall carry out a desk review and only if there are major conflicting issues will someone be sent to assess the site.

The main points that the Advisory Body will check:

1. **Overall process and content**

   The Advisory Body shall check the process of preparing the HIA report by the Consultant which would also include legal and ethical issues. The Advisory Body shall check the content of the HIA report prepared by the Consultant based on the TOR and discussions.

2. **The assessment and recommendations for each HIA category**

   The Advisory Body shall check the assessments carried out by the Consultant, especially whether they are correct and acceptable within the prevalent understanding of conservation practice. Closely linked to this is also the checking of the relevance of the recommendations made by the Consultant.

   The Advisory Body shall provide a note and recommendation which will include the outcome of their review of the Consultant Report. The points that would make up the Advisory Body note and recommendation:

   1. **Note on process and content**

      The Advisory Body shall provide notes to the Department of Archaeology on the process and content of the Consultants preparation of the HIA. This would include the assessment of legal and ethical issues.

   2. **Note on assessment and recommendations**

      The Advisory Body shall provide notes to the Department of Archaeology on the assessments done by the Consultants and particularly comment on the recommendations. This would especially focus on whether the assessments and recommendations are based on the prevalent understanding of conservation.

3. **Recommendation on Consultants report**

   The Advisory Body may recommend the adoption of the Consultant report, the adoption with amendments, the return of the report to the Consultant for further clarifications and detailing or the total rejection of the Consultant report.
2.7 Official Letter (DOA)

The Department of Archaeology will determine the outcome of the HIA based on the Consultant’s report and the Advisory Bodies recommendations. Once this process has been finalized the Department of Archaeology will formulate and send to the Actor a letter with the final decision. This letter would be a legal document that would be legally binding.

The Official Letter that is sent by the Department of Archaeology to the Actor shall contain at least the following points:

1. Final Decision

   The Department of Archaeology shall formulate the final decision as a response to the application for a HIA submitted by the Actor. The final decision can be in short any of the following three options:
   (i) acceptance of proposal as submitted
   (ii) acceptance of proposal but with amendments
   (iii) rejection of proposal

2. Justification

   The Department of Archaeology shall provide a justification to the decisions that has been taken. This would need to be linked to appropriate legal provisions as well as the assessment carried out by the consultant and review by the advisory body.

3. If applicable required amendments to the project

   If applicable, the Department of Archaeology shall provide detailed information on the required amendments to the project which shall be binding if the Actor would want to continue with the project / activity.

4. Notes on related decisions on rectifications and planning

   The Department of Archaeology shall provide information related to the assessment and rectification of past projects and activities as well as planning recommendations to safeguard the site from potential threats. This information will become part of the overall guiding principles for the implementation of the proposed project.

5. Validity of decision

   The Department of Archaeology shall provide exact dates for the validity of the decision, which means the project / activity would need to be completed and be ready for final assessment by a given date of expiry of permission.
2.8 Certification of compliance (DOA)

On completion of the project / activity or latest by the final date of expiry of the permission the Department of Archaeology shall assess the project. This assessment shall be carried out in consultation with the Consultant and the Advisory Body in the presence of the Actor.

The requirements that need to be fulfilled for issuance of the Certificate of Compliance are as follows:

1. Final Decision

   Compliance to final decision as stated in the Official Letter sent by DOA which could be either (i) acceptance of proposal as submitted; (ii) acceptance of proposal but with amendments or (iii) rejection of proposal.

2. If applicable required amendments to the project

   Compliance to required amendments to the project where relevant as stated in the Official Letter sent by DOA

3. Notes on related decisions on rectifications and planning

   Compliance to related rectifications and planning provisions defined in the Official Letter sent by DOA

4. Validity of decision

   Compliance to timeframe as defined in the Official Letter sent by DOA

Should the assessment of the project / activity show that there was no or not sufficient compliance, legal steps would need to be taken to rectify the situation. In the meantime, if any cultural heritage is irreversibly affected, more severe consequence must be ascertained.
3. Processes

For the establishment of a Heritage Impact Assessment in Nepal the following processes will be required. Draft processes are being provided in this report. These would still need to be discussed with experts and site managers. Only after several trial runs on practical Heritage Impact Assessments can these be finalized and adopted as standard formats.

**Required processes:**
- Process for Selection of Consultant by DOA
- Process of preparation of HIA by Consultant
- Recourse process for Actors
- Reporting by Actor
- Monitoring by DOA
- Process of legal action by DOA
- Process of final review by DOA / Consultant / Advisory Body
3.1 Process for Selection of Consultant by DOA

As per the overall process the Actor submits detailed project reports and the Department of Archaeology assesses the project / activity based on indicators. The Actors then need to pay the indicated fees for carrying out the HIA. This then becomes the basis for selection of Consultants by DOA.

The “Actor” is notified of the need for HIA and is requested to submit detailed project reports along with a request for HIA.

“DOA” assesses the size and complexity of the project based on given indicators and the indicated fee is paid by the “Actor”.

“DOA” selects a “Consultant” from a roster to carry out the HIA fulfilling specific selection procedures and providing a TOR / HIA category

For the Department of Archaeology to choose the Consultant who will carry out the HIA, a consultant is chosen from a roster while ensuring capability to carry out the HIA as per the project indicators (especially in respect to the complexity and the required expertise).

Establishment of Consultant Roster

The Consultant Roster shall be prepared based on the parameters indicated in the Consultant Roster format (Report Part One 2.3) which includes eligibility, information provided in the registration form (curriculum vitae / company profile attached with information relevant to heritage conservation and the preparation of HIAs. Legal registrations along with PAN and/or VAT registrations shall be submitted). The Consultants are then categorized based on expertise, capacity and experience.

Choice of Consultant

When choosing the consultant for any specific HIA, the requirements in respect to expertise, capacity and experience shall be considered. Should any specific expertise be required, this will be negotiated with the consultant before finalizing the TOR and signing the contract. The consultant shall not have any conflict of interest when carry out the HIA.

The choice of the consultant shall be in rotational basis with the next appropriate Consultant on the Roster List being approached to carry out the HIA. This might mean skipping Consultants at the top of the list who might not be appropriate for the given task. The chosen Consultant may decline the task if an acceptable justification is provided. The consultant who has carried out an HIA then joins the list at the bottom again.
3.2 Process of preparation of HIA by Consultant

As per the overall process the Consultant is selected and a TOR is prepared as per the required HIA for the proposed project / activity. The Consultant would then need to carry out the HIA based on standard formats. These would then be reviewed by the Advisory Body.

"DOA" selects a "Consultant" from a roster to carry out the HIA fulfilling specific selection procedures and providing a TOR / HIA category

The chosen "Consultant" prepares the HIA as per the TOR / HIA category and based on defined HIA formats and submits it to "DOA"

"DOA" sends the HIA to an "Advisory Body" that reviews the HIA and approves or provides comments / recommendations

The TOR would define the overall requirement as per the Project Indicators (Report Part One 2.2). The project indicators are the required considerations for assessing scale and complexity of the project / activity to determine the timeframe and cost for the preparation of the HIA. These include **Complexity** (Simple project, requiring higher level of expertise but in standard fields of cultural heritage or requiring additional specialized fields), **Scale** (individual activity, small project, large project or special circumstances and **Location** (Kathmandu Valley, accessible by flight, accessible by road plus up to half day walk, accessible by walking [max 7 days], very remote accessible by helicopter or walking more than a week).

The consultant will be required to:

- **Visit the site** and study the circumstances as they are on location
- **Define its values** and determine the most important attributes and elements of the heritage site, monument, historic building and/or cultural objects
- **Determine the impact and threats** to the attributes and elements that express the value of the heritage

The HIA would any one, two or all three components: (for each of these components detailed content formats would need to be prepared.

(i) **Assessment of proposed project / activity** and recommendations for providing permit or for modifications

(ii) **Assessment of past projects** and interventions and recommendation for rectification

(iii) **Assessment of future threats** and recommendation for planning mechanisms
3.3 Recourse process for Actors

As per the overall process an official letter is sent by the Department of Archaeology to the Actor with the final decision in respect to the HIA. Should the Actor not be agreeable to the decision, recourse is possible.

Based on the HIA Report and the comments / recommendations, “DOA” prepares the final decision and sends official letter to the “Actor”

Recourse process if necessary, for “Actor” against the decision of “DOA”

“Actor” implements as per decision with reporting to “DOA” as indicated in the official letter while allowing for necessary monitoring by “DOA”

The Official Letter that is sent by the Department of Archaeology to the Actor contains at least the following points:

1. **Final Decision**: (i) acceptance of proposal as submitted, (ii) acceptance of proposal but with amendments or (iii) rejection of proposal
2. **Justification**: justification to the decisions that has been taken linked to appropriate legal provisions as well as the assessment.
3. **If applicable required amendments to the project**: detailed information on the required amendments to the project.
4. **Notes on related decisions on rectifications and planning**: information related to the assessment and rectification of past projects and activities as well as planning recommendations to safeguard the site from potential threats.
5. **Validity of decision**: exact dates for the validity of the decision, which means the project / activity would need to be completed.

For any of these points, recourse can be taken with a clear justification for the Department of Archaeology to reconsider. The recourse would be submitted as a written document with the necessary references and justification (reasoning and legal provisions) to back up the recourse claim.

This would then be discussed with the Consultant and the Advisory Body taking into account the justification provided by the actor. A revised Official Letter will then be sent to the Actor with the response to the recourse. Recourse can be taken repeatedly, however no work may begin without the dispute being finalized.
3.4 Reporting by Actor

As per the overall process when the Actor receives the official letter and all disputes are clarified and agreed upon and if permission is given, the Actor will start the project / activity. During the entire process the Actor shall provide the Department of Archaeology with detailed reports as defined in the Official Letter.

Based on the HIA Report and the comments / recommendations, “DOA” prepares the final decision and sends official letter to the “Actor”

Recourse process if necessary, for “Actor” against the decision of “DOA”

“Actor” implements as per decision with reporting to “DOA” as indicated in the official letter while allowing for necessary monitoring by “DOA”

The reporting by the Actor to the Department of Archaeology shall be done based on the conditions defined in the Official Letter. The reporting shall include progress as well as any changes or new insights into the circumstances. Any new information on the heritage site would be passed on to the Department of Archaeology.

3.5 Monitoring by DOA

As per the overall process, if found necessary, the Department of Archaeology may carry out monitoring of the project / activity at any time.

“Actor” implements as per decision with reporting to “DOA” as indicated in the official letter while allowing for necessary monitoring by “DOA”

Process of legal action if necessary, against non-compliance to decisions of “DOA” by “Actors”

On completion of project/action by “Actor” a final review is carried out by “DOA” with the “Consultant” and “Advisory Body” to provide a certification of compliance

Should the reporting by the Actor not seem sufficient, the Department of Archaeology can establish its own monitoring of the project / activity. This means that any supervisor can be deputed to oversee activities. This can be full time or at specific intervals as found necessary.
3.6 Process of legal action by DOA

As per the overall process, should there be any part of the project implementation that does not comply with the Official Letter, the Department of Archaeology may stop work and take legal action against the Actor.

“Actor” implements as per decision with reporting to “DOA” as indicated in the official letter while allowing for necessary monitoring by “DOA”

Process of legal action if necessary, against non-compliance to decisions of “DOA” by “Actors”

On completion of project/action by “Actor” a final review is carried out by “DOA” with the “Consultant” and “Advisory Body” to provide a certification of compliance

During the course of the Project / Activity if there is any concern about the on-going process, the Department of Archaeology may stop the work, request rectification or if necessary, take legal action. This would then revert to the courts; however, a stay order must be issued to ensure that the project / activity halts.

3.7 Process of final review by DOA / Consultant / Advisory Body

As per the overall process once the project / activity is completed, a final review shall be carried out by the Department of Archaeology in consultation with the Consultant and the Advisory Body in the presence of the Actor.

“Actor” implements as per decision with reporting to “DOA” as indicated in the official letter while allowing for necessary monitoring by “DOA”

Process of legal action if necessary, against non-compliance to decisions of “DOA” by “Actors”

On completion of project/action by “Actor” a final review is carried out by “DOA” with the “Consultant” and “Advisory Body” to provide a certification of compliance

Should compliance be found with all points mentioned in the Official Letter, a certificate of compliance shall be awarded to the Actor which allows for full legal recognition of the Project / Activity.
ANNEX 8:
Assessment of Post-Disaster Rehabilitation of
Kathmandu Valley World Heritage
1. Introduction:

Kathmandu Durbar Square ("UNESCO World Heritage Site") also known as Hanuman Dhoka square is one of the major attractions in Kathmandu Valley. Most of the cultural centres of Nepal are concentrated around the Kathmandu valley; among those cultural sites, the important one is the Hanuman Dhoka Durbar Square. The name Hanuman Dhoka Durbar came from the statue of Hanuman established by the King Pratap Malla at the entrance of the royal palace in 1672 A.D. storied residence built by King Prithvi Narayan shah in 1770, is called Basantapur Durbar (palace). The whole complex is also known as Kathmandu Durbar Square.

Located at the heart of ancient city in Kathmandu it is surrounding both Hindu and Buddhist temple. Most of them are built in the pagoda style embellished with intricately carved exteriors as well as Most of the buildings we see here date from 15th to 18th century. The Durbar Square, with its old temples, palaces, epitomizes the religious and cultural life of the people. The major Interesting things to see here are "Kumari (The Living Goddess) Gar" "Kasthamandap" Maru Ganesha, Mahadev Temple, Shiva Parvati Temple, Bhagwati Temple, Old palace, Saraswoti temple, Krishna Octangular Temple, Big drums, KalBhairav, Jagannath Temple, and Taleju Temple etc.
the people from all over the city gather here to mark their centuries old traditions. All the carving and architecture in this area are exceptionally fine which make the architecture in this Hanuman Dhoka Durbar square among the most important sights for travellers to see a statue of Hanuman, the monkey devotee of Lord Ram, at the entrance of the palace.

Figure 2  Hanuman Dhoka Durbar Square (UNESCO)

The proposed Core zone area is 5.09 ha and the proposed boundary area is 6.77 whereas the proposed buffer zone area is 6.47 ha.

2. Overall Impact of the Gorkha earthquake
The earthquakes of April 25 2015 and May 12 2015 have caused heavy damages to the various monuments of Kathmandu Durbar square. As reported in various report,

There were 140 monuments damaged completely and partially. Among 140 monuments damaged within Kathmandu Valley World Heritage 39 monuments were in Hanuman Dhoka Durbar Square. Among those 39 damaged monuments many are already restored some are under restoration.

Figure 3  Damage heritages of Kathmandu Durbar Square after Gorkha Earthquake
3. Plan for on-going rehabilitation of monuments and rehabilitation of remaining damaged monuments

A. Gaddi Baithak (Partially damaged monument)
Located North of Kumari Chhen, Gaddi Baithak is a neo classical building from which Nepal’s King’s ruled and settled the affairs of the country – hence its name, which means Royal Seat. The structure was built in 1908 AD by Rana Prime Minister Chandra Shumsher, followed by the European architectural design. It was also the place where important foreign guests like ambassadors were welcomed by the king. Most of the citizens and tourists gather around this place as the best hub in Kathmandu. On the other hand, Gaddi Baithak highlights its important structure of mythical, historical and cultural significance of heritage sites.

Damage after 2015 Earthquake
Gaddi Baithak suffered heavy damage during the 2015 Earthquakes. The damage followed a similar pattern to the 1934 Earthquake. There were numerous total and partial collapses of various building walls and parapets. Additionally, Pillars tilted or collapsed, semi-circular columns, embedded in the main halls were severely cracked and walls separation occurred in isolated areas. The retrofitting work was carried out by Miyamoto Global Relief which was funded by US Ambassador’s Fund. Initially damage assessment was done including targeted structural interventions to improve the building’s seismic performance without compromising or affecting its architectural heritage or integrity.

Present Status of Gaddi Baithak

Figure 5  Gaddi Baithak after reconstruction
Figure 4  Damage after 2015 Earthquake
The retrofitting work has been completed. During restoration and strengthening, traditional and original materials were used with methods aimed to retain as much of the original fabric as possible. Targeted structural interventions improved building’s seismic performance, but these elements were limited, unobtrusive and where possible reversible. A three-dimensional structural analysis model was built to study Gaddi Baithak in its original configuration.

The reconstruction effort sought to preserve the existing brick masonry in mud mortar and only replace where required with new masonry wall that matched the original materials as closely as possible. During the rebuilding of the masonry wall, horizontal wooden ties are integrated to enhance its performance during seismic movements. South parapet wall was strengthened with A-frame bracing. The original parapet was 2.5 meters tall, unbraced and unreinforced. A parapet, architecturally identical to the original one, with an internal wooden frame was introduced. A new diaphragm at the roof level of the Southern balcony was introduced to tie the freestanding columns with the Southern wall of the main Hall. To enhance the force generated from the roof onto the wall in case of seismic movements, an interior floor diaphragm around the perimeter of the hall at the cornice level just below the vaulted ceiling was incorporated. Additional bracing was installed between the existing roof trusses which will enhance the performance of the wooden truss. To confine the interior semi-circular wall on to the main structural wall metal rods was used. Further to avoid the fissure as seen in 2015 earthquake, wire mesh has been used before plastering the partially rebuilt columns. Steel tie rods were installed in all four corners of the building to brace them against each other.

The reconstruction returned the building to its previous condition both architecturally and structurally. Materials, methods, and elements were replaced to adhere to the original construction where possible. The original architectural elements were safeguarded as much possible while integrating the interventions and reinstalled. However, the damaged elements were replicated using the Local materials and techniques.

The damage that was caused to the monument was well documented by Miyamoto Global Relief and DOA. Collection, sorting and documentation of the salvaged materials were also done. Proper documentation before Earthquake was missing. The drawings for reconstruction were also done only after Earthquake by Technical teams of Miyamoto Global Relief. The process of construction was forwarded by Tender.

The Project is supported by US Ambassadors Fund, Miyamoto Global Relief. There was not much participation from Local community in reconstruction process. However Local...
community participated in response activities right after the Earthquake. There was regular supervision from Local authorities (Ward Head, Mayor and officials from DOA).

B. Structures of Lohan Chowk

On the south side of the Nasal Chowk is the Lohan Chowk, which was the residential wing of the Malla Kings. The entrance of the chowk is surmounted by two images of Lord Ganesh on either side, who is believed to protect the palace. All four corners of the courtyard support the four different types of towers named Lalitpur Tower, Bhaktapur tower, Kirtipur tower and the Basantapur tower.

**Basantapur tower**

Basantapur tower is on the south side of the Nasal Chowk and on South-West side of LohanChowk. This tower is based on a rectangular plan. It has nine stories, a four-tiered roof and a copper pinnacle at the top. This thirty-meter-high tower was built to create a pleasant pavilion and was named Basantapur Tower, meaning pleasant pavilion. Also known as Nautale Durbar it was built after the Shahs conquered Kathmandu in 1769. This tower used to dominate the palace complex. (The longest way home, 2019)

**Lalitpur tower**

Lalitpur tower is on the South-East side of Nasal chowk and Lohanchowk.

**Kirtipur tower**

Kirtipur tower is on the Northern side of Lohanchowk and Eastern side of Nasal chowk.

**Bhaktapur tower**

Bhaktapur tower is on the North-East side of Lohanchowk and Eastern side of Nasal chowk.

**Damage after the 2015 Earthquake**

The upper three floors of the Basantapur Tower were damaged during the 2015 earthquake. Other floors suffered less damage in comparison to the upper two floors. In overall, except upper three floors, Basantapur tower was partially damaged. Some 80 percent of the walls suffered varying degrees of deformation and cracking due to the tremors, and numerous wooden components were damaged and scattered. After damage assessment, the reconstruction work was started by CACH (Chinese Academy of Cultural Heritage). (Xinhuanet, 2019)

Kirtipur tower was partially damaged during the 2015 Earthquake. The major damages occurred in the walls where walls were inclined from the original position. Wooden supports were damaged and also, strut and...
window’s elements were collapsed. Roof of Kirtipur tower was damaged too which was later replaced by Copper sheets maintaining the original fabric of the tower.

Bhaktapur tower also suffered partial damage during the 2015 Earthquake. Here also, the major damages occurred in the walls and wooden support. Wooden beams faced crack which was replaced by a new wooden support. Also, there was damage seen in the walls, which was re-erected by collapsing the damaged area. Use of similar characteristics material was done.

Lalitpur tower was partially damaged during the 2015 Earthquake. The major damages occurred in the walls and roof. Roofing was completely rebuilt and damaged walls were re-erected.

**Present Status**

The reconstruction of Basantapur tower is an ongoing project at present. Initially, it had taken almost half a year to eliminate potential risk in the crippled complex. Then the collection of wooden structures and sculptures in the debris was done. The challenge that existed at the beginning was that some of fallen structures were taken away by Locals and some had been wrongly collected. The damaged and rotten wooden members were replaced with new timber members and copper plates were introduced between the joint of the wooden pillar and the brick wall. The Basantapur tower is being reconstructed in its original form with no alterations done in construction. Some of the materials which were lost or damaged were replaced with its replicas and the materials used are as per specification by DOA. The new material used replicated the original design and displays the traditional techniques and the workmanship. Materials such as Nepali salwood, dachi-apa, ma-apa, yellow mud mortar and jhingati are used for the reconstruction and are supplied by different vendors.

Skilled craftsmen from Bungamati, Kirtipur and Bhaktapur have been brought to craft the wooden details. Almost all the craftsmen have a history of their ancestors being linked with the Durbar. At present there are almost 30 skilled manpower workings.

The damage that was caused to the temples after the earthquake is well documented by CACH. Collection, sorting and documentation of the salvaged materials were also done. There wasn’t proper documentation of the monument before the earthquake and had to be collected after the earthquake only. The drawings for the restoration were also prepared only after the earthquake by CACH.
Lalitpur tower, Kirtipur tower and Bhaktapur tower all have been completed in the F/Y 74/75.

The project is supported by the funding of Chinese Government, Chinese Academy of Cultural Heritage. The local community participated in the response activities after the earthquake. However, there is no participation of local community in reconstruction work as the Chinese Agency doesn’t allow visit of any unauthorized person within the heritage site.

C. Kageshwor Mahadev Temple (partially damaged)

Kageshwor Mahadev temple is situated at Hanuman Dhoka Durbar Square, North of Gopinath temple. Built in 1711 by Queen BhuvanLaxmi in memory of the Late King BhupendraMalla, the temple was originally a pagoda style structure in the distinctive local Newari style. Kageshwor, a Hindu deity in the form of a cross is an incarnation of Shiva. The temple is unusual because its pagoda style ground floor is surmounted by a Shikhari style dome. (Kisannagar, 2012)
**Damage after the 2015 Earthquake**

The 2015 Earthquake caused major damages in the temple structure. The Shikhara style roof was completely collapsed and the brick walls had cracked and some were collapsed too. KVPT previously too had done the reconstruction of Kageshwor temple. Rohit Ranjitkar says that this was probably added after the temple was damaged in an earthquake in the early 19th century. Poor restoration work after the 1934 earthquake led to further degradation of the temple. The timber roof and walls had to be renovated. The main reason of damage to the temple was found to be weak capacity to bear strength and lack of maintenance.

**Present status of Kageshwor temple**

The reconstruction work has been completed in the F/Y 74/75. The stone steps with the side wall were completed using traditional bricks (Daci-Apa). There has been use of header brick (ma apa) to ensure better connection of the veneer with the inner masonry core. Care has been taken to use such bricks at regular intervals to avoid dislodging of the veneer bricks as during the 2015 earthquake. Masons also did check line, level and plumb at regular interval during masonry wall construction. Bituminous paint and copper cladding were applied for moisture protection on timber columns. Mud mortar was reconstructed to reduce vulnerability to future earthquake and further structural strengthening was carried out. Inappropriate red wash was removed from the walls and the original wood carvings were restored. Other repair and maintenance work were further carried out. There was addition of metal ties in the walls to increase the strength and to bind the structure in case of seismic forces.

![Figure 12 Reconstruction Phase](image-url)
Craftsman working with KVPT from 1991 and experienced in traditional material were selected for the reconstruction work. Around 10-15 workers were working in the site. The temple structure being not so big and fluency in work lead to the timely reconstruction of the temple.

The damage that was caused to the temples after the earthquake is well documented by KVPT. Collection, sorting and documentation of the salvaged materials were also done. Previously too, KVPT had done the work of Kageshwor temple. So, there was documentation available of their own work which also reduced the time for measure drawings. The reconstruction work of all the monuments was documented on a daily basis through measured drawings, photographs and videos. Each and every part of the monument and every detail of the original or the replicas is documented.

The project was supported by various donors of KVPT and all the supervision and decision making were done by KVPT along with DOA. There wasn’t much participation of community in the reconstruction process.

D. Laxmi Narayan temple
Laxmi Narayan temple is situated just backside of Kal Bhairav.

Damage after the 2015 Earthquake
The temple suffered serious damage during the 2015 Earthquake. All the ground floor brick masonry failed during the Earthquake.

Present status of Laxmi Narayan temple
The partial restoration work has been completed in the F/Y 72/73. Outer timber column was installed to hold the brick masonry and door frame together, tied with timber cornice and base stone. Installation of outer timber column resting on the 8” x 8” x 6” thick stone base (ilobhan) and securely pinned to the cornice above with 10 mm dia, 25 cm long stainless-steel dowel and tied to the existing inner timber post. New timber corner column doweled to the cornice beam and tying the timber carved door frames and inner timber frames with horizontal bracing. New timber columns were added on the all four outer corners and a 12 mm stainless steel dowel was used to secure the timber columns with the horizontal member above. The new outer timber post at the Northwest corner was secured with steel dowels (12 mm dia0 at the top and to the base (ilobhan) below. (KVPT, 2018)

Craftsman working with KVPT from 1991 and experienced in traditional material were selected for the reconstruction work. The job was of partial restoration and the restoration work completed on time.

The damage that was caused to the temples after the earthquake is well documented by KVPT. Collection, sorting and documentation of the salvaged materials were also done. The reconstruction work of all the monuments was documented on a daily basis through measured drawings, photographs and videos. Each and every part of the monument and every detail of the original or the replicas is documented. Adding few necessary woods, all the wooden members from the temple was reused in the conservation.
The project was supported by various donors of KVPT and all the supervision and decision making were done by KVPT along with DOA. There wasn’t much participation of community in the reconstruction process.

E. Tarini Devi temple
The Tarini devi temple conservation work is completed. The temple of Tarinidevi, also known as TariniBahal, in Hanuman Dhoka protected monument zone, is located outside the palace premises. The temple was targeted to conserve before the earthquake and was more damaged by the earthquake. The temple is conserved in initiative of local community with the mutual fund of municipality and community under the close inspection of the Department of Archaeology.

F. Kasthamandap
Kasthamandap also known as Maru Sattal; literally "Wooden Shelter" is a three-storied public resting shelter that enshrined Gorakshanath, situated in Hanumandhoka Protected monument Zone in the Southwestern corner of Durbar Square. It was completely collapsed by the 2015 earthquake. Several myths and stories about the date of the construction of the structure of the Kasthamandap have been resolved with the recent
archaeological findings. The newly discovered objects during the rescue excavation in the aftermath of the earthquake have suggested that the Kashtamandap may have been built in the 7th century during the Lichhavi era. Before this, it was assumed that the Kashtamandap was built in around the 12th century. A team of national and international experts from the Department of Archaeology (DoA), Government of Nepal and Durham University with the financial support of UNESCO, had conducted a research excavation in the area.

**Damage after the 2015 Earthquake**

The 2015 earthquake caused complete damage of the superstructure of Kashtamandap but the foundations were intact. There was no any significant earthquake-related damage to the foundation of Kashtamandap, despite the complete and total collapse of the above-ground structure. The only damage detected to the foundation surface was due to the callous use of excavators and bulldozers to clear the rubble immediately after the earthquake.

**Present status of Kashtamandap**

At present, nearly 50% of the work is complete. The project is an ongoing project which is being done by Kashtamandap Reconstruction committee, a joint venture of Local Community, Guthi Sansthan and a team of technical experts. The drawings by wolf gang were used as primary source of documentation however the drawings were not enough. The other documentation was retrieved by the old photographs, historical evidence and carving details from the rubbles. The documentation of the rubble was done in two phases. At first, measurement of rubbles was taken and hand drafted and then subsequently digitalized. There has always been lack of proper documentation for reconstruction process in our context so various source has been mobilized to prepare the documents. Keeping this in mind, at the present scenario all the documentations has been effectively done. Every detail has been digitalized as far as possible. Moreover, workings details have also been recorded for the future references.

There are no changes in form and design as proper references were taken community was directly involved from the initial phase. The work of concrete has been completely eliminated and the structure is made authentic in terms of form and design. Materials have been wisely reselected mobilizing from different parts and agencies. The selection was based on tests, observations and analysis. For e.g.: mud mortar from dharaharas’s
foundation closely resembled the mud of Kasthamandap and hence it was used. Similarly, paangomaato from tahachal was used for mud fill. Moreover, strength test of selected material is being done before its use.

The authority believes after reconstruction the value of the heritage will be retained in certain time. The community will consume certain time to resonate their sentiments to the newly constructed Kasthamandap. However, the authority is sure about the continuation of old uses and functions from the community. Traditional materials were exclusively used for the reconstruction however modern structural analysis was done to give the structural strength. New additional technologies and structural elements have been added. This ensured the stability of the structure in the modern context whilst using traditional structures. This could be an epitome for the common misconception that “Traditional technologies are seemingly insufficient for the modern structural stability requirement.”

Craftsman from Bhaktapur have been brought to prepare the wooden posts and structures. There has been no weak spot left in recreating the exact details of wooden craft.

Initially, verification and structural analysis was done. For documentation, daily photograph is taken and also daily log is prepared by technical team. Documentation was prepared when site analysis was done. Different parts of detail drawings were prepared. Weekly and monthly report is prepared.

G. Bamsa Gopal temple (Chyasin Dega) Restoration
Located South of Nagaraghar, ChyasinDega is dedicated to Lord Krishna. It is an octagonal shaped temple. This temple of Vansagopal (Krishna playing the flute) was built in the seventeenth century by King PratapMalla in memory of his two dead queens – Rupamati and Rajamati hoping to meet them again in the next life. The three figures are believed to have the features of the King and his wives. It has architectural inconsistency with most other temples of the square with its octagonal construction plan and round appearance from a distance. The temple enshrines Lord Krishna with his two wives Rukmini and Satyabhama and the cowherd ladies (Gopinis) that were modelled on Pratap Malla and his two queens. The temple was renovated in 1967.
The temple was collapsed completely during the 2015 Earthquake. The large plinth was intact but the remaining structures had fallen. After the collapse, DOA started the work of reconstruction of the temple. Engineers and Architects were used to do a detail damage assessment. Because of the structural collapse, measure drawing couldn't be done. There were references of renovation in 1967 and the main basis of reconstruction was images and previous data and records.

Present status of Chyasin Dega

The reconstruction work of ChyasinDega has been completed in F/Y 74/75. DOA was the authorized body for reconstruction. As usual, the process of reconstruction followed a Tender. There used to be regular supervision of DOA Engineers to ensure that no alterations or additions have been carried out. As the temple was built by the massive use of traditional brick, wood and terracotta tiles, full consideration is paid to restore the temple with the use of traditional technique and materials reusing the old wooden and other elements as much as possible. Since the ‘Surkhi mortar’, the mixture of lime, sand and brick powder, is accepted as a traditional construction material, Surkhi mortar is used in restoration of the temple instead of mud mortar. Craftsmen from Bhaktapur and Kirtipur were used to prepare the wooden artefacts of the temple. Other workers were skilled labourers who had good experience in working with Traditional structural system. DOA has kept documentation of the process. Measure drawings have been prepared and there has been record of major events in the form of photograph or sketch or drawings. There was no participation of community in the reconstruction process.

H. Jagannath Temple and Gopinath Temple

Jagannath temple, noted for the erotic carvings on its roof struts, is the oldest structure in this part of Durbar Sq. Pratap Malla claimed to have constructed the temple during his reign, but it may actually date back to 1563, during the rule of Mahendra Malla. The temple has a three-tiered platform and two storeys. There are three doors on each side of the
temple, but only the centre door opens. Before earthquake only there were worrying cracks in the upper-storey brickwork.

**Gopinath temple**, situated north of Jagannath temple, is a three-storied temple. It is one of the oldest temples of Kathmandu Durbar square. There are doors on two sides of the temple i.e. East and West. The pagoda structures in the Jagannath and Gopinath Temples were constructed using brick walls and timber frames.

![Jagannath Temple](image1)
![Gopinath Temple](image2)

**Damage after the 2015 Earthquake**

Both Jagannath and Gopinath suffered partial damage during the 2015 earthquake.

**Jagannath Temple**

Damage to the Jagannath Temple following the Gorkha Earthquake was concentrated in the third (top) floor of the building. The shear failure of the brick walls appeared at the cut-out for the roof beam. The shear failure was concentrated in the joint between bricks; failure of the brick itself was not observed. (Tobunken, 2016)

![Damage after the Gorkha earthquake](image3)
Gopinath Temple

Prior to the Gorkha Earthquake, the Gopinath Temple was reinforced with a temporary column and knee brace as an emergency measure against the earthquake damage. The knee brace provided additional support at the east and south sides of the structure; residual deformation to the east or southeast direction was likely. As shown in below figure, structural damage to the Gopinath Temple was concentrated in the first floor. Primary structural damage included collapsed brick wall joints, peeled inner wall plaster, and fallen timber beams at the periphery. Conversely, wall damage in the second and third floor was not observed. (Tobunken, 2016)

![Damage after the Gorkha earthquake](image)

**Figure 24**  
*Damage after the Gorkha earthquake*

**Present status of Jagannath temple and Gopinath temple**

Both Jagannath temple and Gopinath temple are under assessment phase at present. The construction work is yet to be started, but various studies and analysis have been done in both the temples. A detailed survey was conducted for the pagoda features of the Jagannath and Gopinath Temples. Both experienced representative damage during the Gorkha Earthquake.

**Jagannath temple**

For the Jagannath Temple, structural drawings that included each floor’s framing plan and elevation, an X-Y cross section, brick details, and more were created from the detailed survey. The basic dimensions of the building and section were also recorded. Brickwork formed the exterior and interior periphery walls of the first floor. As shown in figure below, the brick measured 250 mm in width, 160 mm in depth, and 60 mm in height (glazed) in the outside wall, and 225 mm in width, 110 mm in depth, and 60 mm in height (unglazed) in the inside wall. (Tobunken, 2016)
For the Gopinath Temple, as in the Jagannath Temple, structural drawings that included each floor’s framing plan and elevation, an X-Y cross section, brick detail, and more were created from the detail survey. The basic dimensions of the building and section were also recorded. Similar to the Jagannath Temple, brickwork formed the exterior and interior periphery walls of the Gopinath Temple’s first floor. As shown in Figure below, the brick measured 210 mm in width, 115 mm in depth, and 55 mm in height (glazed and wedge-shaped) in the outside wall, and 225 mm in width, 110 mm in depth, and 60 mm in height (unglazed) in the inside wall. The roof truss on the top floor is a timber structure, and the roof beams span the brick walls. (Tobunken, 2016)
I. **Trailokya Mohan temple**

Trailokya Mohan Deval ("Mohan of the Three Worlds Temple") is a classic Newari pagoda. This was founded by Parthivendra Malla in memory of his elder brother in 1679, replacing an earlier structure on the site. Into the wooden struts supporting the three sloping tiled roofs were carved representations of the ten incarnations of Vishnu and other Vaishnav deities. On the ground to the west of the temple there knelt an eight-foot Garuda, the man-bird vehicle of Vishnu, created in 1689 from a single piece of stone.

The temple was dedicated to Narayan/Vishnu and featured Vaishnavite images on the carved roof struts and window screens with decoratively carved medallions. Dances depicting the 10 incarnations of Vishnu are performed on the platforms to the east of the temple during the Indra Jatra festival. (The Conversation, 2015)
Damage after 2015 Earthquake

The super structure of the three-tiered multi roof temple was completely destroyed by the earthquake. Except foundation, everything was demolished. The major fault was seen in the wooden support that caused the structure to demolish completely. Lack of maintenance has also been one of the reasons for the temple to get demolished.

Present Status of Trailokya Mohan temple

At present, the reconstruction work of Trailokya Mohan is ongoing. DOA has been doing the reconstruction work of Trailokya Mohan. At present, Ground floor work has been finishes and the work of upper floor is being continued. MetalUoring is done to provide temporary support for the structure. 30% salvage materials have been used whereas other have been either stored or lost. Traditional brick DaciApa and Ma Apa have been used in the exterior and interior part of the temple. Sal woods have been used to provide horizontal and vertical structural support. After the detail investigation with emergency archaeological excavation, the restoration work was already started with the concept of utilizing almost wooden artistic and other remaining material of the same temple replacing the damaged by new one. The already separated and inventoried wooden elements are being reassembled and conserved for reuse. Other necessary new wooden elements also are being prepared as well.

Since the ‘Surkhi mortar’, the mixture of lime, sand and brick powder, is accepted as a traditional construction material, Surkhi mortar is used in restoration of the temple instead of mud mortar. Craftsmen from Bhaktapur and Kirtipur were used to prepare the wooden artefacts of the temple. Other workers were skilled labour who had good experience in working with Traditional structural system. DOA has kept documentation of the process. Measure drawings have been prepared and there has been record of major events in the form of photograph or sketch or drawings. There was no participation of community in the reconstruction process.

J. Pratap Stambha (The stone Pillar with statue of King Pratap Malla)

The Stone Pillar with the metal statue of King Pratap Malla in front of Degu Taleju temple in Hanuman dhoka was partially collapsed by the earthquake. The metal statue was fallen with its stone capital part. The statue of King Pratap Malla with his two queens and four sons were badly damaged.

The restoration work of Pratap Stambha was done by DOA. It had taken considerable time of skilled artists for the conservation of the damaged metal statue. The huge stone capital of the pillar was lifted using traditional knowledge and technique to set the statue over it. Now the Pratap Stone Pillar is well restored in its original condition. (UNESCO, 2019)
K. Nateshwor (Partially Damaged Monument)
Nateshwor temple is a small temple located in the Masan Chowk. It is standing in the middle of the chowk followed by couple of wells.

Damage after 2015 earthquake
After 2015 earthquake, east and south side interior walls and exterior claddings in the ground floor were damaged due to which the entire temple was totally dismantled and restored by Hanuman dhoka Durbar Museum Development Committee. Documentation and measurements were taken and the drawings were prepared by Ar. Bhaktalaxmi. Structural analysis was not done. However wooden ties and metal locks are used for structural strengthening as per group discussion.

Present Status of the Temple
Nateshwor is restored in its original form and design from its foundation, using most of the salvaged materials that were recovered from the earthquake. Some of the materials which were lost or damaged were replaced with its replicas and the materials used are as per specification by DOA. The new material used replicated the original design and displays the traditional techniques and the workmanship. Materials such as Nepali salwood, dachi- apa, ma- apa, lime mortar and jhingati are used for the reconstruction and are supplied by different vendors.

Craftsman from Bungamati and Bhaktapur working with HDMDC and experienced in traditional material were selected for the reconstruction work. The damage that was caused to the temple after the earthquake is well documented by DOA. Collection, sorting and documentation of the salvaged materials were also done. Final report of the project is not done.
The project was funded by DOA. Local community was not involved in the response and the restoration of the monument. The project has been completely restored in the year 2073-2074.

L. Panchamukhi Hanuman and South Wing of Mohan Kali Chowk (Partially Damaged Monument)

Stunning, circular, five-tiered Panchmukhi Hanuman temple, built by the Mallas in circa 1655 AD lies in the northeast corner of the Nasal chowk. The Panchamukhi Hanuman as the name explains has five heads and ten arms. The first head is the central and normal face of Hanuman. The Second is that of the Vishnu’s ‘vahana’ the Garud. The third is that of the Narsimha (one of Vishnu’s avatar, half man- half lion). The fourth is of Hayagriva and is a human face. The last one is that of Baraha (boar). (Mishra, 2014)

![Image of Panchamukhi Hanuman temple](image)

Figure 31 Before Earthquake

In 2014, the authorities decided to renovate the ageing Panchamukhi Hanuman temple in Kathmandu to mitigate possible damage from future earthquakes. Only designated priests were allowed to enter the sanctum room where the Hanuman figure is kept. The god was allowed to be worshipped only by the royal family and their priest, and it had been at least a couple of decades since the last known priest entered the sanctum for ritual worship. The practice had been inexplicably discontinued. The restoration of the 25 m high temple built in the 17th century was stopped because no engineer could enter the sanctum to assess its structural condition. It was impossible for architects to take measurements of the inside of the temple. The wise and the elderly quickly came up with a solution: perform a Kshyama Puja, the ritual ceremony asking for forgiveness from the deity on an auspicious date by qualified tantric priests from the Taleju Temple. This allowed the relocation of the Hanuman figure to a secure site until the renovations were completed. A team of seasoned engineers and architects immediately went to work to determine the best way to strengthen the temple and its adjoining wing to increase earthquake resistivity. Sophisticated computer-generated modelling helped the team decide on the strengthening measures to be taken.
Simultaneously, funding was channelized from the Ministry of Culture, supplemented with a grant from the US Embassy. A public discussion was held to gather opinion from experts about the proposed conservation work and approvals were obtained from the Department of Archaeology. All administration procedures were set in place to start the conservation work. Then the earthquake struck on 25 April 2015. (Tuladhar, 2016)

**Damage after 2015 earthquake**

The temple standing atop four floors of a rectangular building with its unique five circular, tiered roofs had already suffered damage from the smaller earthquakes of 2012 and earlier and needed renovation. But last year’s quake was a higher magnitude and severely damaged the temple. However, within two months of the earthquake, the project team went back to the drawing board to make a fresh conservation plan.

**Present Status of the Temple**

Panchmukhi Hanuman temple has just seen a successful restoration that was helmed by the Hanuman dhoka Durbar Museum Development Committee, which works under the Department of Archaeology with a third of the total funds provided by the US Ambassador’s Fund for Cultural Preservation, the remaining two-thirds was provided by the Department of Archaeology for a total budget of $226,494.44. (Pande, 2016)

The work on fortifying and restoring the Panchmukhi Hanuman temple began in earnest in September, 2015. Allocation of the contract was done to the lowest bidder (according to government rules).

The entire process has been fully pictorially documented by Impact Productions, a private entity that does cultural heritage documentation that worked hand in hand with the Project Implementation Committee which consists of Rajni Shrestha and Alok Tuladhar from Impact Productions who worked as Project Coordinator and Assistant Project Coordinator respectively; Bishnu Raj Karki as Project Director (and former Director General of the Department of Archaeology), and Saraswati Singh as Associate Project Director. The committee also includes architectural conservationist Dr. Sudarshan Raj Tiwari, structural engineer Dr. Premnath Maskey, engineer Gopal Jha, archaeologist and art historian Dr. Mukunda Aryal, and a senior chemist Griha Man Shrestha.

The Panchmukhi Hanuman was restored by carefully taking apart the top three tiers so that they could be rebuilt with proper fortification. The base and the subsequent floors were also reinforced with wooden posts that bear the weight of the entire structure. As layers were
stripped away or removed all together, every aspect was carefully noted and pictorially documented.

In addition to the fortification of the building, the Panchmukhi Hanuman temple’s south façade was restored to its original form by removing an addition made in the late 18th Century where a portico was added to the south side (facing the Nasal chowk) of the temple so that the upper floors of the temple where the idol is housed could be accessed by the priest from the outside without going through the previous ground floor entrance of the building in which Rana Bahadur Shah had been imprisoned at the time.

The removal of this outer portico access point revealed the original carved window of the south face. In order to continue the natural progression of the roof from the east side onto the south, the Project Implementation Committee then had to replicate the five layered cornice. The designing and carving of the four struts that needed to be placed to support the extension of the roof as the original struts from before had been long lost, was challenging. In the case of the Panchmukhi Hanuman temple, DrKarki and his colleagues had deep discussions before deciding upon the Hanubhairab, the Panchmuki Hanuman, and the Chandra, and Surya for each of the four struts that now adorn the south façade; these struts were then carved by master carvers from Bungamati. (Pande, 2016)
When the actual renovation started in late 2015, there were more surprises in store. An entire hidden floor less than a meter high, was discovered. As layers of weakened brickwork were peeled off, previously unseen wooden frames that tied the walls in place were revealed.

To conform to national as well as UNESCO archaeological norms, all retrofitting work was carried out with traditional building materials – brick, wood and lime mortar. Cement and steel were not used, as that would have compromised the authenticity of the building.

Interventions were kept to a minimum, without compromising on the added strength and the original ambience of the building. Ultmost care was taken to salvage and reuse existing bricks, mud mortar and wooden elements.

All unusable wooden artefacts, such as windows, cornices and struts, were replaced with exact reproductions, carved meticulously by talented craftsmen from different parts of Kathmandu Valley. Authorized chemical treatment was applied to increase the longevity of wooden and metal parts. Today, the Panchamukhi Temple is one of the first monuments to be restored post-earthquake in the year 2072-2073, even though the preparations were underway before 25 April, 2015. (Tuladhar, 2016)

Its conscientious documentation, due process, following of procedure, consultation with the public and absolute transparency in terms of the both finances and the decision-making procedures make for a heartening example of what is possible in Nepal.

**M. Taleju Temple (Partially Damaged Monument)**

The Taleju Temple is located in Kathmandu Durbar Square in TrishulChowk, which is attached to the Hanuman Dhoka Palace. Kathmandu’s Taleju Temple was constructed in 1564 by King MahendraMalla. Kathmandu Durbar Squares largest and most important temple sits behind a large walled enclosure in the northern section. The three-storey temple sits on top of twelfth brick plinths or platforms which towers over the area. The temple itself is behind a locked gate which is only opened up for one day every year during the dashain festival (ninth day). All visitors in between can only gaze from outside the walls. (Ways, 2019)

There is much lore and mysticism surrounding the beginnings of Kathmandu city’s Taleju Temple. It is said that the temple was built in the shape of a yantra, a mystical diagram said to have magical powers, due to a suggestion that came straight from the mouth of Goddess Taleju herself. According to the South Asian Association for Regional Cooperation, Taleju Bhawani made a special appearance at the temple’s dedication ceremony. Legend has it that Goddess Taleju Bhawani showed up undercover, disguised as a bee. (Olson, 2010)
Damage after 2015 earthquake

The temple was affected by the 2015 earthquake; especially in lower and middle roof due to leakage and all the small 12 temples on the plinth as well.

Present Status of the Temple

The conservation of Taleju temple is completed and was helmed by Department of Archaeology and Hanuman dhoka Durbar Museum Development Committee. Taleju Temple is the biggest monument and landmark of Kathmandu Durbar Square. Taleju is a tutelary deity of Malla Kings. The temple was affected by the earthquake; especially in top and second roof and all the small 12 temples on the plinth as well. The conservation work of main temple is completed where the middle roof was tendered to repair by DOA and the lower roof by HDMDC in the fiscal period of 2073-2074 and the small temple structures (Kachhadega – 12 in numbers) built on the plinth of the temple as well as a terracotta toran with four doors and artistic Jaldroi around Taleju Temple has also completed recently by HDMDC in the fiscal period, 2074-2075. Adharpeti work at Taleju Temple Parisar has been reconstructed by HDMDC in the year 2075-2076. Since the temple is one of the oldest and the most important ones, major alterations have not been done. A very minor structural addition was done. Planking and plates were removed, checked and new were added; Copper plates added for support; wall cracks in the middle tier were repaired, deteriorated rafters were checked and restored; Flooring around the temple was repaired and restored.

Skilled workers from Bungamati and Bhaktapur working with HDMDC and experienced in traditional material were selected for the restoration work. Previous documentations were not available however; the damage that was caused to the temple after the earthquake is well documented by DOA and HDMDC. Collection, sorting and documentation of the salvaged materials were also done. Final report of the project is not done. The project was funded by DOA. Local community was not involved in the response and the restoration of the monument. The project has been completely restored in the year 2073-2074.

N. Mahadev Mandir-1 (totally collapsed) and Mahadev Mandir-2 (structural damages)

Situated in front of the gate of the Taleju temple, Mahadev temple-1 and Mahadev temple-2 are 2-tiered small temples.
Damage after the 2015 Earthquake

One of two Mahadev Temples in front of Taleju gate was collapsed and the northern one was badly affected by the earthquake. The total responsibility of conserving the small but beautiful two roofed temple on the northern side which was not collapsed but badly affected was taken by Kathmandu Valley Preservation Trust while the one totally collapsed was reconstructed by the Local community under Kathmandu Metropolitan City’s funding and guidance.

In Mahadev temple -2, all Dachi Apa veneer brick layers had unglued from the main brick structure. Northeast inner columns were severely damaged by damp, even having raised up on a stone base. About 12’ of the lower section of the timber column (circled) from the Southwest corner was rotten.

Present Status of the Temple

The restoration work of Mahadev Mandir-2 has been completed in the F/Y 74/75. Temporary shoring was completed by Department of Archaeology within two weeks after the earthquake. Dead shoring was added to provide safe transfer of load from the upper structure to the ground of the temple before dismantling damaged walls on ground floor. The damaged sections at the base of all four inner columns were removed and new timber elements were attached via cruciform joints. On the plinth level, a waterproofing membrane was laid before building the per masonry wall. Columns were painted with bituminous paint and wrapped with copper setting to protect them from damp within masonry wall. New outer columns were added in all four corners. The masonry work was done with ma apa in mud mortar. (KVPT, 2018)

Craftsman working with KVPT from 1991 and experienced in traditional material were selected for the reconstruction work. The job was of
partial restoration and the restoration work completed on time.

The damage that was caused to the temples after the earthquake is well documented by KVPT. Collection, sorting and documentation of the salvaged materials were also done. The reconstruction work of all the monuments was documented on a daily basis through measured drawings, photographs and videos. Each and every part of the monument and every detail of the original or the replicas is documented.

The project was supported by various donors of KVPT and all the supervision and decision making were done by KVPT along with DOA. There wasn’t much participation of community in the reconstruction process.

The reconstruction of Mahadev temple-1 was carried out by the Local community under Kathmandu Metropolitan City’s funding and guidance in the F/Y, 74/75. Skilled workers working with KMC and experienced in traditional material were selected for the restoration work. Previous documentations were not available. Measured drawings were prepared taking reference from KVPT’s work on Mahadev Temple-2. It is a duplication of Mahadev Temple-2. Previous lattice windows and artefacts were used to maximum possible extent. Chimney bricks and dachiapa: are
used for walls. Ma apa: hasn’t been used except for some cases where original ma apa: is used in the foundation only. The reconstruction work of all the monuments was documented through measured drawings, photographs and videos.

O. Nagara Ghar (partially damaged)

The Nagara ghar, Big Drum house, is situated north of Chyasin Degain Hanuman dhoka Palace Square. A pair of huge drums on a raised platform was used to warn of trouble, as the Durbar Square Armory was close by. The traditional building of cultural importance was largely affected by the earthquake.

Damage after the 2015 Earthquake

Nagaraghar was damaged due to fall of Chyasin Dega on it. While the first floor completely collapsed; ground floor was intact. The state of conservation of Jhingati roof was almost fallen, the brick wall was cracked and the entire structure was tilted as well. To be restored with perfect traditional method and materials, under the direct inspection of DoA, Kathmandu Metropolitan City has invested for the entire restoration of the structure.

Present Status of Nagara Ghar

The Conservation work of this structure is completed within a year of earthquake, 2073-2074. Replacing the mud mortar by lime mortar the house is conserved with traditional method and material as it was built before. Kathmandu Metropolitan City had taken the total responsibility of the conservation under the close inspection of Department of Archaeology. The damage that was caused to the structure after the earthquake was analysed and documented before dismantling the entire structure and reconstructing. Old drawings were also available as a reference for newer ones. Collection, sorting and documentation of the salvaged materials were also done. Chimney bricks and dachi apa: are used for walls. The reconstruction work of all the monuments was documented on a daily basis through measured drawings, photographs and videos. Each and every part of the monument and
every detail of the original or the replicas is documented but no written report has been prepared. There has been no community participation.

P. Degutale temple (Partially Damaged Monument)

The *Degu Taleju* is located on the south side of the square in front of the Hanuman Dhoka and stands on a broad tower like base in place of the stepped platform belonging to the palace. The temple has been built on the second storey and is accessible only from inside the palace. The temple was used by the Malla royalty for personal daily worship of *Taleju*. Degutale Temple is dedicated to Goddess Mother Taleju built by Shiva Simha and rebuilt by King Pratap Malla. Degutale temple has a complete fill in the ground floor. It is accessible only in the first floor from DahkChowk.

**Damage after 2015 Earthquake**

The monument suffered severe damages in the north elevation.

**Present Status of the Temple**

The Conservation work of this structure is completed within a year of earthquake, 2072-2073. The north elevation of the temple saw significant damages due to which the entire north side was repaired. However, after restoration structural analysis was done according to which the entire structure is tilted by 8” in the east and 16” in the south. The repair of north elevation of Degutale was carried by HDMDC funded by DOA. Old drawings were also available as a reference for newer ones. Each and every part of the monument and every detail of the original or the replicas is documented and measured drawings were prepared. The use of salvage materials was done in the ratio of 70:30 (new:old). The mud was replaced by lime mortar and wooden posts, bracings and ties were for strengthening. Interventions were kept to a minimum, without compromising on the added strength and the original ambience of the building. Utmost care was taken to salvage and reuse existing bricks, mud mortar and wooden elements.

All unusable wooden artefacts, such as windows, cornices and struts, were replaced with exact reproductions, carved meticulously by talented craftsmen from different parts of Kathmandu Valley. There was no community participation.

Q. Swet Bhairab (Partially Damaged Monument)

*SwetBhairav*, literally meaning ‘the White Bhairav’ is the biggest idol of *Bhairav* in the world which depicts the most dangerous face of Lord *Shiva*. It is kept hidden inside a wooden curtain throughout the year, and taken out only during the festival of *Indra Jatra*. However, a Buddhist priest is said to perform puja everyday behind the curtain. It is located to the west of Degu Taleju.
Present Status of Swet Bhairab

Conservation of the Sweta Bhairav Temple attached to Degu taleju is already completed in the F/Y 73/74. The recently restored temple of Bhairav was partially affected by the earthquake and well shored just after the quake to protect from the further destruction. Hanuman dhoka Palace Museum Development Committee had taken total responsibility of the conservation under the close inspection of DoA.

Some of the materials which were lost or damaged were replaced with its replicas and the materials used are as per specification by DOA. The new material used replicated the original design and displays the traditional techniques and the workmanship. Materials such as Nepali salwood, dachi-apa, ma-apa, lime and mud mortar and jhingati are used for the reconstruction and are supplied by different vendors.

Craftsman from Bungamati and Bhaktapur working with HDMDC and experienced in traditional material were selected for the reconstruction work. The damage that was caused to the temple after the earthquake is well documented by DOA. Collection, sorting and documentation of the salvaged materials were also done. Final report of the project is not done. The project was funded by DOA. Local community was not involved in the response and the restoration of the monument.

R. MajuDega (Fully Damaged Monument)

It is located to the west of Trailokya Mohan. The wooden doorway, columns, windows and struts are all beautifully carved. Inside the temple, there is an enormous shivalinga, the emblem of Lord Shiva. A prominent royal member of the Malla Dynasty Riddhi Lakshmi, the Queen mother of Bhupetendra Malla, built the historic temple in 1692. Among the many notable features is the nine-step brick base that gives the temple an aesthetic look. During the Hippie era in the 1970s, the historic monument was called ‘Hippie Temple’ because many Hippies from Europe and the US socialized around the area, particularly on the top step of the temple because it gave a panoramic view of the salubrious surroundings. (Ojha, 2018)
Damage after 2015 Earthquake

After 2015 earthquake the entire three storied temple collapsed while the damages occurred in portions of the 9 stepped plinths.

Present Status

The reconstruction of MajuDega, the three-story temple at the heart of Kathmandu Durbar Square area, formally started, three and a half years after the devastating earthquake damaged the monument of Malla era.

The KMC has allocated a budget of Rs55.9 million for the reconstruction of the temple under Hanuman Dhoka Durbar Square Conservation Programme. Contractors SanuSuwal and Pawan J.V have agreed to rebuild the historic temple, with a targeted deadline of October 21, 2020, to complete the work.

The damage that was caused to the structure after the earthquake was analysed and documented before starting the reconstructing. Older drawings were available at DOA. However, new drawings were prepared taking reference from the Wolfgang Korn’s book and the work is in process. There is no community participation in the reconstruction process. However, skilled workmanship and traditional materials are being used.
S. Silyansattal (Fully Damaged Monument)
SinghaSattal, the 700-year-old pavilion, is believed to have been built along with the pavilion of Kasthamandap, in the 13th century. Originally built with wood left over from the Kasthamandap Temple, this squat building was called the SilenguSattal (silengu means ‘left over wood’ and a sattal is a pilgrim hostel) until the addition of the golden-winged singh (lions) that guard each corner of the upper floor. The building was a popular place for bhajan (devotional music) until it was damaged in the earthquake.

Damage after earthquake
SilyanSattal was not in a complete state when 2015 earthquake struck. The upper floor was rebuilt. However, since its reconstruction began before earthquake, it did not face major damages but minor wall cracks.

Present condition
The Restoration of SinghaSattal, popularly known as SilyanSattal (Traditional Rest House) is completed in F/Y, 2072-2073. The Sattal with a shrine of Natyeswar (god of dance) inside it was in dilapidated condition for a long time. Under the direct inspection of DoA, with detail documentation, it is conserved by KMC and Guthi Sansthan. Traditional types of bricks, Jhigati roof tile and timber are the major construction material as it was used before.

Since the construction of the structure is traditionally and mythically connected with Kasthamandap, it was believed to be built in the 12th century; since the recent archaeological investigation has proven the Kasthamandapa older than that period, while restoring this monument, the architect and archaeologist involved have paid very careful attention.
4. Plan for Rehabilitation of Urban Fabric

Figure 54  Hanuman Dhoka Durbar Square Urban Fabric

Gwache Muga Galli
This Galli is one of highly damaged area that falls in the Buffer zone of World Heritage site of Kathmandu Durbar square. This Galli is a very narrow galli of width 4 feet and residences surrounding both sides. The majority of the buildings are old, 70+ years old. Around 5-10 houses are in the red zone after Earthquake, thus no one resides in those buildings. Otherwise, people are still residing in the houses which have suffered partial damage during the 2015 Earthquake.

Table 1 : Characteristics of the Buildings in Gwache Muga Galli

<table>
<thead>
<tr>
<th>Categories</th>
<th>Old settlement</th>
<th>New settlement</th>
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<tbody>
<tr>
<td>Materials</td>
<td>Bricks, Timber, Lime/Surkhi, Decorative Struts, Detailed art and crafts, exposed bricks</td>
<td>Bricks, Cement, Steel, Rod</td>
</tr>
<tr>
<td>Aesthetics and Architectural style</td>
<td>The ratio of following Traditional style is nearly 40-60. The new buildings which have followed have those detailing and decorations where as the buildings which haven’t followed are plain.</td>
<td>9 feet</td>
</tr>
<tr>
<td>Floor height</td>
<td>7 feet</td>
<td>9 feet</td>
</tr>
</tbody>
</table>
Table: Characteristics of Gwache Muga Galli

<table>
<thead>
<tr>
<th>Color</th>
<th>Mostly uncolored or white creamy colors</th>
<th>Mix of colors could be seen (Brown, Red, Pink, Yellow etc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flooring</td>
<td>Stone</td>
<td>Stone</td>
</tr>
<tr>
<td>Market place</td>
<td>Local newari food restaurants</td>
<td></td>
</tr>
</tbody>
</table>

Figure 55  Building in Gwache Muga Galli

There haven’t been much newer settlements in this Galli and the traditional fabric still could be felt. But the damaged buildings are still in the same condition which has been providing a serious threat for people living in that Galli. Old buildings haven’t been maintained properly and the cracks and the damages can be seen. The other main problem is the hanging of electric wires that in a way have blocked the ways at places.

**Jhochhen and Gangapath**

It is one of the most iconic streets of Kathmandu Durbar square which is also a social hub for Youths and foreigners. This Street has undergone a lot of change in the pattern of Traditional fabric. This street is a wide street of nearly 14 feet wide and residential cum commercial buildings surrounding both sides of the street. Because it is a tourist hub, there are a lot of commercial shops throughout the street. There was partial damage in some residences of Jhochhen which have already been repaired. There wasn’t much damage because most of the buildings were either already renovated or reconstructed.
Table 2: Characteristics of the Buildings in Freak Street and Gangapath

<table>
<thead>
<tr>
<th>Categories</th>
<th>Old settlement</th>
<th>New settlement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials</td>
<td>Bricks, Timber, Lime/Surkhi,</td>
<td>Bricks, Cement, Steel, Rod</td>
</tr>
<tr>
<td>Aesthetics and Architectural style</td>
<td>Decorative Struts, Detailed art and crafts, Traditional Newari style</td>
<td>The ratio of Traditional style to modern style is nearly 60-40. Majority of the new buildings have followed the guidelines of DOA. The detailing in windows and decorations could be visibly seen. Exposed Brick façade and traditional Newari windows were seen. Mixture of Newari and Neo-classical style could be seen.</td>
</tr>
<tr>
<td></td>
<td>crafted windows, exposed brick. Mixture of Newari and Neo-classical style could be seen.</td>
<td></td>
</tr>
<tr>
<td>Floor height</td>
<td>7 feet</td>
<td>9 feet</td>
</tr>
<tr>
<td>Color</td>
<td>Mostly uncolored or white creamy colors</td>
<td>Mix of colors could be seen (Brown, Red, Pink, Yellow etc)</td>
</tr>
<tr>
<td>Flooring</td>
<td>Stone</td>
<td>Stone</td>
</tr>
<tr>
<td>Market place</td>
<td>Vegetable vendors, Local foods, Tea shops</td>
<td>Commercial restaurants, gift shops, Window shopping areas.</td>
</tr>
</tbody>
</table>

This is mostly a new settlement, with most of the buildings being constructed recently. The main idea among the locals here has been to attract the Foreign tourist. It’s an important economic area of Kathmandu Durbar Square. So, the urban fabric has been developing accordingly. Residential spaces in the upper floors and restaurants or shops in the ground floor. Not all, but majority of the buildings have tried to retain that traditional fabric and it can be observed in the skyline of the fabric in the street. Here too, mis-management of electric lines and unmanaged parking has affected the value of the place.

Shukra Path
This street covers the range from Basantapur Shalikupto Indrachowk. This is highly commercial area with majority of wholesale market place targeting the general people and business person. This street is a 2-lane street with footpath being there on both sides of the street. Here also, there is a mixture of traditional as well as modern buildings with modern buildings dominating the main street and traditional buildings beside the arterial streets. There was seen partial damage in the main street side whereas serious damages were in the traditional buildings.
### Table 3: Characteristics of the Buildings in Shukra Path

<table>
<thead>
<tr>
<th>Categories</th>
<th>Old settlement</th>
<th>New settlement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials</td>
<td>Bricks, Timber, Lime/Surkhi, Decorative Struts, Detailed art and crafts, Traditional Newari style crafted windows, exposed brick. Mixture of Newari and Neo-classical style could be seen.</td>
<td>Bricks, Cement, Steel, Rod. The ratio of Traditional style to modern style is nearly 70-30. Majority of the new buildings have followed the guidelines of DOA. The detailing in windows and decorations could be visibly seen. The nice part is that here, the main street façade has a uniformity with all the buildings having white color in the façade. The fabric has the character of traditional buildings, but the maintenance is not proper.</td>
</tr>
<tr>
<td>Aesthetics and Architectural style</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floor height</td>
<td>7 feet</td>
<td>9 feet</td>
</tr>
<tr>
<td>Color</td>
<td>Mostly uncolored or white creamy colors</td>
<td>White color in the main street exposed brick and mixture of colors inside the core Galli’s</td>
</tr>
<tr>
<td>Flooring</td>
<td>Stone</td>
<td>Pitched</td>
</tr>
<tr>
<td>Market place</td>
<td>Wholesale shop of clothes and utensils</td>
<td>Jewellery shops, restaurants, Wholesale shops</td>
</tr>
</tbody>
</table>

**Figure 57  Building in ShukraPath**

This area is a complete commercial area with no or very few residential settlements because of the market place. The economic activity is at a very high rate with the region being an economic hub of Kathmandu. The traditional and urban fabric is blending with the new buildings trying to retain the traditional character. The road that leads from Basantapur to Indrachowk has uniformity in façade with all the facades having blend of Neo-classical style and Newari style. If properly maintained, the fabric of this area will bring a different character. Again, the major problem here too is the unmanaged electric wires and parking.

**Makhan Galli**

Makhantole covers the stretch from Indrachowk towards South upto the surrounding areas of Taleju temple. This area is a dense commercial area with wholesale market of clothes, Puja utensils, jewellery, covering the major part. There is a narrow pedestrian street with both sides of the streets occupied by commercial shops. Damage was seen in the old buildings which weren’t properly maintained but new buildings hadn’t had much of the
damage. There can be seen lack of maintenance in old buildings and electric wire here too has been a major problem with dense public circulation.

![Building in Makhan Galli](image)

**Table 4: Characteristics of the Buildings in Makhan Galli**

<table>
<thead>
<tr>
<th>Categories</th>
<th>Old settlement</th>
<th>New settlement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials</td>
<td>Bricks, Timber, Lime/Surkhi, Decorative Struts, Detailed art and crafts, Traditional Newari style crafted windows, exposed brick. Mixture of Newari and Neo-classical style could be seen.</td>
<td>Bricks, Cement, Steel, Rod The ratio of Traditional style to modern style is nearly 60-40. Majority of the new buildings have followed the guidelines of DOA. There are new buildings in the main street. A pattern of traditional style can be seen in the building façade whereas some buildings are contrasting.</td>
</tr>
<tr>
<td>Aesthetics and Architectural style</td>
<td>7 feet Mostly uncolored or white creamy colors</td>
<td>9 feet Exposed brick in the façade, Use of glass for commercial value, Mixture of colors</td>
</tr>
<tr>
<td>Floor height</td>
<td>Stone Wholesale shop of clothes and utensils</td>
<td>Pitched Jewellery shops, restaurants, Wholesale shops</td>
</tr>
<tr>
<td>Color</td>
<td></td>
<td>9 feet Exposed brick in the façade, Use of glass for commercial value, Mixture of colors</td>
</tr>
<tr>
<td>Market place</td>
<td></td>
<td>Pitched Jewellery shops, restaurants, Wholesale shops</td>
</tr>
</tbody>
</table>

Figure 58  *Building in Makhan Galli*
Yatkha Galli
Yatkha Galli covers the North-West region of Durbar square that is West of Indrachowk and North of Marutole. This area is comparatively less crowded than other surrounding regions. Mostly this region has residential settlement. Main commercial activity here is vegetable selling, local shops, arts and crafts shop with general people being the main target. There is a mixture of old and new buildings. Damage can be seen in most of the old buildings and structures like Pati, small temples in and around the area. The main reason of damage can be summed up as weak structures and lack of maintenance.

Table 5: Characteristics of the Buildings in Yatkha Galli

<table>
<thead>
<tr>
<th>Categories</th>
<th>Old settlement</th>
<th>New settlement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials</td>
<td>Bricks, Timber, Lime/Surkhi, Decorative Struts, Detailed art and crafts, Traditional Newari style crafted windows, exposed brick. Mixture of Newari and Neo-classical style could be seen.</td>
<td>Bricks, Cement, Steel, Rod The ratio of Traditional style to modern style is nearly 40-60. Majority of the new buildings have followed the guidelines of DOA. The detailing in windows and decorations could be visibly seen. In most of the new buildings, there isn’t as much detailing as compared to an old building. Exposed brick can be seen and windows have been used of Newari style. 9 feet Mixture of colors Exposed brick and mixture of colors inside the core Galli’s Pitched Vegetable vendors, Retail shops, Liquor shops</td>
</tr>
<tr>
<td>Aesthetics and Architectural style</td>
<td>7 feet Mostly uncolored or white creamy colors</td>
<td>9 feet Most of colors Exposed brick and mixture of colors inside the core Galli’s Pitched Vegetable vendors, Retail shops, Liquor shops</td>
</tr>
<tr>
<td>Floor height</td>
<td>Stone Art and craft shops, Traditional musical instrument shops</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flooring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market place</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

![Yatkha Galli Image](image_url)
PyaphalTole and Marutole

Pyaphaltole is the region that lies in the western part of the Durbar square. These regions are the closest to the Monument zone. There is a mixture of residential and commercial market. For commercial, the main areas include Traditional Puja shops, Local Food restaurants and vegetable shops. Here too, for commercial activities Ground Floor is used
whereas Upper floors are used for Residential purpose. Damage can be seen in old structures and buildings whereas new buildings haven’t faced much damage. There is less new structures in this area compared to other areas.

**Table 6 : Characteristics of the Buildings in Pyaphaltole and Marutole**

<table>
<thead>
<tr>
<th>Categories</th>
<th>Old settlement</th>
<th>New settlement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials</td>
<td>Bricks, Timber, Lime/Surkhi, Decorative Struts, Detailed art and crafts, Traditional Newari style crafted windows, exposed brick. Mixture of Newari and Neo-classical style could be seen.</td>
<td>Bricks, Cement, Steel, Rod The ratio of Traditional style to modern style is nearly 60-40. Majority of the new buildings have followed the guidelines of DOA. The detailing in windows and decorations could be visibly seen. In most of the new buildings, there isn’t as much detailing as compared to an old building. Exposed brick can be seen and windows have been used of Newari style.</td>
</tr>
<tr>
<td>Aesthetics and Architectural style</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floor height</td>
<td>7 feet</td>
<td>9 feet</td>
</tr>
<tr>
<td>Color</td>
<td>Mostly uncolored or white creamy colors</td>
<td>Mixture of colors</td>
</tr>
<tr>
<td>Flooring</td>
<td>Stone</td>
<td>Exposed brick and mixture of colors inside the core Galli’s Pitched</td>
</tr>
<tr>
<td>Market place</td>
<td>Art and craft shops, Traditional musical instrument shops</td>
<td>Vegetable vendors, Retail shops, Liquor shops</td>
</tr>
</tbody>
</table>
Pariprakargalli and AtkhoGalli
Pariprakargalli is the region that lies towards South-West part of Durbar square. AtkhoGalli too lies towards South-West part of Durbar square. This is also Residential cum commercial area. The street is not very wide but heavy vehicular flow causes congested circulation of people. The market place is set up targeting the foreigners as well as domestic tourist because Kasthamandap lies in the proximity of these areas. There is a mixture of both Traditional as well as new buildings in this region. Damage can be seen in the old buildings which have been reconstructed. There wasn’t much damage in the new buildings that were constructed recently. Heavy vehicular flow and unmanaged electric wires are the reasons for this place to lose its essence.
Table 7: Characteristics of the Buildings in PariprakarGalli and AtkhoGalli

<table>
<thead>
<tr>
<th>Categories</th>
<th>Old settlement</th>
<th>New settlement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials</td>
<td>Bricks, Timber, Lime/Surkhi, Decorative Struts, Detailed art and crafts, Traditional Newari style crafted windows, exposed brick. Mixture of Newari and Neo-classical style could be seen.</td>
<td>Bricks, Cement, Steel, Rod</td>
</tr>
<tr>
<td>Aesthetics and Architectural style</td>
<td></td>
<td>The ratio of Traditional style to modern style is nearly 60-40. Majority of the new buildings have followed the guidelines of DOA. The detailing in windows and decorations could be visibly seen. In most of the new buildings, there isn’t as much detailing as compared to an old building. Exposed brick can be seen and windows have been used of Newari style.</td>
</tr>
<tr>
<td>Floor height</td>
<td>7 feet</td>
<td>9 feet</td>
</tr>
<tr>
<td>Color</td>
<td>Mostly uncolored or white creamy colors</td>
<td>Mixture of colors</td>
</tr>
<tr>
<td>Flooring</td>
<td>Stone</td>
<td>Exposed brick and mixture of colors inside the core Galli’s</td>
</tr>
<tr>
<td>Market place</td>
<td>Art and craft shops, Traditional musical instrument shops</td>
<td>Pitched</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vegetable vendors, Retail shops, Liquor shops</td>
</tr>
</tbody>
</table>
5. General Assessment of Rehabilitation of Physical Setting

Analyzing the open spaces in and around the Durbar square, it can be seen that the reconstruction work in a way has affected the setting of open spaces. It is mainly because the boundary hasn’t been created properly of the monument that is to be reconstructed. The materials are dispersed all over the surrounding open spaces causing difficulty for people to circulate and causing pollution around the site.

At present the major threat that the site faces is heavy vehicular flow in the buffer area of Durbar square. The number of vehicles that flow is beyond the capacity of the street. That causes a mess during peak hours. That has also in a way affected spirit of the Heritage zone. The other threat that the site faces is the mismanaged electric wires that are hanging here and there all over the Buffer zones. Being a religious site, there are people lighting Diyos at places, if anything wrong happens in the process that can lead to a huge fire in the Heritage zone. These are the results after the Earthquake because of lack of management and carelessness from the concerned Authority.

6. Overall Conclusions and Recommendation

To conclude, it has been a great opportunity for us to take a deeper look into the process of reconstruction of heritage that has been taking place after the 2015 earthquake. We specifically have studied about the status of Kathmandu Durbar square. Kathmandu Durbar square being one of the most important places, historically and culturally suffered serious damage during the 2015 earthquake. Reconstruction and restoration works have been taking place at present. There are various stakeholders that have the responsibility and analyzing the overall situation, all the stakeholders have been doing the work of reconstruction properly. Though there is room for improvement. Because of different stakeholders, the working pattern is different. There are still monuments which haven’t even been assessed after the damage. There are monuments which have been assessed but the work hasn’t been started. Only the important monuments are being given the priority and
smaller monuments are being avoided. This situation shouldn’t arise at a World Heritage site. Again, these things can be improved. Overall, the works are being done properly trying to maintain the traditional system and retain the authentic value of a heritage building.

For recommendation, the first recommendation will be to clear the debris and materials that are spread around the space of the reconstruction site. There should be a uniform system of reconstruction. Though there are different stakeholders, the working pattern should be uniform that will make easier to work and also to analyse the work. DOA the National governing body should be more serious towards reconstruction of smaller heritage monuments too. There should be proper supervision from DOA officials in every reconstruction site. The worst part of our reconstruction process is we don’t document properly. This is one of the serious problems. This should be improved. Every work should be documented form start to completion. Also, there mustn’t be any political interference in these projects. These heritage building shouldn’t be used by Political parties as a key to make a positive impact among people. Awareness programs should be done more regarding heritage conservation and protection especially among Youths.

References


KVPT. (2018).


Olson, L. (2010, september). TALEJU TEMPLE: A FITTING TRIBUTE TO GODDESS TALEJU BHAWANI.


UNESCO. (2019).


1. General description to the Monument Zone

1.1. World Heritage attributes, boundary and buffer

Pashupati Area refers to area around Shree Pashupatinath Temple along the bank of Bagmati river. Pashupatinath Temple is considered to be one of the most sacred places in Hinduism. Home to the famous Pashupatinath Temple, the area has numerous significant religious structures such as Guheshwori, Jayabageshwori, Bhuwaneshwori, Bankali, Bishwarup and Gorakhnath among others. Pashuptikestra is located in the bank of holy Bagmati river in the ancient Deupatan town of present-day Kathmandu.

The main temple of Shree Pashupatinath, dedicated to Lord Shiva, is a two-tiered pagoda styled temple that resides on square platform. Four main doors leading to the temple are covered in silver sheets. The golden pinnacle is at height of 23.7m from the base over the Garbagriha of the temple. Pashupati Area is home to 492 monuments of various sizes. Along with temples, the area is also home to forests, kundas and ghats.

Boundary of Pashupati Conserved Monument Zone has been demarcated as follows:

- **East:** West of Tribhuvan International Airport including Shivapuri Baba Aashram
- **West:** Road beyond outer wall of Bhandarkhal - Sifal ground - West sattal of Jaybageshwori - Ring road - Mitrapark chowk
- **North:** Road from Mitrapark to Gaurighat - Gaurighat balmasan - 20m north of Bagmati riverbank - North Bahini above Guheshwori Temple
- **South:** Gaushala Ratopul road till way to Panikotol - Gaushala Chowk – Ring road till Tilganga barrack
1.2. Short historic description
There are various legends surrounding the origin of Shree Pashupatinath Temple. Most credit Gopal dynasty for the origin of the main temple. It is said that wish fulfilling cow: Kamadhenu poured milk on a spot-on top of soil and Shivalinga was discovered beneath it. Temple was then erected on the present location of Shree Pashupatinath. The significance of the area continued to grow during Lichchavi and Malla period as settlement grew around the area and temple attracted pilgrims from surrounding countries. The main temple is believed to be erected by Lichchavi King Prachanda Dev after the previous building was consumed by termites. The temple has history that can be traced back to at least 469 B.C. Earliest inscriptions dating back to 5th Century AD have been recorded.

Various archaeological evidences suggest that Pashupati Area had been a popular holy pilgrim since the Licchavi Era. The Pashupati area continued carry significant religious importance through various historical periods. Deopatan town of Ancient Kathmandu is believed to have been in existence from the Licchavi period and continued to grow. Under Licchavi, Malla and Shah rule, several monuments were added in the area and renovations and reconstructions of various era have helped Pashupati Area reach its current stage.

1.3. Rehabilitation history
There is recorded history of rehabilitation of Pashupati Area in modern times from damages sustained over time.

a. 'Upatyakanchal Tatkalim Sudharsamiti' (2014-2016 B.S.)
   It was established by King Mahendra and did following works on Pashuapti Area:
   - Height of west door was increased
   - Mahendrasahara dharmashala was established
   - Plasters were added on temples
   - Muktimandap, Basiuki and Kolilingeshwor Temples were renovated
   - Guheshwori complex was developed

b. Masterplan for the Conservation of Cultural Heritage in the Kathmandu Valley, 1977 AD
   This effort was led by UNESCO and recommended following works:
   - Rehabilitation of sattals and monuments of Deupatan Area
   - Management of settlement with reclamation of land
   - Comprehensive masterplan of the area

c. Conceptual Masterplan, 2056 BS
   Conceptual Masterplan of Pashupati Area was prepared in 2052 B.S. and brought into effect in 2056/57 B.S. The time period allocated for its implementation was 10 years. This masterplan divided 264 Hectares of land as Pashupati Area into 3 zones: Core zone, Consonant zone and Continuum zone. Phase wise implementation of periodic action plans was proposed for proper conservation of the core area.

2. Overall impact of the Gorkha Earthquake
2.1. Response and rehabilitation planning
   The earthquake of 2015 had a magnitude of 7.6 on the rector scale, was a major earthquake after 82 years. (DoA, 2017). The World Heritage Sites on Kathmandu Valley were among the most affected locations. The main temple of Shree Pashupatinath stood
strong during the earthquake, however, several other monuments in Pashupati Area were affected by the earthquake. DoA reports that within the protected monument zone, out of forty four classified monuments, six monuments had collapsed and twenty-one monuments were partially damaged (DoA, 2017). Since the earthquake, various stakeholders including Pashupati Area Development Trust (PADT), Nepal Reconstruction Authority (NRA) and Department of Archaeology (DoA) have been active in rehabilitation of the damaged monuments. Documentation and damage assessments have been done at various levels and PADT has already completed reconstruction of several damaged monuments under fund from Government of Nepal.

The preliminary report published by DoA showed following effect of earthquake on monuments:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Monuments</th>
<th>Condition</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jayabageshwori Temple</td>
<td>Partially Damaged</td>
<td>Jayabageshwori</td>
</tr>
<tr>
<td>2</td>
<td>Mahamritunjay Temple</td>
<td>Partially Damaged</td>
<td>Pashupati Area</td>
</tr>
<tr>
<td>3</td>
<td>Narshimha Temple</td>
<td>Partially Damaged</td>
<td>Pashupati Area</td>
</tr>
<tr>
<td>4</td>
<td>Agni Matha</td>
<td>Partially Damaged</td>
<td>Pashupati Area</td>
</tr>
<tr>
<td>5</td>
<td>Tamreshwor Mahadev Temple</td>
<td>Partially Damaged</td>
<td>Pashupati Area</td>
</tr>
<tr>
<td>6</td>
<td>Chandra Binayak</td>
<td>Partially Damaged</td>
<td>Pashupati Area</td>
</tr>
<tr>
<td>7</td>
<td>Satyanarayan</td>
<td>Partially Damaged</td>
<td>Hadigaon</td>
</tr>
<tr>
<td>8</td>
<td>Sattal of Bhatbhateni</td>
<td>Partially Damaged</td>
<td>Hadigaon</td>
</tr>
<tr>
<td>9</td>
<td>Guheswari Temple</td>
<td>Partially Damaged</td>
<td>Guheswori</td>
</tr>
<tr>
<td>10</td>
<td>Sattal of westernside of Guheswari temple</td>
<td>Partially Damaged</td>
<td>Guheswori</td>
</tr>
<tr>
<td>11</td>
<td>Sattal of easternside of Guherswari temple</td>
<td>Partially Damaged</td>
<td>Guheswori</td>
</tr>
<tr>
<td>12</td>
<td>Sattal of northside of Guheswari temple</td>
<td>Partially Damaged</td>
<td>Guheswori</td>
</tr>
<tr>
<td>13</td>
<td>Five Shiva temple inside the White sattal of Guheswari</td>
<td>Partially Damaged</td>
<td>Guheswori</td>
</tr>
<tr>
<td>14</td>
<td>Vishwarup Temple</td>
<td>Collapsed</td>
<td>Mirkasthali Area</td>
</tr>
<tr>
<td>15</td>
<td>Radhakrishna temple</td>
<td>Partially Damaged</td>
<td>Mirkasthali Area</td>
</tr>
<tr>
<td>16</td>
<td>Eight Shiva temple of Mirkasthali-Among them two are completely collapsed</td>
<td>Partially Damaged</td>
<td>Mirkasthali Area</td>
</tr>
<tr>
<td>17</td>
<td>Ram Sita and Laxman temple</td>
<td>Partially Damaged</td>
<td>Mirkasthali Area</td>
</tr>
<tr>
<td>18</td>
<td>Nine Shiva temples in the front of the Vishwarupa temple</td>
<td>Partially Damaged</td>
<td>Mirkasthali Area</td>
</tr>
<tr>
<td>19</td>
<td>Gorakhnath Temple</td>
<td>Partially Damaged</td>
<td>Mirkasthali</td>
</tr>
<tr>
<td>20</td>
<td>Shivaparvati temple in the front of Gorathnath temple</td>
<td>Partially Damaged</td>
<td>Mirkasthali</td>
</tr>
<tr>
<td>21</td>
<td>Bhandarghar, Gorakhnath temple complex</td>
<td>Partially Damaged</td>
<td>Mirkasthali</td>
</tr>
<tr>
<td>22</td>
<td>Chandreshwor Sattal</td>
<td>Partially Damaged</td>
<td>Mirkasthali</td>
</tr>
<tr>
<td>23</td>
<td>Ashram of Yogi Naraharinath</td>
<td>Partially Damaged</td>
<td>Mirkasthali</td>
</tr>
<tr>
<td>24</td>
<td>Seto Shiva temple</td>
<td>Partially Damaged</td>
<td>Ram Temple Area</td>
</tr>
<tr>
<td>25</td>
<td>Shiva temple</td>
<td>Partially Damaged</td>
<td>Ram Temple Area</td>
</tr>
<tr>
<td>26</td>
<td>Ram temple</td>
<td>Partially Damaged</td>
<td>Bank of Bagmati river</td>
</tr>
<tr>
<td>27</td>
<td>Ram kuti</td>
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<td>Bank of Bagmati river</td>
</tr>
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<td>28</td>
<td>Laxman narayan temple</td>
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<td>Ram temple</td>
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<td>Ghat pasal sattal</td>
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<td>31</td>
<td>Two Shiva temple close to nanak sattal west of Bagmati river</td>
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<tr>
<td>32</td>
<td>Nanak sattal</td>
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<td>33</td>
<td>House in the backside of the shiva temple</td>
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<td>Panchha Deval</td>
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<td>Mahasnas Ghar</td>
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<td>36</td>
<td>Brishasarma around Panchadeval</td>
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<td>Three shiva temple of Bhasmeswor chowk</td>
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<td>Guruju sattal</td>
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<td>Shiva temple in the north of Pashupati complex</td>
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<td>Basuki temple</td>
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<td>Lal Ganesh temple</td>
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<td>Surya temple, close to Lal Ganesh</td>
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<td>Jitjungaparkaseswor sattal and temple</td>
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<td>Nava Durga Sattal</td>
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<td>Sattal of Kirateshwor temple</td>
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<td>Kirateshwor Sangeet ashram</td>
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<td>Kirateshwor Yangasala</td>
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<td>Four Shiva temple of Gaurighat</td>
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<td>Shiva temple of Guheswori</td>
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<td>Annantararayan</td>
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<td>66</td>
<td>Pancha Ganesh</td>
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<td>Batsalla area</td>
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<td>Kirateshwor temple and sattal</td>
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<td>Shiva deval (11)</td>
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<td>Shiva deval (13)</td>
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<td>Shivalinga deval (37,38, 39, 40)</td>
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<td>Sattal within the complex of Visworup</td>
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<td>Shiva devals (3)</td>
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<td>Taraprekaseswor temple and sattal within complex</td>
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<td>Shivalaya devals and sattal</td>
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<td>Sri Shankaracharya Math and Deval</td>
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<td>Shivalaya Temples (Vasmeshor Mahadev)</td>
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<td>Sattal</td>
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<td>Home of Yogi Naraharinath</td>
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<td>Shiva deval (2)</td>
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<td>Shiva deval (8)</td>
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<td>Shiva deval (9)</td>
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<td>Shivalaya deval (18, 19)</td>
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<td>Shivalaya deval (21)</td>
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<td>Shiva deval (35)</td>
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<td>Shiva deval (41)</td>
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<td>Shivalinga deval (41)</td>
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<td>Shivalaya temple</td>
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<td>Srim temple</td>
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<td>KMC 8, Ram Mandir Complex</td>
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<td>Shiva deval</td>
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<td>Sri Vasmeswor Ghat Sattal</td>
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<td>Sri Rajrajeshwori temple and sattals and Durga temple and Jitjang Prakaseswor temple</td>
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<td>Raban pati</td>
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<td>124</td>
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<td>Shiva devals (6)</td>
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<td>Shiva deval (17)</td>
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<td>Shivalinga deval (29)</td>
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<td>Shivalinga deval (30)</td>
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<td>Shivalinga deval (36)</td>
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<td>Shiva deval (On the wall of across Pashupati temple)</td>
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<td>Shivalinga deval. Across Pashupati temple</td>
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<td>Shivalinga deval (Ram Mandir complex)</td>
<td>Partially Damaged</td>
<td>KMC 8, Mrigasthali, Kathmandu</td>
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<tr>
<td>152</td>
<td>Shivalinga deval (Ram Mandir complex)</td>
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<td>Name of the Monuments</td>
<td>Condition</td>
<td>Address</td>
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<td>Mahamritunjay Mahadev</td>
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<td>Sattal outside of Pashupati temple complex (Saptasri)</td>
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<td>175</td>
<td>Sri Bhuwaneswor Mahadev and Jagatguru Sri Sri 1008, Sri Shankarakcharya temple</td>
<td>Partially Damaged</td>
<td>KMC 8, Pashupati Temple Complex</td>
</tr>
</tbody>
</table>

2.2. Damage assessment of monuments
The monuments within the preserved monument zones were recorded to have undergone restoration process as mentioned below:

<table>
<thead>
<tr>
<th>Completed</th>
<th>To be completed soon</th>
<th>Ongoing</th>
<th>Yet to start</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Bhasmeswar Sattal</td>
<td>2. Guheswari Sattal-west</td>
<td></td>
<td>2. Vajra Ghar</td>
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<td>3. Pandra Shivalaya Sattal</td>
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<td>3. Pancha Dewal</td>
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<td>4. Chautariya Shivalaya</td>
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<td>5. Guheswari Sattal-Northeast</td>
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<td>6. Pode Pati</td>
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<td>7. Rammandir-Bagmati east</td>
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<td>8. Amar kanteswar</td>
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<td>9. Sures Kanteswar</td>
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<tr>
<td>10. Shankarakcharya Temple (Bhuteswar)</td>
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<tr>
<td>11. Kulananda Jha Sattal</td>
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<td>12. Ghyampe Pati</td>
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<td>13. Taraprabhateswar Temple</td>
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<td>14. Kotilingeswar Temple</td>
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<td>15. Bagmati Riverbank Sattal, Guheswari</td>
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<td>16. Guheswari Temple</td>
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<tr>
<td>17. Bhansar Tahabil Office building</td>
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<tr>
<td>18. Rudra Gadswar sattal</td>
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<tr>
<td>19. Guheswari Sattal North</td>
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<tr>
<td>20. Gorakhnath Pakshala</td>
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<tr>
<td>21. Yoginaraaharinath Sattal</td>
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<tr>
<td>22. Shankarnarayan Sattal</td>
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<tr>
<td>23. Kirateswar Sattal</td>
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<tr>
<td>24. Shivalayas of Mrigasthal (8 nos.)</td>
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<td>25. Dyochhen of Dathu tole.</td>
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</table>
2.2.1. BANKALI SATTAL

A. Introduction of Project (History of the Monument)
Bankali Sattal is located in the southern part of Pashupati Protected Monument Zone in the premises of Bankali Garden which has both religious and cultural importance. The Sattal, which literally means rest house, was built to facilitate the devotees in their religious and cultural activities.

During the 2015 earthquake, the sattal suffered partial damaged. The upper part of the western wall section was collapsed, and other masonry wall sustained several cracks.

B. Dismantling, Salvaging Process and Reason
The documentation of the Banakali Sattal was carried out by the Pashupati Area Development Trust (PADT) before the dismantling process. Existing Drawings were prepared by the PADT and those drawings were approved by the Department of Archaeology. The dismantling process were carried out manually by a team of skilled manpower hired by the contractors as per the agreement made complying the Government of Nepal, Public Procurement Act. All the reusable materials from the salvage were stored safely by the Pashupati Area Development Trust. Those structural and decorative materials were properly documented and numbered before use to make sure proper reuse of those materials at the correct place.

C. Description of Foundation
The existing foundation was discovered to be shallow and damaged during the structural assessment. Therefore, the foundation was excavated, and the reconstruction was done right from the foundation itself. The new foundation was laid over the old foundation and it was kept original to the old foundation in order to preserve the authenticity of the monument. However, the depth of the foundation was increased as required by the structural assessment to ensure the structural integrity of the sattal after reconstruction.

D. Reuse of Existing materials
The intact existing materials were properly stored and reused as far as practicable. Only the critically damaged structural and decorative elements were replaced with new materials with minimum altercations. However, the altercations were done by the skilled artisans under the supervision of site engineer from Pashupati Area Development Trust. However, the structural assessment indicated that the existing mud mortar would significantly impact the structural integrity of the reconstructed sattal, hence the reconstruction of the sattal was done using lime surkhi mortar.

E. Restoration Process
Once the proper documentation and existing drawings were made by Pashupati Area Development Trust and verified by Department of Archaeology, the contractors were hired by Pashupati Area Development Trust as per the rule of Government of Nepal based on closed envelop system. The contracts signed contained all provisions to ensure the proper and timely reconstruction process. The restoration works were done on site. The contractors hired and utilized skilled manpower for brickwork, carving works and traditional detailing under such supervision to obtain superior restoration output.
The ground floor of the sattal was occupied illegally and was partitioned for residential purposes. After the restoration, the sattal is now reopened for public use and cultural activities as it was originally built for returning life to the monument.

F. Budget Allocation/Resources
While the restoration process was funded by Government of Nepal, National Reconstruction Authority (NRA) financially, the Pashupati Area Development Trust and Department of Archaeology were responsible for the mobilization and supervision of the human resources and the restoration process.

G. Practical Lessons and Problems faced during Restoration

H. Supervision and Monitoring Process
The restoration process were carried out under the regular supervision of experts hired by the contractors, from Pashupati Area Development Trust and from Department of Archaeology independently in order to ensure proper restoration without compromising the integrity of the monument and to confirm the reconstruction works were completed on time.

I. Conclusion
The final bill and Work Completion Report has been prepared and Submitted to Pashupati Area Development Trust as the scheduled work has been completed as of now.

J. Photographs of each steps of restoration process.

2.2.2. BHASMESWAR SATTAL

A. Introduction of Project (History of the Monument)
Bhashmeshwar Sattal is located in the premises of the Bhashmeshwar Cremation Area. Bhashmeshwar Sattal has an architecture consisting courtyard system. The building is used as a rest house and the name Sattal itself suggests same meaning. It is believed to be built in the 1800 B.S. A way to bagmati river can be seen in the east side of the sattal. Similarly, a pati is on the south side, a road on west and temples are on the northern direction of the sattal. Corrugated Galvanised Iron (CGI) sheet is used as the roofing material of the sattal. The dimensions of the building are Length x Breadth = 25’3”x15’.

After the 2015 earthquake’s damages the sattal have been restored completely into its original style.

The documentation of Bhashmeshwar Sattal was carried out by Pashupati Area Development Trust. Pashupati Area Development Trust (PADT) obtained drawings from
consultants and sent to Department of Archaeology for approval before the structure was dismantled. Prior preparation involved preparation of architectural drawings only by the consultants. Bills of Quantity was prepared by PADT with reference to drawings according to the existing structure and approved by Department of Archaeology. The wall sections and wood detailing were similar to the existing structure.

**K. Dismantling, Salvaging Process and Reason**
The dismantling was carried out by contractors hired by Pashupati Area Development Trust according to regulations of Government of Nepal. The dismantling of the sattal was done manually. The salvaged materials were marked and stored by Pashupati Area Development Trust.

**L. Description of Foundation**
The foundation of the structure was damaged by the earthquake and thus was excavated. The sattal was found to have shallow foundation. The foundation was reconstructed using reusable bricks from the dismantled structure. The new foundations were reconstructed, similar to the earlier one.

**M. Reuse of Existing materials**
Brick obtained from dismantling the previous structure were reused in the foundation and plinth of the sattal. Other salvaged materials were not reusable and thus new materials were used during reconstruction of the sattal.

**N. Restoration Process**
The bodies responsible for the reconstruction of Bhasmeshwar Sattal were Pashupati Area Development Trust and Department of Archaeology. All the drawings and reconstruction were carried out through Pashupati Area Development Trust, with approval from Department of Archaeology. The contractors were selected through tender as per rules of Government of Nepal. The contractors were given sole responsibility of dismantling and reconstruction. Skilled manpower for wood carving works were hired from Bhaktapur. The masonry works were managed by the contractor. There was no community participation in the reconstruction of the sattal.

**O. Budget Allocation/Resources**
The project cost was Rs. 5,75,80,865.76 and was funded by Government of Nepal. Pashupati Area Development Trust was responsible for the mobilization of resources and funds, subjected to approval from Department of Archaeology.

**P. Practical Lessons and Problems faced during Restoration**

**Q. Supervision and Monitoring Process**
Supervision and monitoring were carried out by Pashupati Area Development Trust and Department of Archaeology. Department of Archaeology was responsible for approval of drawings and reconstruction works.

**R. Conclusion**
The reconstruction of Bhasmeshwar Sattal was successfully carried out with coordination between Pashupati Area Development Trust and Department of Archaeology. New materials replaced the damaged ones during the reconstruction. The structural drawings
were not prepared. Work completion report and has been prepared. Financial audit of the reconstruction has been carried out.

S. Photographs of each steps of restoration process

![Photographs of each steps of restoration process]

2.2.3. PANDRA SHIVALAYA SATTAL

A. Introduction of Project (History of the Monument)
Pandra Sivalaya Sattal is considered to be built for the priest of the Pandra Shivalaya’s (fifteen temples dedicated to Shiva) as a residence. Being a residence for the priest the purpose of the building’s name being sattal is still in confusion. These temples of Siva are just in front the sattal.
The sattal’s roof did not suffer any major damages during 2015 earthquake because of previous timely conservation approaches to it. Other general damages that came during the earthquake have been restored to the original state. A proposal was presented by the Pashupati Area Development Trust for the conservation of this sattal and after the approval grant by the Department of Archaeology, the conservation work was initiated. At present, all the general damaged occurred have been restored.

B. Dismantling, Salvaging Process and Reason
C. Description of Foundation
D. Reuse of Existing materials
E. Restoration Process
F. Budget Allocation/Resources
G. Practical Lessons and Problems faced during Restoration
H. Supervision and Monitoring Process
I. Conclusion
J. Photographs of each steps of restoration process.

2.2.4. CHAUTARIYA SHIVALAYA

A. Introduction of Project (History of the Monument)
Two Chautariya Shivalayas are located in the southern side of Pashupati Temple Complex, just outside the southern gate and to the western side of Bhasmeshwor. It was partially collapsed as a result of 2015 earthquake.
B. Dismantling, Salvaging Process and Reason
The damaged and vulnerable structure of both the Chautariya Shivalayas were dismantled with the help of a team of Nepal Army and Armed Police Force immediately after the earthquake. The dismantling process was initiated by the Pashupati Area Development Trust (PADT) under a close supervision of site engineers. The documentation of objects of archeological important and the structural members were carried out as an inventory by the representatives from Department of Archaeology, GoN.

C. Description of Foundation
The original stone masonry foundation was found to be intact and sound during structural assessment post-earthquake. Therefore, the restoration was carried out only above the plinth level without disturbing the foundation.

D. Reuse ofExisting materials
Most of the original materials were reusable and were used at the maximum capacity. Partially damaged members were repaired by skilled craftsmen and only the totally damaged members were replaced with new but the same material.

E. Restoration Process
The restoration process was carried out by the contractor hired by the Pashupati Area Development Trust as per the provision of Government of Nepal. The contractors hired skilled craftsmen, artisans and traditional builders according to terms of the contract and restoration was carried out accordingly on the site itself. The skilled workmen carried out the works related to highly dressed stone masonry and stone cornices. During the restoration, regular quality checking was carried out to ensure the proper consideration of authenticity and integrity of the monument. Most of the monument was restored using the old salvaged materials with an exception to a few damaged elements which was replaced accordingly. This replacement has been well documented. Apart from these changes, wooden lintel bands and posts were added for extra structural integrity of the monument.

F. Budget Allocation/Resources
The fund for the reconstruction was provided by the Nepal Reconstruction Authority, GoN. The project mobilization and human resources including hiring of contractors were done by Pashupati Area Development Trust.

G. Practical Lessons and Problems faced during Restoration

H. Supervision and Monitoring Process
The restoration work was periodically checked and verified by a team of site engineers and archeological experts from Pashupati Area Development Trust (PADT) and verified by the Department of Archaeology, GoN to warrant the proper reconstruction of both the Shivlaya temples.

I. Conclusion
Upon the completion of the project as per the schedule, the master bill, financial bill and the work completion report was submitted to the Pashupati Area Development Trust and is waiting for approval and audit from the Department of Archaeology, GoN.
J. Photographs of each steps of restoration process.

2.2.5. GUHESWARI SATTAL – NORTHEAST

A. Introduction of Project (History of the Monument)
B. Dismantling, Salvaging Process and Reason
The dismantling process was carried out non-mechanically by a team of skill workers hired by the contractors and no mechanical equipment were used. However, before this, drawings and documentation were prepared by the engineers of the Pashupati Area Development Trust and was verified by the Department of Archaeology. The dismantled
structural and decorative wooden elements and artistic windows were stored and were repaired for reuse by trained craftsmen.

C. Description of Foundation
The existing foundation of the sattal was made up of load bearing brick masonry with strap footing, which was found damaged during the 2015 earthquake. The structural assessment found it essential for this foundation to be replaced. Therefore, the existing foundation was excavated and replaced with similar new one with no major changes, however, using new materials.

D. Reuse of Existing materials
Although most of the existing structural members were found to be damaged and had to be replaced, the non-structural and decorative members such as carved windows were properly stored and repaired by skilled craftsmen for reuse. The replaced wooden members were crafted by local artisans hired by the contractor under the monitoring of archeologists from Department of Archeology, GoN.

E. Restoration Process
The restoration works of sattal at Northeastern side of Guheswari sattal was carried out by the contractor hired by Pashupati Area Development Trust (PADT) through a closed envelop system as per the provision of Government of Nepal. As per the terms of contract, the contractor hired a team of skilled workers, craftsmen, mason and artisans who carried out the overall construction project under the close monitoring of engineers and archeologist from PADT and DOA respectively.

As mentioned earlier, most of the wooden structural elements were damaged badly, hence had to be replaced by new similar materials. In addition, the non-structural wooden materials too had to be repaired before reuse. This replacement was carried out by the skilled craftsmen in accordance with the documentation done before the demolition and in consultation with archeological experts. The reconstruction was carried out right from the foundation up. All the constructions were done same as the existing monument, with minimum to no altercations done to architectural and structural details.

F. Budget Allocation/Resources
The financial resources for the reconstruction was provided by the National Reconstruction Authority which was mobilized and maintained by Pashupati Area Development Trust (PADT). The management of tendering process, contract administration and implementation were also carried out by PADT with occasional technical support by Department of Archeology, GoN.

G. Practical Lessons and Problems faced during Restoration

H. Supervision and Monitoring Process
The reconstruction works of Guheswari Northeastern sattal was closely and periodically monitored by team of experts including site engineers from PADT and archeological experts from Department of Archeology in order to ensure the preserve the integrity and authenticity of the sattal as a monument.
I. Conclusion
The reconstruction works of the sattal has been completed as per the schedule with the preparation and submission of the financial and work completion reports to Pashupati Area Development Trust. The final financial and quality audit has been done and approved by the Department of Archeology, GoN.

J. Photographs of each steps of restoration process.

2.2.6. PODE PATI

A. Introduction of Project (History of the Monument)
Pati has a literal meaning of a rest house. Pode pati is also such small and beautiful rest house that for the public use and is located on the southwest side of main Pashupati temple complex and on the west side of Vajraghar.

During the 2015 earthquake, the pati suffered partial damages. Then the Pashupati Area Development Trust undertook the conservation of this pati and now it completely restored to its original state. The documentation of Pode Pati was carried out by Pashupati Area
Development Trust. Pashupati Area Development Trust (PADT) prepared the drawings before starting the restoration of Pode Pati.

**T. Dismantling, Salvaging Process and Reason**
The structure was damaged partially by the earthquake. The damaged portion included roof and a beam supporting the roof. The dismantling of damaged portion only was carried out by Pashupati Area Development Trust. The salvaged materials were stored in store of Pashupati Area Development Trust. The salvaged materials were marked before storing for reuse.

**U. Description of Foundation**
The foundation of the structure was not damaged by the earthquake and thus no dismantling and excavation was carried out.

**V. Reuse of Existing materials**
The portion of Pode Pati that remained in its original form was not dismantled. The dismantled portion were only reconstructed. Materials on the roof, that was damaged by the earthquake, was reused.

**W. Restoration Process**
The body responsible for the restoration of Pode Pati was Pashupati Area Development Trust. All the work of restoration process was carried out by the trust. As the structure sustained damage from earthquake only on the roof, other portion of the structure were not altered. One beam on the roof of the structure was replaced as it was no longer reusable. All other materials were reused as it existed earlier. Skilled manpower was hired for restoration of Pode Pati. There was no community participation in the restoration of Pode Pati.

**X. Budget Allocation/Resources**
The project cost was approximately Rs. 5,00,000 and was funded by Government of Nepal. Pashupati Area Development Trust was responsible for the mobilization of manpower, resources and funds.

**Y. Practical Lessons and Problems faced during Restoration**

**Z. Supervision and Monitoring Process**
Supervision and monitoring were carried out by Pashupati Area Development Trust.

**AA. Conclusion**
The restoration of Pode Pati was successfully carried out by Pashupati Area Development Trust. All the original materials, with exception of beam on roof, were used. Work completion report has been prepared.

**BB. Photographs of each steps of restoration process.**

**2.2.7. RAMMANDIR- BAGMATI EAST**

**A. Introduction of Project (History of the Monument)**
Ram Mandir is the temple dedicated to Lord Ram. This temple is situated on the east bank of bagmati opposite of Bhasmeshwar Crematorium. The temple is believed to be
constructed in the 19th century and had the same look that exists at present, but the image that is placed in the sanctum is from the ancient period.

The temple suffered less and general damages during the 2015 earthquake, which include the fallen upper part of the portico of the temple. Cracks were also observed in the arched front entrance of the temple and also on the northern wall.

Conservation of the Ram Mandir is completed at present on the approval by Department of Archaeology (DOA). DOA also provided the essential technical support for the conservation of the temple. The conservation was possible by the initiation done by Pashupati Area Development Trust (PADT), financial support of the donors for the conservation task and Guthi Sansthan was too involved in the conservation. The materials used for the restoration of the temple were the same as used in the initial form.

B. Dismantling, Salvaging Process and Reason
C. Description of Foundation
D. Reuse of Existing materials
E. Restoration Process
F. Budget Allocation/Resources
G. Practical Lessons and Problems faced during Restoration
H. Supervision and Monitoring Process
I. Conclusion
J. Photographs of each steps of restoration process.

2.2.8. SURESH KANTESHWAR AND AMAR KANTESHWAR

A. Introduction of Project (History of the Monument)
The documentation of Sures Kanteshwar and Amar Kanteshwar temples was carried out by Pashupati Area Development Trust. Pashupati Area Development Trust (PADT) prepared drawings and sent to Department of Archaeology for approval before the structure was dismantled. Prior preparation involved preparation of architectural drawings only, with reference to the original structure of the temple. Bills of Quantity was prepared by PADT with reference to drawings according to the existing structure.

B. Dismantling, Salvaging Process and Reason
The dismantling was carried out by contractors hired by Pashupati Area Development Trust according to regulations of Government of Nepal. The dismantling of the temples was done manually by contractors under the supervision of Pashupati Area Development Trust. All of the materials were salvaged and marked as most of the materials were reused in the reconstruction.

C. Description of Foundation
The foundation of the structure was not damaged by the earthquake and thus was not excavated. The reconstruction of superstructure was only carried out.
D. Reuse of Existing materials
The bricks from the dismantled structure were reused in portion below the dome of the temples. The wooden structures and bricks on the dome of the temples could not be reused. The Gajur from the original structure was also reused in top of the domes. No alterations were done on superstructure of the temples.

E. Restoration Process
The bodies responsible for the reconstruction of Sures Kanteshwar and Amar Kanteshwar temples were Pashupati Area Development Trust and Department of Archaeology. All the drawings and reconstruction were carried out through Pashupati Area Development Trust, with approval from Department of Archaeology. The contractors were selected through tender as per rules of Government of Nepal. The contractors were given sole responsibility of dismantling and reconstruction. Skilled manpower for wood carving works and masonry works were managed by the contractor. New bricks were used in reconstruction of the dome. Similarly, woods on the temples were also new as old ones could not be reused. Rest of the structure had use of bricks from dismantled temples.

There was no community participation in the reconstruction of the temples.

F. Budget Allocation/Resources
The project cost was Rs. 66,22,820.79 and was funded by National Reconstruction Authority, Government of Nepal. Pashupati Area Development Trust was responsible for the mobilization of resources and funds, subjected to approval from Department of Archaeology.

G. Practical Lessons and Problems faced during Restoration

H. Supervision and Monitoring Process
Supervision and monitoring were carried out by Pashupati Area Development Trust and Department of Archaeology. Department of Archaeology was responsible for approval of drawings and reconstruction works.

I. Conclusion
The reconstruction of Sures Kanteshwar and Amar Kanteshwar Temples was successfully carried out with coordination between Pashupati Area Development Trust and Department of Archaeology. The structural drawings were not prepared. Work completion report has been prepared. Quality and financial audit are remaining.

J. Photographs of each steps of restoration process

2.2.9. SHANKARACHARYA TEMPLE (BHUTESHWAR)

A. Introduction of Project (History of the Monument)
The documentation of Shankaracharya Temple was carried out by Pashupati Area Development Trust. Pashupati Area Development Trust (PADT) prepared drawings and sent to Department of Archaeology for approval before the structure was dismantled. Prior preparation involved preparation of architectural drawings only, with reference to the original structure of the temple. Bills of Quantity was prepared by PADT with reference to drawings according to the existing structure. Some designs of the roof and window were
change from the previous one and were approved by Department of Archaeology for conformity with attributes of World Heritage Site before the project went for tendering.

B. Dismantling, Salvaging Process and Reason
The dismantling was carried out by contractors hired by Pashupati Area Development Trust according to regulations of Government of Nepal. The dismantling of the temple was done manually. Most of the salvaged materials were not in good condition. Carved tudals members from the temple were marked and preserved. Gajur of the temple was stored for reuse during reconstruction process.

C. Description of Foundation
The foundation of the structure was damaged by the earthquake and thus was excavated. The temple was found to have shallow foundation. The foundation was reconstructed using new materials as materials from previous structures were not reusable. The new foundations were reconstructed, similar to the earlier. However, the depth of the foundation was increased as required by the temple.

D. Reuse of Existing materials
The old materials obtained from dismantling the temple was not in good condition and thus were not reused. The only materials reused was Gajur of the original structure. No alterations were done on superstructure of the temple.

E. Restoration Process
The bodies responsible for the reconstruction of Shankaracharya Temple (Bhuteshwar) were Pashupati Area Development Trust and Department of Archaeology. All the drawings and reconstruction were carried out through Pashupati Area Development Trust, with approval from Department of Archaeology. The contractors were selected through tender as per rules of Government of Nepal. The contractors were given sole responsibility of dismantling and reconstruction. Skilled manpower for wood carving works and masonry works were managed by the contractor. There was no community participation in the reconstruction of the temple.

F. Budget Allocation/Resources
The project cost was Rs. 74,41,833 and was funded by National Reconstruction Authority. Pashupati Area Development Trust was responsible for the mobilization of resources and funds, subjected to approval from Department of Archaeology.

G. Practical Lessons and Problems faced during Restoration
According to Pashupati Area Development Trust, the major problem faced during the reconstruction of the temple was late decision from Department of Archaeology.

H. Supervision and Monitoring Process
Supervision and monitoring were carried out by Pashupati Area Development Trust and Department of Archaeology. Department of Archaeology was responsible for approval of drawings and reconstruction works.

I. Conclusion
The reconstruction of Shankaracharya Temple was successfully carried out with coordination between Pashupati Area Development Trust and Department of Archaeology. New materials replaced the damaged ones during the reconstruction. The structural
drawings were not prepared. Work completion report and final bill has been prepared. Quality and financial audit are remaining.

J. **Photographs of each steps of restoration process.**

### 2.2.10. KULANANDA JHA SATTAL

**A. Introduction of Project (History of the Monument)**

Kulananda Jha Sattal is situated towards the western side of Pashupatinath temple. The Sattal is situated in front of Sankaracharya (Bhuteswar) Temple. The Sattal did not collapse but was severely damaged by the earthquake of 2015. The upper Southern portion of the Sattal was collapsed. The front wall was bulged out and many cracks were observed all over the structure.

The Sattal was completely dismantled after detail documentation. The restoration work has been already completed. The Sattal is restored in its original state. However, except some artistic reusable elements, all the wooden elements are replaced by new one and mud mortar is replaced by Lime Surkhi mortar. Pashupati Area Development Trust (PADT) is directly involved in restoration of the Sattal with total responsibility of funding and Department of Archaeology (DOA) provided required technical support.

**B. Dismantling, Salvaging Process and Reason**

**C. Description of Foundation**

**D. Reuse of Existing materials**

**E. Restoration Process**

**F. Budget Allocation/Resources**

**G. Practical Lessons and Problems faced during Restoration**

**H. Supervision and Monitoring Process**

**I. Conclusion**

**J. Photographs of each steps of restoration process.**

### 2.2.11. GHYAMPE PATI

**A. Introduction of Project (History of the Monument)**

**B. Dismantling, Salvaging Process and Reason**

The existing drawings were prepared by the Pashupati Area Development Trust which was then approved by the Department of Archaeology. After this, the dismantling works were carried out by a team of skilled workers hired by the contractors as per the agreement with PADT. The whole dismantling process were scrutinized by the site engineers and representatives from PADT and Department of Archaeology, GoN. The salvage materials were then number properly and stored securely in the storage facilities provided by the PADT.
C. Description of Foundation
Upon structural assessment, it was found that the existing Brick masonry was found to be damaged. Therefore, the existing foundation was excavated and was replaced by a new foundation of same section and details. This was done under a close inspection of experts from PADT and Department of Archaeology.

D. Reuse of Existing materials
All structural and decorative elements and materials that could be reused were stored properly and securely after documentation and, therefore, were reused at the practical extent. However, some materials that got badly damaged and couldn’t be reused were replaced with new but same material by a team of artisans and craftsmen under the supervision of site engineer from PADT and the experts from Department of Archaeology, GoN.

E. Restoration Process
The restoration work was carried out by the skilled manpower hired by the contractor as specified in the terms of contract. The reconstruction work was carried out on the site itself to warrant the proper work progress and quality of work. Local craftsmen and artisans were hired to recreate the damaged materials and replace them.

F. Budget Allocation/Resources
The reconstruction budget was allocated from the National Reconstruction Authority (NRA). However, the mobilization of the allocated budget and human resources was carried out by the PADT, with verification from Department of Archaeology, GoN.

G. Practical Lessons and Problems faced during Restoration

H. Supervision and Monitoring Process
The reconstruction process was periodically checked, and the quality of the reconstruction was verified by archeologists and engineers from Department of Archaeology and Pashupati Area Development Trust individually. This was done to ensure the authenticity of restoration of the pati.

I. Conclusion
The project has been completed as per the schedule. Master Bill, Financial Bill and Work Completion Report has been completed and been submitted to the PADT who forwarded them to the Department of Archaeology, GoN. However, the final financial audit and quality audit hasn’t been carried out by the DOA.

J. Photographs of each steps of restoration process.

2.2.12. TARAPRAKASHESWAR TEMPLE

A. Introduction of Project (History of the Monument)
Taraprakaseswar temple is situated inside the Kriyaputri premises. The temple was not collapsed but was severely damaged by the 2015 earthquake. Since the damaged structure was more vulnerable in the very busy Kriyaputri area, the temple was dismantled immediately after the earthquake by PADT with the help of Nepal Army. All the drawings and detail documentation were prepared by PADT and approved by DOA for the
conservation of the temple. The restoration of Taraprakaseswar temple has been completed. All the stone and almost reusable bricks were reused in the restoration work but all the woods were replaced by new and the mud mortar replaced by Lime mortar.

The documentation of Taraprakaseswar Temple was carried out by Pashupati Area Development Trust. Pashupati Area Development Trust (PADT) prepared architectural drawings and sent to Department of Archaeology for approval before the structure was dismantled. Prior preparation involved preparation of architectural drawings only, with reference to the original structure of the temple.

B. Dismantling, Salvaging Process and Reason
The dismantling was carried out by Nepal Army under the supervision of Pashupati Area Development Trust and Department of Archaeology. The dismantling of the temple was done by use of dozer. The salvaged materials were stored on the store of Pashupati Area Development Trust. Most of the salvaged materials were not in good condition. Some of the stones, Shivalinga and Gajur were salvaged for reuse during the reconstruction.

C. Description of Foundation
The foundation of the structure was damaged only on inner side by the earthquake. The foundation towards the peti (outer side) of the temple was found to be in good condition. The temple was found to have shallow foundation. The foundation on the inner side was reconstructed using new materials as materials from previous structures were not reusable. The new foundations constructed without any alterations.

D. Reuse of Existing materials
The old materials obtained from dismantling the temple was not in good condition and thus were not reused. The only materials reused were stone frame of the door, Shivalinga and Gajur of the original structure. No alterations were done on superstructure of the temple.

E. Restoration Process
The bodies responsible for the reconstruction of the temple were Pashupati Area Development Trust and Department of Archaeology. All the drawings and reconstruction were carried out through Pashupati Area Development Trust, with approval from Department of Archaeology. The dismantling was carried out by Nepal Army immediately after the earthquake. The contractors were given responsibility of reconstruction. Skilled manpower for wood carving works and masonry works were managed by the contractor. There was no community participation in the reconstruction of the temple.

F. Budget Allocation/Resources
The project cost was Rs. 42,16,328.45 and was funded by National Reconstruction Authority. Pashupati Area Development Trust was responsible for the mobilization of resources and funds, subjected to approval from Department of Archaeology.

G. Practical Lessons and Problems faced during Restoration
According to Pashupati Area Development Trust, the major problem faced during the reconstruction of the temple was late decision from Department of Archaeology.
H. Supervision and Monitoring Process
Supervision and monitoring were carried out by Pashupati Area Development Trust and Department of Archaeology. Department of Archaeology was responsible for approval of drawings and reconstruction works.

I. Conclusion
The reconstruction of Taraprakaseswar Temple was successfully carried out with coordination between Pashupati Area Development Trust and Department of Archaeology. New materials replaced the damaged ones during the reconstruction. The structural drawings were not prepared. Work completion report and final bill has been prepared. Quality and financial audit are remaining.

J. Photographs of each steps of restoration process.

2.2.13. KOTILINGESHWAR TEMPLE

A. Introduction of Project (History of the Monument)
The Kotilingeshwor Temple is located inside the Pashupati Temple Complex just outside the main courtyard towards the south of the Chausatti Shivalaya premises. It is one of the oldest and the most important monuments of Pashupati area built by King Pratap Malla in the second half of 17th century AD. It is one of the very few multi-roof temples of Pashuapti having circular plan with three circular metal roofs. During the earthquake of 2015, the temple sustained partial damaged and the upper part of the temple was collapsed.

B. Dismantling, Salvaging Process and Reason
After the approval from Department of Archaeology, GoN for its entire restoration, PADT carried complete drawing and documentation preparation before dismantling. The dismantling process was carried out manually and safely by the contractor under the close inspection of site engineer from PADT and archeologist from DOA. While dismantling all the wooden elements of the temple were well documented and stored by the PADT. Other important elements like Gajurs and carvings were stored extra carefully. The materials were marked starting from the North and in the clockwise direction.

C. Description of Foundation
The Foundation was left untouched as no damaged was registered during structural assessment. No alteration of the foundation was done, and the restoration was carried out above the plinth level only.

D. Reuse of Existing materials
Most of the carvings of woodwork were reused if they were not deteriorated. The damaged elements were replaced by a similar new by skilled artisans and craftsmen. Some of the bricks were reused in the inner wall. Mainly the mud mortar was replaced by lime surkhi mortar for additional strength.

E. Restoration Process
The restoration process was carried out by the contractors hired by the PADT as per the provision of Department of Archaeology, GoN. Craftsmen from Bungamati were hired by
the contractor as stated in the terms of contract to carry out the intricate and detailed construction works.

F. Budget Allocation/Resources
The budget for restoration works was allocated from the National Reconstruction Authority and the fund was managed by the Pashupati Area Development Trust. In addition, all the experts and human resources were managed and supervised by the PADT and DOA.

G. Practical Lessons and Problems faced during Restoration

H. Supervision and Monitoring Process
The reconstruction works were carried out by a team of skilled workers hired by the contractors on the site itself. The damaged wooden members were replaced during the reconstruction process and were verified by archeologist from Department of Archaeology. The reconstruction process was periodically monitored and documented by the site engineers from the Pashupati Area Development Trust (PADT).

I. Conclusion
The final audit has been carried out and all the completion reports were prepared and submitted to the Pashupati Area Development Trust and were verified by the Department of Archaeology, GoN.

J. Photographs of each steps of restoration process.

2.2.14. BAGMATI RIVERBANK SATTL, GUHESWARI

A. Introduction of Project (History of the Monument)
The Sattal is located at the riverbank of Bagmati river north of Guheswari Temple. Although this sattal didn’t collapse or was severely damaged, lots of cracks were observed during the 2015 earthquake and, hence, proposed to be restored. Most of the materials were intact, so, these materials were used as it is in the same place as existing.

B. Dismantling, Salvaging Process and Reason
The drawing and documentation were prepared by a team of engineers from Pashupati Area Development Trust (PADT) and got it approved by the Department of Archaeology. The demolition and dismantling process was then carried out manually by the skilled manpower hired by the contractors as per the agreement with Pashupati Area Development Trust. The elements were properly numbered and documented before storing them in the store provided by PADT. All the dismantling and storage works were monitored by the representatives from PADT and DOA.

C. Description of Foundation
The excavation of the foundation was carried out as the foundation had sustained significant damage during earthquake of 2015. The foundation was found to be load bearing brick masonry with strap footing. The existing foundation was replaced by a new foundation of a similar detailing and technology. No major alterations were made during the construction.
D. Reuse of Existing materials
The existing wooden elements that were stored were used at maximum capacity and only very few wooden members that sustained major damaged were replaced by similar materials. Minor repairs were made on the existing decorative and structural wooden members such as beams, posts, struts, joists, etc.

E. Restoration Process
The restoration works were carried out by the contractor hired by the Pashupati Area Development Trust (PADT) under the provision of Government of Nepal. Several provisions were made on the contract that ensure proper and quality construction of the monuments. The construction works were carried out on the site itself. Construction works were done by a team of skilled workers and craftsmen hired by the contractors as stated in the terms of contract and were supervised by engineers and archeologists representing Pashupati Area Development Trust on a regular basis. The restoration process used the similar details and technology as the original and no changes were made to the architectural and structural details. Skills workers were hired by the contractor to recreate the carving works and the detailing to ensure authenticity in the restoration works.

F. Budget Allocation/Resources
The budget of reconstruction was funded by the National Reconstruction Authority and the financial resources was mobilized by the Pashupati Area Development Trust. PADT and Department of Archaeology were responsible for the reconstruction and all the technical supports.

G. Practical Lessons and Problems faced during Restoration

H. Supervision and Monitoring Process
The restoration of Riverbank sattal at Guheswari was closely monitored and documented by coordination between representatives from both the Pashupati Area Development Trust and Department of Archaeology. The site engineers from PADT and archeologist from DOA were responsible for the supervision of the restoration process and to assist the team of contractor as well.

I. Conclusion
The restoration works of Bagmati Riverbank Sattal at Guheswari has been fully restored as per the schedule and completion reports and financial documents were submitted. The financial and quality audit were carried out by the Department of Archaeology as per the norms of Government of Nepal.

J. Photographs of each steps of restoration process.

2.2.15. GUHESWARI SATTAL – NORTH

A. Introduction of Project (History of the Monument)

B. Dismantling, Salvaging Process and Reason
The drawings and documentation were prepared by a team of engineers from Pashupati Area Development Trust and were approved by the Department of Archaeology before the Monument was dismantled. It was demolished by a team of skilled workers hired by contractors manually under a close monitoring of experts from PADT and DOA. The
demolition was carried out safely and all the important carvings, windows and crafts were securely numbered and documented and stored by the PADT.

C. Description of Foundation
The foundation was discovered to be damaged during structural assessment and, hence, was excavated for reconstruction. The load bearing strap footing was replaced by a new foundation over the existing one. No altercations or changes were made regarding the details and construction of the foundation.

D. Reuse of Existing materials
Most of the wooden elements of superstructure were damaged and couldn't be reused. Therefore, more than 60% of the structural wooden members were replaced by similar materials. The rest 40% of the members were repaired by skilled craftsmen hired by the contractor and were supervised by the archeological experts from Department of Archaeology. However, almost all of the artistic windows and decorative elements were retrieved from the demolition were reused after repairs. All the replaced materials were similar to the existing materials. No altercations were made in the detailing of the structure.

E. Restoration Process
Pashupati Area Development Trust (PADT) hired contractors based on the closed envelop system under the provision made by the Government of Nepal. As per the contract, contractors were required to hire skilled workers, craftsmen and artisans for reconstruction works. Therefore, all the restoration works were carried out by a team of skilled manpower on the site itself in the presence and supervision of site engineers assigned by PADT and archeologist representing Department of Archaeology, GoN.

F. Budget Allocation/Resources
The budget for the reconstruction of Northern sattal of Guheswari Temple was received from National Reconstruction Authority and the financial mobilization responsibility was undertaken by Pashupati Area Development Trust. Almost all the logistics and technical support were carried out by PADT with occasional support and verification from the Department of Archaeology.

G. Practical Lessons and Problems faced during Restoration

H. Supervision and Monitoring Process
The construction process was regularly and periodically supervised by a team of experts including representative site engineer from Pashupati Area Development Trust and archeologist from Department of Archaeology to ensure the quality of the restoration. Through proper documentation and monitoring it was ensured that the restoration works were authentic to the original monument.

I. Conclusion
The restoration works of the northern sattal of Guheswari Temple Complex has been successfully completed and all the financial bill and work completion report has been prepared and submitted to the Pashupati Area Development Trust. The quality and financial audit was carried out and approved by the Department of Archaeology, GoN.

J. Photographs of each steps of restoration process.
2.2.16. GORAKHNATH PAKSHALA AND YOGINARAHARINATH SATTAL

A. Introduction of Project (History of the Monument)
Gorakhnath Bhansaghar is situated west of Gorakhnath temple and has been used as kitchen of Gorakhnath Yogies. The state of building was not good even before the earthquake and the 2015 earthquake further damaged the structure. The Yogi Naraharinath Ashram is situated in the Gorakhnath area and was once resided by great historian of Nepal, Yogi Naraharinath. The Ashram has been named after Yogi Naraharinath. The building was built in late 20th century and was damaged by the earthquake of 2015. The entire old structure was dismantled. All the wooden elements have been replaced by new wood and mud mortar has been replaced by Lime mortar in present restoration work. It is planned to use the building as library of Yoginaraharinath collection.

The documentation of Gorakhnath Pakshala and Yoginarharinath Sattal was carried out by Pashupati Area Development Trust. Pashupati Area Development Trust (PADT) obtained drawings from consultants and sent to Department of Archaeology for approval before the structure was dismantled. Prior preparation involved preparation of architectural drawings only by the consultants. Bills of Quantity was prepared by PADT with reference to drawings according to the existing structure and approved by Department of Archaeology. The wall sections and wood detailing were similar to the existing structure.

B. Dismantling, Salvaging Process and Reason
The dismantling was carried out by contractors hired by Pashupati Area Development Trust according to regulations of Government of Nepal. The dismantling of the structure was done manually. The salvaged materials were marked and stored by Pashupati Area Development Trust. Photographs of salvaged materials were taken for reference.

C. Description of Foundation
The foundation of the structure was damaged by the earthquake and thus was excavated. The structure was found to have shallow foundation. The foundation was reconstructed using reusable bricks from the dismantled structure. The new foundations were reconstructed, similar to the earlier one.

D. Reuse of Existing materials
Brick obtained from dismantling the previous structure were reused in the foundation of the structure. Five windows were reused in first floor of the structure as before. Other salvaged materials were not reusable and thus new bricks and wooden members were used during reconstruction of the sattal.

E. Restoration Process
The bodies responsible for the reconstruction of Gorakhnath Pakshala and Yoginarharinath Sattal were Pashupati Area Development Trust and Department of Archaeology. All the drawings and reconstruction were carried out through Pashupati Area Development Trust, with approval from Department of Archaeology. The contractors were selected through tender as per rules of Government of Nepal. The contractors were given sole responsibility of dismantling and reconstruction. The masonry and carving works were managed by the contractor. There was no community participation in the reconstruction of the temple.
F. Budget Allocation/Resources
The project cost was Rs. 4,35,96,102.06 and was funded by Government of Nepal, National Reconstruction Authority. Pashupati Area Development Trust was responsible for the mobilization of resources and funds, subjected to approval from Department of Archaeology.

G. Practical Lessons and Problems faced during Restoration

H. Supervision and Monitoring Process
Supervision and monitoring were carried out by Pashupati Area Development Trust and Department of Archaeology. Department of Archaeology was responsible for approval of drawings and reconstruction works.

I. Conclusion
The reconstruction of Gorakhnath Pakshala and Yoginarsarinath Sattal was successfully carried out with coordination between Pashupati Area Development Trust and Department of Archaeology. New materials replaced the damaged ones during the reconstruction. The structural drawings were not prepared. Work completion report and has been prepared.

J. Photographs of each steps of restoration process.

2.2.17. SHANKARNARAYAN SATTAL

A. Introduction of Project (History of the Monument)
The Sankarnarayan Sattal is situated towards the western side of Pashupatinath temple. The Sattal is joined with Mahasnanghar in its east side and the Gurju Sattal is situated just in front of Mahasnanghar. The state of Sankaracharya Sattal was not good even before the earthquake, as it was assessed by ASI team from India in 2014. The 2015 earthquake further damaged the structure. The Sattal was completely dismantled after detail documentation. All the reusable wooden elements are secured well and being reused in present restoration work. As in the Kulananda Jha Sattal mud mortar is replaced by Lime mortar in Sankarnarayan Sattal too. Pashupati Area Development Trust (PADT) is directly involved in restoration of the Sattal with total responsibility of funding and Department of Archaeology (DOA) provided required technical support.

The documentation of Shankarnarayan Sattal was carried out by Pashupati Area Development Trust. Before the structure was dismantled, Pashupati Area Development Trust (PADT) had prepared drawings and sent to Department of Archaeology for approval. Prior preparation involved preparation of architectural drawings only, with reference to the original structure of the Sattal. Bills of Quantity was prepared by PADT with reference to existing structure, which was approved by Department of Archaeology.

B. Dismantling, Salvaging Process and Reason
The structure was manually dismantled by Nepal Army under the supervision Of Pashupati Area Development Trust and Department of Archaeology. Majority of materials were not in good condition and thus could not be salvaged. Carved woods, which were in good condition were marked and stored appropriately for further use. Ma-appa bricks on the foundation were also salvaged.
C. Description of Foundation
The foundation of the Sattal was excavated. Sattal had sallow foundation only on three sides. Foundations were discovered during excavation on the East, North and South sides. The Sattal on the West side was not found during the excavation and was added by Pashupati Area Development Trust during the reconstruction process. The existing foundation on the East, North and South sides were excavated and reconstructed without any alteration from the original one.

D. Reuse of Existing materials
Reusable materials of the existing structure were salvaged and stored for further use. Ma-appa bricks, that was salvaged from the foundation were reused in reconstruction of the foundation. Most of the materials used in superstructure were new as old materials were not reusable. With exception of some carved woods, new materials were widely used for the reconstruction of superstructure.

E. Restoration Process
Pashupati Area Development Trust and Department of Archaeology were responsible for the reconstruction of Shankarnarayan Sattal. The reconstruction work was carried out by Pashupati Area Development Trust seeking approval from Department of Archaeology. The reconstruction was entirely managed by Pashupati Area Development Trust. The selection of contractor was done by tendering process as per the rules of Government of Nepal. Contractors were used for skilled carving and carpentry works along with production of Dachhi and Ma-appa bricks.

There was no community participation in reconstruction process. No damage and rehabilitation of site surrounding were recorded.

F. Budget Allocation/Resources
The project cost was Rs. 1,99,07,684.47 and was funded by National Reconstruction Authority. Pashupati Area Development Trust was responsible for the mobilization of resources and funds, subjected to approval from Department of Archaeology.

G. Practical Lessons and Problems faced during Restoration
The major problem faced, according to Pashupati Area Development Trust, during restoration process was late decision from Department of Archaeology.

H. Supervision and Monitoring Process
Supervision and monitoring were carried out by Pashupati Area Development Trust and Department of Archaeology. Department of Archaeology was responsible for approval of drawings and reconstruction works.

I. Conclusion
The reconstruction was successfully carried out with coordination between Pashupati Area Development Trust and Department of Archaeology. Many new materials were used as much of salvaged materials were not reusable. The structural drawings were not prepared. Work completion report and final bill has been prepared. Quality and financial audit are remaining.

J. Photographs of each steps of restoration process.
2.2.18. KIRATESHWAR SATTAL

A. Introduction of Project (History of the Monument)
The documentation of Kirateshwar Sattal was carried out by Pashupati Area Development Trust. Pashupati Area Development Trust (PADT) prepared architectural drawings and sent to Department of Archaeology for approval before the structure was dismantled. Prior preparation involved preparation of architectural drawings and detailed estimate by PADT, with reference to the original structure of the temple.

B. Dismantling, Salvaging Process and Reason
The dismantling was carried out by contractors hired by Pashupati Area Development Trust as per rules of Government of Nepal. The dismantling of the temple was done manually. The salvaged materials were stored under the supervision of Pashupati Area Development Trust. Most of the salvaged materials were not in good condition. Bricks were salvaged for reuse in the foundation of the building.

C. Description of Foundation
The foundation of the structure was damaged by the earthquake and thus was excavated. The sattal was found to have shallow foundation.

D. Reuse of Existing materials
The old materials obtained from dismantling the temple was not in good condition and thus were not reused. The only materials reused were stone frame of the door, Shivalinga and Gajur of the original structure. No alterations were done on superstructure of the temple.

E. Restoration Process
The bodies responsible for the reconstruction of the temple were Pashupati Area Development Trust and Department of Archaeology. All the drawings and reconstruction were carried out through Pashupati Area Development Trust, with approval from Department of Archaeology. The dismantling was carried out by Nepal Army immediately after the earthquake. The contractors have been given responsibility of reconstruction. Skilled manpower for wood carving works and masonry works were managed by the contractor. The project is nearing completion. There was no community participation in the reconstruction of the temple.

F. Budget Allocation/Resources
The project cost is projected to be Rs. 4,26,74,624.92 and is being funded by National Reconstruction Authority. Pashupati Area Development Trust is responsible for the mobilization of resources and funds, subjected to approval from Department of Archaeology.

G. Practical Lessons and Problems faced during Restoration
According to Pashupati Area Development Trust, the major problem faced during the reconstruction of the temple was late decision from Department of Archaeology.

H. Supervision and Monitoring Process
Supervision and monitoring is being carried out by Pashupati Area Development Trust and Department of Archaeology. Department of Archaeology was responsible for approval of drawings and reconstruction works.
I. Conclusion
The reconstruction of Kirateshwar Sattal is almost complete with coordination between Pashupati Area Development Trust and Department of Archaeology. The structural drawings were not prepared. Work completion report and final bill has not been prepared. Quality and financial audit are remaining.

J. Photographs of each steps of restoration process

2.2.19. SHIVALAYAS OF MRIGASTHALI

A. Introduction of Project (History of the Monument)

B. Dismantling, Salvaging Process and Reason
The existing drawings and proper documentation were prepared by the Pashupati Area Development Trust and these were approved by the Department of Archaeology before the dismantling work was carried out. The dismantling was carried out in parts manually by a group of skilled manpower and by a team from Nepal Army in the presence of representative from the PADT and DOA. The structural and decorative members were then numbered and documented properly before storing safely and securely in the store provided by the Pashupati Area Development Trust.

C. Description of Foundation
The existing foundation is constructed out of dressed stone masonry on lime mortar. Structural assessment was carried out to verify that the foundation was intact enough, hence, the foundation was not excavated. The reconstruction works were carried out from just the plinth leaving the existing foundation untouched.

D. Reuse of Existing materials
Structurally intact salvage materials were reused at most practical manner and only the members deemed sully damaged were replaced with similar new materials. However, no alterations were made in the overall structure except addition of wooden bands and vertical posts to further stabilize the structural strength of the monument.

E. Restoration Process
The reconstruction works were carried out by contractors who were hired through closed envelop system as per the provision set by the Public Procurement Act of Nepal. The Pashupati Area Development Trust undertook the responsibility of the reconstruction while representatives from Department of Archaeology closely inspected the process. The reconstruction including the dressing of masonry and cornice was carried out on site by skilled manpower and artisans hired by the contractors as per the terms of contract signed between contractors and the PADT.

F. Budget Allocation/Resources
National Reconstruction Authority was responsible for the financial support of the reconstruction process providing the fund. Meanwhile, the overall documentation, tendering, supervision and verification works were overseen by Pashupati Area Development Trust with an additional approval carried out by the Department of Archaeology, GoN.
G. Practical Lessons and Problems faced during Restoration

H. Supervision and Monitoring Process

Although the reconstruction process was carried out by skilled manpower, still, the process was supervised and checked by site engineer and experts from Pashupati Area Development Trust and Department of Archaeology independently on a regular basis. The reconstruction works have been well documented taking a set of photographic images of each step to ensure authenticity and integrity of the monument.

I. Conclusion

The reconstruction work has been completed as well as the Bill and Work Completion Report have been prepared and submitted to Pashupati Area Development Trust for verification. However, the financial audit is yet to be carried out.

J. Photographs of each steps of restoration process

2.2.20. DYOCCHEN OF DATHU TOLE

A. Introduction of Project (History of the Monument)

B. Dismantling, Salvaging Process and Reason

C. Description of Foundation

D. Reuse of Existing materials

E. Restoration Process

F. Budget Allocation/Resources

G. Practical Lessons and Problems faced during Restoration

H. Supervision and Monitoring Process

I. Conclusion

J. Photographs of each steps of restoration process

2.2.21. GUHESWARI SATTAL – WEST

A. Introduction of Project (History of the Monument)

B. Dismantling, Salvaging Process and Reason

The sattal west of Guheswari was safely dismantled by workers in the presence of officials, site engineers from PADT and archeologists from DoA. However, before dismantling, proper drawings and documentation were prepared by the Pashupati Area Development Trust. All the wooden structural and decorative elements such as posts, tundals, carved windows, etc. were inventoried in detail by the PADT and well stored for maximum reuse.

C. Description of Foundation

The foundation was found to be badly damaged during structural assessment and, upon excavation, the strap footing of brick masonry was decided to be reconstructed as the original. No alterations to the details were done during this reconstruction.

D. Reuse of Existing materials

Existing materials were properly documented, stored and checked if they can be reused. Most of the wooden elements could be reused with an exception of few elements which
were either repaired or replaced by similar material by skilled craftsmen. In addition to this, wooden lintel bands and posts were added to the existing structure for additional strength.

E. Restoration Process
The restoration process was carried out by the contractor hired by the Pashupati Area Development Trust under detailed terms of contract. All the works done were based on this agreement, including hiring of skilled craftsmen and artisans as required. The restoration process was supervised and documented time to time by the representatives and site engineers from PADT and archeologist from DOA independently. The detailing works were kept true to the original as no major structural and architectural changes were made. Each change was got approved by the Department of Archaeology.

F. Budget Allocation/Resources
The fund for reconstruction was provided by the National Reconstruction Authority and was mobilized by the Pashupati Area Development Trust. The technical assistance to the reconstruction was provided by the Department of Archaeology, GoN.

G. Practical Lessons and Problems faced during Restoration
H. Supervision and Monitoring Process
The reconstruction process of the sattal was closely monitored and regularly evaluated by site engineers from Pashupati Area Development trust and archeological experts from Department of Archaeology, GoN in addition to the experts hired by the contractor-side. The process was documented for future references.

I. Conclusion
The reconstruction work has been completed as per the schedule and the financial bill and Work completion report was prepared and submitted to the Pashupati Area Development Trust. The financial audit as well as quality audit has been done by the Department of Archaeology.

J. Photographs of each steps of restoration process

2.3. Damage assessment of urban fabric
Some of the residential buildings within the Pashupati Monument Zone and surrounding buffer zone were affected by earthquake with varying degree of damage although no concrete data of the damage was available. During reconstruction of monuments, the surroundings were not rehabilitated.

3. Plan for on-going rehabilitation of monuments
The rehabilitation of damaged monuments has been going on with efforts from Pashupati Area Development Trust.

Similarly, following monuments have been undergoing rehabilitation:
### ANNEX 8

<table>
<thead>
<tr>
<th><strong>SN</strong></th>
<th><strong>Name</strong></th>
<th><strong>Numbers</strong></th>
<th><strong>Funding</strong></th>
<th><strong>Cost Projection</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Guheswari Chaughera Sattal (West)</td>
<td>1</td>
<td>Government of Nepal</td>
<td>Rs. 101,763,000</td>
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<tr>
<td>2</td>
<td>Dhyoche Guthighar</td>
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<td>Rs. 28,000,000</td>
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<tr>
<td>3</td>
<td>Kirateshwor Sattal</td>
<td>1</td>
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<tr>
<td>4</td>
<td>Saptami Sattal</td>
<td>1</td>
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<td>Rs. 44,248,000</td>
</tr>
<tr>
<td>5</td>
<td>Chandrabinayak Temple</td>
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<td>Government of Nepal</td>
<td>Rs. 28,181,000</td>
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<tr>
<td>6</td>
<td>Debris Management from Bishworup Vicinity</td>
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<td>Government of Nepal</td>
<td>Rs. 7,746,000</td>
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<tr>
<td>7</td>
<td>Narasimha Temple</td>
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<td>8</td>
<td>Jayabageshwori Temple</td>
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<tr>
<td>9</td>
<td>Mahasnan Ghar</td>
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<td>NIBL</td>
<td>Rs. 40,000,000</td>
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<tr>
<td>10</td>
<td>Jitjang Prakaseshwor Sattal</td>
<td>1</td>
<td>Government of Nepal</td>
<td>Rs. 50,000,000</td>
</tr>
</tbody>
</table>

### 3.1. JITJUNG PRAKASHEWAR TEMPLE AND SATTAL

**A. Introduction of Project (History of the Monument)**

The documentation of Jitjug Prakasewar Temple and Sattal was carried out by Pashupati Area Development Trust. Pashupati Area Development Trust (PADT) obtained drawings from consultants and sent to Department of Archaeology for approval before the structure was dismantled. Prior preparation involved preparation of architectural drawings only by the consultants. Bills of Quantity was prepared by PADT with reference to drawings according to the existing structure and approved by Department of Archaeology. The wall sections and wood detailing were similar to the existing structure.

**B. Dismantling, Salvaging Process and Reason**

The dismantling was carried out by contractors hired by Pashupati Area Development Trust according to regulations of Government of Nepal. The dismantling of the structure was done manually. The salvaged materials were marked and stored under the supervision of Pashupati Area Development Trust.

**C. Description of Foundation**

The foundation of the structure was not damaged by the earthquake and thus were not excavated. The structure was reconstructed only from above the foundation.

**D. Reuse of Existing materials**

Brick obtained from dismantling the previous structure were reused till the plinth level of the structures. Salvaged doors and windows were used in their original position after general maintenance. Other salvaged materials were not reusable and thus new materials were used during reconstruction of the Jitjug Prakasewar Temple and Sattal.

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E. Restoration Process
The bodies responsible for the reconstruction of Jitjug Prakaseswar Temple and Sattal are Pashupati Area Development Trust and Department of Archaeology. All the drawings and reconstruction are carried out through Pashupati Area Development Trust, with approval from Department of Archaeology. The contractors were selected through tender as per rules of Government of Nepal. The contractors have been given sole responsibility of dismantling and reconstruction. The masonry and carving works are being managed by the contractor. Contractors have hired skilled manpower for carving works on wood and plaster. There has been no community participation in the reconstruction of the temple and sattal.

F. Budget Allocation/Resources
The estimated project cost is Rs. 4,46,71,073.37 and is being funded by Government of Nepal. Pashupati Area Development Trust is responsible for the mobilization of resources and funds, subjected to approval from Department of Archaeology.

G. Practical Lessons and Problems faced during Restoration

H. Supervision and Monitoring Process
Supervision and monitoring are being carried out by Pashupati Area Development Trust and Department of Archaeology. Department of Archaeology is responsible for approval of drawings and reconstruction works.

I. Conclusion
The reconstruction of Jitjug Prakaseswar Temple and Sattal is being carried out through coordination between Pashupati Area Development Trust and Department of Archaeology. New materials have been used to replace the damaged ones during the reconstruction. The structural drawings were not prepared. The work is currently ongoing.

J. Photographs of each steps of restoration process

4. Plan for rehabilitation of remaining damaged monuments
The following monuments are awaiting rehabilitation:

<table>
<thead>
<tr>
<th>SN</th>
<th>Name</th>
<th>Nos.</th>
<th>Funding</th>
<th>Cost Projection</th>
<th>Status</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Shivalayas at Mrigasthali Area</td>
<td>20</td>
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<td>Rs. 99,550,000</td>
<td>9 out of 20 Completed</td>
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<tr>
<td>2</td>
<td>Bajraghar Reconstruction</td>
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<tr>
<td>3</td>
<td>Bishworupa Temple and Sattal</td>
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<td>4</td>
<td>Laxmi Narayan Sattal</td>
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<td>Government of Nepal</td>
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<td>5</td>
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<td>7</td>
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<tr>
<td>SN</td>
<td>Name</td>
<td>Nos.</td>
<td>Funding</td>
<td>Cost Projection</td>
<td>Status</td>
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<td>-----------------</td>
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<td>8</td>
<td>Bajreshwori Sattal</td>
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<td>Respective Guthiyars</td>
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<td>5</td>
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<td>10</td>
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<td>11</td>
<td>4 Shivalayas at Gaurighat</td>
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<td>16</td>
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<td>24</td>
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<td>25</td>
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<td>26</td>
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<td>28</td>
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<td>29</td>
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<tr>
<td>SN</td>
<td>Name</td>
<td>Nos.</td>
<td>Funding</td>
<td>Cost Projection</td>
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<td>30</td>
<td>Agnihottrashala and Four Shivalayas</td>
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<tr>
<td>31</td>
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</tr>
</tbody>
</table>

5. Plan for rehabilitation of urban fabric

The detail plan for rehabilitation of urban fabric is not available. However, there are plans in relocate displaced residents from current parking area of Pashupati area to elsewhere. The rehabilitation of private built structure within the Monument Zone and in buffer zone is carried out through approval from DoA and local ward level.

Pashupati Area Development Area Trust has been preparing a master plan for management and rehabilitation of the urban fabric and monuments in the Pashupati Area.

6. General assessment of rehabilitation of physical setting

Most of the physical settings has not been damaged by the earthquake. Pashupati Area Development Trust has developed area leading from parking to the South Gate of Pashupatinath Temple as Pradakshina Path. The open space of Mrigasthali within the monument zone are being used as burial site by Christian community.

The close proximity of airport is a big concern as loud vibration might damage monuments and some of its area falls under PADT. Dhurbasthali area is already under control of the army.

7. Overall conclusions and recommendations

Most of the listed monuments within the Monument Zone of Pashupatinath Area has been reconstructed or nearing completion. Data for some of the monuments were not available. While PADT has been effectively leading rehabilitation of monuments, there is lack of proper archive and coordination between relevant bodies regarding documentation and rehabilitation of monuments.
Introduction:

The great Majestic Boudha Stupa stands approximately 6-7 km North East from center of the Kathmandu valley. The splendid dome of Boudha Stupa is approximately 120 ft in diameter, 1 hec tor in width and 43.25m in height. The area of the stupa is approximately 6,756 square meters. The site is on flat land, surrounded for a short distance by gradually ascending terraces. The giant solid dome, with its gilded brass chhatra, gajura, and chandura, is based on a series of widely out branching terraces enhanced by a roughly circular wall with 147 niches with 4 or 5 prayer-wheels in each. In the uppermost terrace or pedestal 108 sculptures are set. The mandala-shaped floor plan is oriented east-west by north-south. The stupa is surrounded by two and three-storey houses which accommodate a large number of northern and hill people, both transients and permanent residents.

It is believed that this great stupa was built during the Kashyapa Buddha’s end period and the beginning period of Shakyamuni Buddha. Buddhist people believe that the relics of Kashyapa Buddha, the third Buddha of Bhadrakalpa were enshrined in the dome of this stupa. This great stupa is known as the mind nature of Buddha’s of three times, past, present and the future. This Great Stupa is also called the Stupa of enlightenment or Bodhi Stupa. This Stupa is also one of the largest and most significant Buddhist monuments in the
world. This great stupa was enlisted on world heritage site by UNESCO in 1979 and has become the common monument of the people all over the world. Today it is a major destination of pilgrims from the Himalayas, Tibet and south-East and Eastern Asia.

**History of Bauddhanath:**
There are many stories and legends concerning the origin and history of the great stupa. According to “Hidden Treasure of the Guru Padmasambhava” a widow named Ma Jhyazima aspired to make a great offering of the Boudha, using her hard earned saving as a poultry keeper, she approached the local king for permission and it was granted, on condition that she used an area of the land measuring the size of a single ox skin. However, Jhyazima cut the skin into thin strips and claimed the land enclosed from the strips lay end to end. This mere woman’s ambition to build such a magnificent monument offering to the Boudha caused much jealousy between the rich and powerful at the time. The jealous lord petitioned the king to stop the construction, but the king who had allowed this happen, replied – “Since permission to build has been given, it shall not be rescinded.” Thus the meaning of the stupa named JhyarungKhashyor. The remaining work of the construction of Boudha stupa was completed by the four sons (TrisongDeuchen, ShantaRakshita, Guru Padmasambhava, BamiThiser), of Jhyazima. This legend is very much popular in Himalayan Buddhist society.

The earliest historical references to the Boudha Stupa are found in the Chronicles of the Newars. Firstly, Boudha is mentioned as one of the four stupas found by the Licchavi king Visadeva (ca.AD 400) or Vikramjit. Secondly, the Newars legend of the stupa’s origin attributes it to king Dharmadeva’s son, Manadeva as atonement for his un writing parricide. Manadeva was the great Licchavi king, military conqueror and the patron of the arts who reigned ca.AD 464-505. Manadeva is also linked with the SwayambhuChaitya of Gum Bahal. Thirdly, another great Licchhavi king Shivadeva (AD 590-604) is associated with Boudha by an inscription; he may have restored the Stupa. Finally in the archeological report of the 16th century Tibetan restorer, Sakyazangpo, there is an assertion that he discovered the Lichhavi king Amsuvarma’s relics in the Stupa. There are no Lichhavi stone remains in the vicinity of Boudha, although in the eastern enclave of the Stupa there are several updatable but undoubtedly ancient stones inscribed with mantra, and in the south there are small Chaityas in the Lichhavi style, which could perhaps be dated as early as the 13th century. In conclusion, although there is no epigraphically or reliable archeological or literary evidence of the Stupa’s Lichhavi origins, its early history being based entirely upon legend.

Clues to the Stupa’s origin and history can be derived from the etymology of the Newari name of the Stupas Khas or KhastiChaitya, “The Dewdrop Stupa”. Some believe the name derives from Kasyapa, the Manusi Buddha of the Dwapara-yuga, whose relics are said to be enshrined within it. According to Newari etymology it is derived from the Newari word for dew, for the chronicles mention that when the Stupa was in process of construction a drought struck and the workmen were forced to lay out white cotton cloth to collect the morning dew, which was then wrung out to facilitate the day’s construction. Some say Khasa was the name of a Tibetan Lama whose relics were interred here, or that the Stupa’s origin was in some way associated with the town Khasa on the present border of Nepal and China.
According to Gopal Raj Chronicles during the reign of the Licchavi king Dharmadeva (ca. AD 4th century), it is said that the king installed “Narayanhiti” tap but the water did not come. So, the king consulted his astrologers and was told that for water, the sacrifice of the most virtuous man in the kingdom was required. After disappointing results, the king decided that it was only himself and his son who qualified as victims. The old king decided it was to be himself to die, and instructed his son to decapitate with one stroke a shrouded form he would find lying near the palace that night.

The son prince Manadeva obeyed his father’s command and was horrified to see the head of his father fly from the corpse. It landed at the temple of Vajra Yogini in Sankhu and he was told by the goddess that the only way he could undo his sins was to let a cock fly, and wherever the cock landed, build a Stupa for his father’s remains. The cock alighted at Boudha, and king Manadeva built magnificent Stupa there. [Source: http://bnadc.org.np/history/]

<table>
<thead>
<tr>
<th>Date (B.S.)</th>
<th>Description of Conservation Works carried out</th>
</tr>
</thead>
<tbody>
<tr>
<td>2072</td>
<td>Massive Earthquake hit Boudhanath, Damages above hermika, cracks in dome, mani wall and RanrikRepa Stupa collapsed</td>
</tr>
<tr>
<td>2071</td>
<td>Placing of new stone paving around circumambulatory path</td>
</tr>
<tr>
<td>2070</td>
<td>Works done in dome, plastering and painting of mane wall</td>
</tr>
<tr>
<td>2067</td>
<td>Paving around Stupa Area with Chinese bricks</td>
</tr>
<tr>
<td>2062-63</td>
<td>Renovation of Vedica of Bodha Stupa and also maintenance of wall art</td>
</tr>
<tr>
<td>2026</td>
<td>Reconstruction of Chhatravali (Umbrella) which was burnt due to lightening in 2024</td>
</tr>
<tr>
<td>2024</td>
<td>Lightening in Boudha Stupa, Damage in Chhatravali (Umbrella)</td>
</tr>
<tr>
<td>1918-19</td>
<td>Maintenance of Stupa from finial to hermika and gold plating done Replacement of wooden mane of mane wall with copper mane</td>
</tr>
<tr>
<td>1821</td>
<td>Gold plating done in gajur, Use of lime and saffron in dome</td>
</tr>
<tr>
<td>1681-82</td>
<td>Renovation of Chhatravali (Umbrella) and finial</td>
</tr>
</tbody>
</table>

2. Overall Impacts of Gorkha Earthquake:
After earthquake of 2072 BS, the damage in the brickwork of trayodasabhuwan and its cubic base was extensive of **boudha stupa**. The earthquake has dismantled the structure to the bottom of hermika and top of hemisphere.
Also, the small stupa situated in the east side of the boudhha stupa called Rangrikrepsmriti stupa was collapsed from above the garbagriha (hemisphere). Due the debris fallen from above the hermika, the dome shaped hemisphere was partially affected with the formation of cracks. Also, some parts of the mane wall which lies around the stupa was damaged.
3. Plan for on-going rehabilitation of monuments

Emergency response after 2072 earthquake:
After second earthquake in baisakh 29, 2072 B.S, the stupa was in severe damaged state. The upper structure of the boudhhanath stupa was supported with the help of bamboo scaffolds and plan for further rehabilitation was done for both boudhhanath stupa and ranrikrepsmriti stupa.

Present Status:
Reconstruction of all the monuments is completed till date. No urban Fabric has been affected by earthquake

Responsible authorities:
The main managing bodies involved in the rehabilitation of the monument are:
- DOA
- Boudhhanath Area Development committee

Documentation:
The damage after the earthquake was documented by DOA and Boudhhanath area development committee. Dismantling and Sorting of the materials was done on the basis of numbering, pictures, under the supervision of engineers and DOA. Various methods involved during reconstruction and documentation involves measured drawings, detailed photographs, Detailed Logue-out Sheets, etc. The decision-making process is also documented through minutes of every meeting by DOA.

Storage and use of salvaged materials:
The salvage materials was stored around the open spaces of stupa and the valuable assets were stored in the gurulakhang monastery located at the north side of the boudha stupa. No new storage areas have been assigned at present.

Overall 19% of salvage bricks were used in reconstruction. New bricks and timber used in rest of the restoration because most of the salvaged materials were expired was not in a good phase to reuse. Broken bricks were also not used as they were not considered to be strong and donated to gumbas and math mandirs.

Materials Used:
Nepali salwood, ma- apa, BajraSurkhi mortar (instead of mud mortar as previous as bajrasurkhi mortar is high in strength compared to mud mortar), gold-plated copper plates, concrete base in hermika(which was the result of previous 1968 restoration whose dimension is unknown because it was found in damaged state due to EQ) was extended and made upto 28’8” square and 2’ thick for the better stability of the soksing which was supervised and specified by DOA. Materials supplied by different vendors as per availability.
Monitoring mechanism:
The reconstruction was continuously monitored by Boudhanath area development committee (Main body) and also from the community group under the supervision and guidance of DOA. A clear monitoring mechanism, criteria for monitoring, evaluation mechanism and reporting format has not been developed to check if the restoration work is following the guidelines and the international norms and values for which it was listed in the world heritage list.

Community participation:
Community has participated in reconstruction of the Monumental zone by continuously supervising the works of the craftsman and labours. However, they are not involved in any decision making process.

Artisans availability:
Craftsman with working experience in traditional materials was selected. The craftsman were brought from Lalitpur, Bhaktapur, Kirtipur and the experienced workers from around the site. Inventory of the skilled manpower was prepared. No training was given to new artisans. The artisans were self-trained i.e. the knowledge was handed over from previous generations.

Alteration:
Soksing is the also called earth tree which is believed to be raised from the base of garbagriha to rise through the hermikaupto the gajur. During the dismantaling process after earthquake soksing was found only on the three steps from the top of trayodasabhuwan (11th, 12th and 13th steps) and the rest below was the hollow space exactly same as the dimension of soksing believed to be continued downwards till the base of hermica where
concrete base was discovered in the course. Concrete base is now extended and made 28'8" square base.

Also the addition of timber cross braces in the trayodasabhavan to make the structure stronger. Earthing was done to prohibit effect of lighting and its consequences like 2036 BS by the use copper plate from gajur to the land.

The cracks of the dome created by the falling of debris from the top of stupa were treated by epoxy grouting. According to boudhanath area development committee, it was used because they had no idea of treating the cracks by traditional techniques and also it was done in swayambhunath to repair the cracks in dome under the supervision of DOA.

![Figure 67  Reconstruction of Soksing of Bouddhanath stupa](image)

Left: Hole of Soksing
Right: Soksing

**Project Cost:**
The Boudhanath Area Development Committee spent the sum of Rs. 6,29,39,413 on labour charge, lime, surkhi, ma-appa brick, wood, scaffolding, trolley, epoxy grouting, machinery, etc for the renovation and reconstruction of Boudhanath Stupa. From the remaining amount (Rs. 9,59,92,589.79), a Dharmashala was bought and certain amount was spent on the development of culture, society, tradition and other developmental works.
## Expenses Detail

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Expenses</th>
<th>Amount (in Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reconstruction work (Committee)</td>
<td>62,939,412.00</td>
</tr>
<tr>
<td>2</td>
<td>Tai Situ Rinpoche's Organization</td>
<td>9,369,737.00</td>
</tr>
<tr>
<td>3</td>
<td>Wood</td>
<td>7,585,500.00</td>
</tr>
<tr>
<td>4</td>
<td>Ma-appa Brick (2,29,000)</td>
<td>5,038,000.00</td>
</tr>
<tr>
<td>5</td>
<td>Gold 31 kg (2657.32/tola)</td>
<td>146,152,600.00</td>
</tr>
<tr>
<td></td>
<td><strong>Total amount spent</strong></td>
<td><strong>231,085,249.00</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Total amount collected</strong></td>
<td><strong>158,932,002.790</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Saved amount</strong></td>
<td><strong>95,992,590.790</strong></td>
</tr>
</tbody>
</table>

### Funding

The total fund was collected from different donors. All the financial supports were done by different donors whereas the government only helped by providing technical support. The following table shows the list of donors.

## List of Donors for reconstruction of Boudhanath Stupa

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Organization's Name</th>
<th>Donated Amount (in Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HNA Group and Co./Hinan Province Ciang Foundation</td>
<td>46,594,000.00</td>
</tr>
<tr>
<td>2</td>
<td>Chinese Buddhist Association, China</td>
<td>31,027,000.00</td>
</tr>
<tr>
<td>3</td>
<td>Student and Professor of Macau</td>
<td>21,634,155.00</td>
</tr>
<tr>
<td>4</td>
<td>Tergar Foundation Nepal (by Tai Situ Rinpoche), Sitapaila</td>
<td>10,000,000.00</td>
</tr>
<tr>
<td>5</td>
<td>Chinese Embassy, Nepal</td>
<td>6,550,000.00</td>
</tr>
<tr>
<td>6</td>
<td>Chinese Gumba, Lumbini</td>
<td>5,000,000.00</td>
</tr>
<tr>
<td>7</td>
<td>Bodhibastu, from America</td>
<td>2,059,503.00</td>
</tr>
<tr>
<td>8</td>
<td>Others</td>
<td>36,067,344.79</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>158,932,002.790</strong></td>
</tr>
</tbody>
</table>
Executive Summary and Recommendations

1. General description to the Monument Zone

Swayambhumath is among the oldest religious sites in Nepal. According to the Gopālarājaṃsāvallī, it was founded by the great-grandfather of King Mānadeva (464-505 CE), King Vṛṣadeva, about the beginning of the 5th century CE. This seems to be confirmed by a damaged stone inscription found at the site, which indicates that King Vṛṣadeva ordered work done in 640 CE. (Shaha & Rishikesh, 1992) However, Emperor Ashoka is said to have visited the site in the third century BCE and built a temple on the hill which was later destroyed. Although the site is considered Buddhist, the place is revered by both Buddhists and Hindus. Numerous Hindu monarch followers are known to have paid their homage to the temple, including Pratap Malla, the powerful king of Kathmandu, who is responsible for the construction of the eastern stairway in the 17th century.

The holy site of Swayambhu, consisting of two hillocks to the west of Kathmandu, has a series of shrines, both Buddhist and Hindu, all of which are important sites for worship and pilgrimage. On the eastern hillock is the renowned Swayambhu Stupa, perhaps the most famous religious shrine in Nepal and known throughout the world. As well as the Stupa, which legend says was one of the first structures to be built in the Kathmandu Valley, there are a pair of Shikharas flanking the top of the flight of steps leading up to the Stupa from the east. which were built in the 17th Century. To the west is the temple of Ajima, built in the traditional Newari style, as well as a host of small, Chaitya and religious statues commemorating important members of the religious community. (Master Plan for the Conservation of the Cultural Heritage In the Kathmandu Valley, 1981)

Source: Kai

Figure 1 Boundary of Swayambhu
The boundary encompasses the entire hillock which is an integral part of the identity of the Swayambhu stupa, and contributes to the outstanding universal value of the property. (Area 32.63 ha approx.) The Buffer Zone encompasses a strip around the foot of the hillock and corresponds to the area gazetted in 1994. (Area 25.18 ha approx.) (Kathmandu World heritage Site Integrated Management Framework, 2007)

It has long history of being renovated and conserved during different periods throughout the history. The participation of then neighboring countries like Tibet, Bhutan etc. shows its importance as Buddhist pilgrim around the world. The stupa was completely renovated in May 2010, its first major renovation since 1920. The dome was re-gilded using 20 kg of gold. The renovation was funded by the Tibetan Nyingma Meditation Center of California, and began in June 2008. (Shrestha, 2013) The Swayambunath complex suffered damage in the April 2015 Nepal earthquake followed by reconstruction. The brief conservation history of the Swayambhunath complex is tabulated in the timeline below:

Table 8 History of Conservation Works of Swayambhu Mahachaitya

<table>
<thead>
<tr>
<th>Date (A.D)</th>
<th>Description of Conservation Works Carried Out</th>
</tr>
</thead>
</table>
| 4th century C.E | • Renovated by Licchavi King Brischadev  
| | • (Shakya, 1098) |
| 1129 | • First renovation  
| | • In scripted in inscription near stupa (Gutschow And Hagmuller, 1989) |
| 1200 | • Renovated by Shakya Monk Maitrichandra (Shakya, 1098)  
| | • Yasthi changed according to Bajrayani Tradition |
| 1362 | • Complete renovation  
| | • 12 years after Muslim attack  
| | • By Mahapatra RaharshiVaalok with permission from King Arjun Dev and Prince JayasthitiMalla  
| | • Present day style adopted  
| | • Addition of amenities (Shakya, 1098; Gutschow and Hagmuller, 1989) |
| 1412 | • Renovated by JyotirMalla (Shakya, 1098)  
| | • Yasthi changed |
| 1565 | • Mahapatras of Patan Nara, Uddhav and Purander Singha replaced the parts of gajur. (Shakya, 1098) |
| 1604 | • Shiva Singha Malla changed the Yasthi  
| | • Renovated (Shakya, 1098) |
| 1621 | • Traveller from Tibet Shyampar Lama renovated  
| | • Changed the Yasthi  
| | • Added the shrines of Gods and Goddesses (Shakya, 1098) |
| 1637 | • Yasthi damaged  
| | • Renovated by the team led by Shakya Monk Manjudev (Shakya, 1098) |
| 1680 | • Hermika damaged  
<p>| | • Renovated by Pratap Malla (Gutschow And Hagmuller, 1989) |
| 1681 | • Renovated by King ParthibendraMalla (Shakya, 1098) |
| 1709-1713 | • Renovated by help from King Bhaskar Malla (Shakya, 1098) |
| 1751 | • Reconstructed during the reign of Jaya Prakash Malla |</p>
<table>
<thead>
<tr>
<th>Year</th>
<th>Event and Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1757</td>
<td>Tibetan Lama Bajra Ayurishmani and Jaya Prakash Malla funded the renovation with Yasthi sent by Prithivi Narayan Shah (Shakya, 1098; Gutschow and Hagmuller, 1989)</td>
</tr>
<tr>
<td>1808</td>
<td>Renovated (Gutschow And Hagmuller, 1989)</td>
</tr>
<tr>
<td>1825/26</td>
<td>Renovation of the Dome, Triyodashi Bhuwan, Yasthi damaged due to strong winds (Gutschow And Hagmuller, 1989)</td>
</tr>
<tr>
<td>1815</td>
<td>King Girvan Yuddha Bikram and Rajendra Bikram Shah Dev started renovation, in direction and leadership of Kathog Rimpoch</td>
</tr>
<tr>
<td>1817</td>
<td>Subarna Kalash and gajur damaged due to storm</td>
</tr>
<tr>
<td></td>
<td>The damage repaired within 10 months (Shakya, 1098)</td>
</tr>
<tr>
<td>1866</td>
<td>Businessman Dhan Singh Tamrakar in leadership and direction of Samantaharsha Bajracharya (Pramukh Acharya of Surashri Mahavihar) carried out the renovation works (Shakya, 1098)</td>
</tr>
<tr>
<td>1917</td>
<td>Bhutanese buddhist guru Awatari Lama Sherab Dorje as commanded by Bhutanese King carried out the conservation work</td>
</tr>
<tr>
<td></td>
<td>Three brothers of Kathmandu; Harsha Sundar, Pushpa Sundar &amp; Ram Sundar carried out repair and renovation works of 9 small temples (Gawache) (Shakya, 1098)</td>
</tr>
<tr>
<td>1916-1920</td>
<td>Yasthi changed during reign of King Rajendra Bir Bikram Shah was in good condition according to the main carpenter Joghbir Tuladhar so not changed during this period of renovation works</td>
</tr>
<tr>
<td></td>
<td>Upper part of the Stupa renovated except the Yasthi (Shakya, 1098)</td>
</tr>
<tr>
<td>2008-2010</td>
<td>Renovation and repair work carried out by FSMC (Federation Of Swayambhu Management &amp; Conservation) funded by Tibetan Nyingma Meditation Centre, California, USA under Ancient Monument Conservation Act 2013</td>
</tr>
<tr>
<td></td>
<td>Repair of damaged copper plates, gold plating</td>
</tr>
<tr>
<td></td>
<td>Replacement of the unrepairable and lost parts</td>
</tr>
<tr>
<td></td>
<td>Repair and conservation work of damaged timber and other parts of the monument</td>
</tr>
<tr>
<td></td>
<td>Documentation of the works carried out (Shrestha, 2013)</td>
</tr>
<tr>
<td>2015-</td>
<td>Reconstruction and renovation work carried out after Earthquake of 2015</td>
</tr>
</tbody>
</table>

2. Overall impact of the Gorkha Earthquake

The monuments in the Swayambhunath monument zone was severely damaged during the earthquake of 2015. The earthquakes of April 25 and May 12, 2015 have caused extensive damage in Nepal. The oldest buildings were especially affected, along with all the sites enlisted as World Heritage by UNESCO. Most of the dwelling built with traditional technology were dealt with heavy damage as many of the traditional dwelling collapsed. The dwellings with concrete technology were dealt with partial damages.
Legends
1. Swayambhu Mahachaitya,
2. Museum
3. Dev Dharma Mahabihar
4. Harati Mata Temple
5. Karmaraj Mahabihar
6. Shantipur
7. Agam Chhen
8. Ananatpur
9. Pratappur
10. World Peace Fountain
11. Hoyachenga Thukje Choyaling Gumba
12. Manjushree temple
13. Manjushree Sattal

Source: Doa

Figure 2  Map showing the location of the monuments
### Summary Data Table of Post-Damage Assessment in Swayambunath World Heritage Site

**1) Swayambunath-Zone I (Refer map)**

<table>
<thead>
<tr>
<th></th>
<th>Religious Places</th>
<th>Dwelling Places</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Shirines/ Chaityas/ Gates/ Stone posts....</td>
<td>Important Heritages (Temples, Stupas, Bihar.....)</td>
</tr>
<tr>
<td>Totally Collapsed</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Threated</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Slight/Extensive Damaged</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>No Visible Damages</td>
<td>148</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>165</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

**2) Swayambunath-Zone II (Refer map)**

<table>
<thead>
<tr>
<th></th>
<th>Religious Places</th>
<th>Dwelling Places</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Shirines/ Chaityas/ Gates/ Stone posts....</td>
<td>Important Heritages (Temples, Stupas, Bihar.....)</td>
</tr>
<tr>
<td>Totally Collapsed</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Threated</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Slight/Extensive Damaged</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>No Visible Damages</td>
<td>42</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>47</strong></td>
<td><strong>24</strong></td>
</tr>
</tbody>
</table>

**3) Swayambunath (Refer map)**

<table>
<thead>
<tr>
<th></th>
<th>Religious Places</th>
<th>Dwelling Places</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Shirines/ Chaityas/ Gates/ Stone posts....</td>
<td>Important Heritages (Temples, Stupas, Bihar.....)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>212</strong></td>
<td><strong>45</strong></td>
</tr>
<tr>
<td>% Totally Collapsed</td>
<td>1.42</td>
<td>4.44</td>
</tr>
<tr>
<td>% Threated</td>
<td>2.36</td>
<td>28.89</td>
</tr>
<tr>
<td>% Slight/Extensive Damaged</td>
<td>6.64</td>
<td>24.44</td>
</tr>
<tr>
<td>% No Visible Damages</td>
<td>89.62</td>
<td>42.22</td>
</tr>
</tbody>
</table>

*Figure 3 Post Damage Assessment summary table (UNESCO)*
### Table 9 Damage Assessment of Monument Zone

<table>
<thead>
<tr>
<th>S.No</th>
<th>Name of the Monuments</th>
<th>Damage in EQ (collapse/Partial/none)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SwayambhuMahachaitya</td>
<td>Vertical and horizontal cracks on dome</td>
</tr>
<tr>
<td>2</td>
<td>Shantipur</td>
<td>W and E wall with diagonal and horizontal cracks N wall with major diagonal cracks and gable wall collapsed</td>
</tr>
<tr>
<td>3</td>
<td>Pratappur</td>
<td>Basement heavily damaged; stone pillars at the entrance collapsed</td>
</tr>
<tr>
<td>4</td>
<td>Anantapur</td>
<td>Upper part collapsed, Pillars and door are tilted</td>
</tr>
<tr>
<td>5</td>
<td>AaganChye</td>
<td>W wall with stepped cracks</td>
</tr>
<tr>
<td>6</td>
<td>Dev Dharma Mahavihar</td>
<td>Heavily damaged walls</td>
</tr>
<tr>
<td>7</td>
<td>BahuMangalDwar Chaitya</td>
<td>Totally collapsed</td>
</tr>
<tr>
<td>8</td>
<td>Gyanmala Bhajan Sattal</td>
<td>Weak wood structure parts, Bricks falling, Basement cracks</td>
</tr>
<tr>
<td>9</td>
<td>AnandakutiVihar</td>
<td>Partially damaged</td>
</tr>
<tr>
<td>10</td>
<td>KarmarajMahavihar</td>
<td>N-W and N-E corner half collapsed, Over weight due to over elevation, S-E corner with diagonal cracks</td>
</tr>
<tr>
<td>11</td>
<td>Basundhara temple</td>
<td>Western roof was partly damaged by falling parts of temple</td>
</tr>
<tr>
<td>12</td>
<td>Pati; East side of Shantipur</td>
<td>N-E corners with major cracks and falling off N wall with half of wall collapsed, E wall with major diagonal crack</td>
</tr>
<tr>
<td>13</td>
<td>Old Swayambhu</td>
<td>Pinnacle collapsed, West entry wall partially damaged</td>
</tr>
<tr>
<td>14</td>
<td>Bayupur</td>
<td>Horizontal cracks on all four sides</td>
</tr>
<tr>
<td>15</td>
<td>Agnipur</td>
<td>No visible damage</td>
</tr>
<tr>
<td>16</td>
<td>Peacock and stone column</td>
<td>Totally collapsed</td>
</tr>
<tr>
<td>17</td>
<td>Bell and stone column</td>
<td>Stone support frame collapsed, Bell not damaged</td>
</tr>
<tr>
<td>18</td>
<td>Harati Mata temple</td>
<td>No apparent damage</td>
</tr>
<tr>
<td>19</td>
<td>Bajrasatwa and stone column</td>
<td>Totally collapsed</td>
</tr>
<tr>
<td>20</td>
<td>MahaManjuShree Chaitya</td>
<td>Vertical cracks extending from below to top in all the corners and mainly in front face</td>
</tr>
<tr>
<td>21</td>
<td>Manjushree sattal</td>
<td>Major vertical cracks at front face corners Outer part of front left corner wall partly collapsed Plaster are mostly off from wall inside the sattal, Left and right face walls bulging and tilted by small amount</td>
</tr>
<tr>
<td>22</td>
<td>Basubandha Chaitya</td>
<td>Vertical and diagonal stepped cracks at the upper part, vertical cracks at dome</td>
</tr>
<tr>
<td>23</td>
<td>HoyachengaThukjeChhoyalinggumba</td>
<td>Partially collapsed</td>
</tr>
<tr>
<td>24</td>
<td>Vajratweswori</td>
<td>Partially collapsed</td>
</tr>
<tr>
<td>25</td>
<td>DharmaChakramahavihar</td>
<td>Partially collapsed</td>
</tr>
<tr>
<td>26</td>
<td>Parbasthan chaitya</td>
<td>Partially collapsed</td>
</tr>
<tr>
<td>28</td>
<td>Dhyankutibihar</td>
<td>Partially collapsed</td>
</tr>
</tbody>
</table>
Figure 3: Map showing the damage of monument after 2015 earthquake

Figure 4: Damage Assessment Map Zone I (UNESCO)
The earthquake of 2015 also caused landslides in multiple places in both hills consisting of the main stupa and the Manjushree hill. Altogether, six areas in the monument zone were assessed to be affected by varying degrees of landslide as shown in the figure 6 and figure 7.

Figure 4 Location of Landslide

source: UNESCO
3. Plan for on-going rehabilitation of monuments

Emergency response after 2015 earthquake:
After the earthquake of 25th April, 2015, the entrance was restricted in core monument zone of Swayambhū from 26th April, 2015 and Nepal police was actively recruited for the collecting and the transportation of the valuables. It was later safely stored in the National Museum of Nepal, Chhauni. Meetings were held between the DOA, UNESCO and Federation and discussions for the next steps in the reconstruction was planned.

Present Status:
Reconstruction of all the monuments is completed till date. Only the private houses are remaining. Reconstruction of Shantipur temple is completed but plaster work is left as monkeys tend to scrap mud mortar for insects.

Responsible authorities:
The main managing bodies involved in the rehabilitation of different monuments are:
- Federation for Swayambhu Management and conservation (Main body)
- Department Of Archaeology (DOA)
- UNESCO
- GTZ

Individual description of management bodies are listed in matrix

Documentation:
The damage after the earthquake was documented by DOA and Federation of Swayambhū Management & Conservation. Sorting of the materials was done on the basis of old references, pictures, carpenters and metal workers were also involved. Various methods involved during reconstruction and documentation involves measured drawings, detailed photographs, Archaeological Conservation Notes, Detailed Log-out Sheets, etc. The decision-making process is also documented through minutes of every meeting by DOA.

Community participation:
Community is well aware about the importance of heritage and is providing their deepest interest and efforts to support the conservation and reconstruction of the Monumental zone. However, they are not involved in any decision making process.

Artisans availability:
Craftsman with working experience in traditional materials was selected. The craftsman were brought from Lalitpur, Bhaktapur, Kirtipur and the experienced workers from around the site.

Inventory of the skilled manpower was prepared. No training was given to new artisans. The artisans were self-trained i.e the knowledge was handed over from previous generations.

Funding:
Most of the monuments’ rehabilitation is funded by FSMC. Besides that, the major funding was done by DOA, UNESCO, Bhutanese Aid, Sri Lankan aid e.tc. (See Matrix)

Storage and use of salvaged materials:
There is a lack of storage space for any salvage materials in case of disasters. No new storage areas have been assigned at present.
Overall 15% of salvage bricks were used in overall reconstruction. New bricks and timber used in rest of the restoration. (See Matrix)

**Materials:**
Traditional materials used as per specification by DOA; nepali salwood, dachi - apa, ma-apa, Bajra Surkhi mortar, iron and gold-plated copper plates. Materials supplied by different vendors as per availability.

**Monitoring mechanism:**
The reconstruction was monitored timely by Federation of Swayambhu Management & Conservation (Main body) and also from the community group under the supervision and guidance of DOA. A clear monitoring mechanism, criteria for monitoring, evaluation mechanism and reporting format has not been developed to check if the restoration work is following the guidelines and the international norms and values for which it was listed in the world heritage list.

Analysis of individual monument

**A. Swayambhu Mahachaitya:**

Swayambhunath is among the oldest religious sites in Nepal. According to the Gopālarājavamsāvalī, it was founded by the great-grandfather of King Mānadeva (464-505 CE), King Vṛṣadeva, about the beginning of the 5th century CE.

The stupa consists of a dome at the base, above which is a cubical structure painted with eyes of Buddha looking in all four directions. There are pentagonal toran present above each of the four sides with statues engraved in them. Behind and above the torana there are thirteen tiers. Above all the tiers there is a small space above which the Gajur is present. The stupa has many artefacts inside it. The dome at the base represents the entire world. When a person awakes (represented by eyes of wisdom and compassion) from the bonds of the world, the person reaches the state of enlightenment. The thirteen pinnacles on the top symbolize that sentient beings have to go through the thirteen stages of spiritual realizations to reach enlightenment or Buddhahood.

Vertical and horizontal cracks on dome was seen as the aftermath of earthquake of 26 April 2015.

There were photographic references for documentation. Now the cracks have been filled using traditional methods. Federation of Swayambhu Management and Conservation was responsible for funding and management of the mending work.

**B. Shantipur:**

Shantipur is located about 300m north of Swayambhumahachaitya. This temple is said to be built as a meditation center for Shantikacharya. The nondescript, sloped roof, white plaster and stucco Shantipur is a three-storey temple. The Buddhacharya priests and the Thakalis of the temple can only enter mysterious Shantipur.

In the 2015 earthquake, the little known but powerful tantric Shantipur temple was badly damaged. West and East wall was with diagonal and horizontal cracks, North wall with major diagonal cracks and gable wall was collapsed too.
Along with the immense blow to the structure, there was an added layer of devastation—the temple’s inside walls were painted with a narrative mural describing the ancient Swayambhupurana. This vast work is the longest known narrative Buddhist painting in existence and tells the tale of the journey of the various iterations of the Buddha who came to Kathmandu (the Nepal Valley as it was known then) in search of the self-originating holy site (Swayambhu) that appeared in the middle of the thousand petal lotus after the lake that was the Valley was drained.

The temple was thought to be damaged only externally but later through inspection, it was seen that it required to be constructed from foundation. Due to the entrance restrictions, there was a lack of skilled artisans. However, later FSMC went through a number of interviews to select the skilled work force to reconstruct the holy temple. Wooden horizontal and vertical ties was added for structural consolidation. The walls of foundation was 48” thick and above the foundation was 42” thick. Due to lack of traditional bricks, the temple was reconstructed using 60% of salvaged materials. The total cost of the project was approximately Rs.2, 81, 24,431. The reconstruction was funded and managed by FSMC under supervision of DOA. Photographic references was taken as the base for reconstruction. Architectural and structural drawings are available which was prepared for the reconstruction process in the DOA and FSMC.

C. Pratappur and Anantapur:

The Shikhara style Pratappur and Anantapur temple are located in the North-East and South-East side of the main dome respectively.

After the earthquake of 25th April 2015, the basement of Pratappur temple was heavily damaged; stone pillars at the entrance was also collapsed. The drawings were prepared as per photographic references and was reconstructed from foundation. This is the third time the Pratappur Temple was reconstructed. Earlier, the temple was damaged due to a fire and another lightning incident. Most salvaged materials used for the reconstruction and the construction cost of the project was approximately 1, 38, 00,000.

As for Anantapur, upper part was collapsed and pillars and door was tilted. The drawings were prepared as per photographic references and was reconstructed from foundation. Salvaged materials were not used as they were not in a good condition to be re used. The construction cost of the project was approximately 1,70,00,000.

The reconstruction was funded and supervised by the Department of Archaeology (DOA).

D. Aagamchyen:

AagamChyen is a two storey priest house located in front of the Ratnasambhav. It is north oriented brick masonry house which can only be entered by the Budhhacharyas and the entry is restricted for the local public.

After the earthquake of 25th April 2015, West walls was seen with stepped cracks. Structural consolidation was done by tying the building all around using steel tie beams. Remaining parts were conserved using the photographic references. The reconstruction was funded and managed by Federation of Swayambhnu Management and Conservation (FSMC) under supervision of Department of Archaeology (DOA).
E. DevdharmaMahabihar:
DevdharmaMahabihar is located west of Swayambhumahachaitya in front of the statue of Amitabh Buddha. DevdharmaMahabihar was heavily damaged after the 2015 earthquake. The drawings were prepared as per photographic references and was reconstructed from foundation. The monastery was shifted 4 ft. backwards after earthquake for easy passage toward Haratimata temple. The reconstruction was funded by the Bhutan Government and managed by Federation of Swayambhu Management and Conservation (FSMC) under supervision of Department of Archaeology (DOA).

F. KarmaRajaMahabihar:
KarmaRajaMahabihar is also called new monastery as giant scaled doors of a single story characterize it. It was constructed in 2010 B.S. The monastery was heavily damaged after the 2015 earthquake. N-W and N-E corner was half collapsed and was overweight due to over elevation. S-E corner with diagonal cracks was seen. Presently concrete structure is being built using photographic references. The reconstruction is funded and managed by the Karma raj Mahabiharguthi under supervision of Department of Archaeology (DOA). The consultant approved for the reconstruction is (Vastukala Para Marsha).

G. BahuMangalDwar Chaitya:
BahuMangalDwar Chaitya is located southeast of SwayambhuMahachaitya. It is called a chaitya with numeral doors and is also known as Tibetan Gompa. It was totally collapsed after 2015 earthquake. Therefore, for reconstruction, the drawings were prepared as per photographic references and available salvaged materials. Therefore, it was reconstructed from foundation. The reconstruction was funded by UNESCO and managed by Federation of Swayambhu Management and Conservation (FSMC) under supervision of Department of Archaeology (DOA).

H. GyanMala Bhajan Sattal:
GyanMala Bhajan Sattal is popular as a strong organization in the modern history of Nepal. It was officially established in 1884 B.S. It was heavily damaged in 2015 earthquake. The wood structure parts were very weak, bricks were falling of the wall and heavy basement cracks were seen. Therefore, the drawings were prepared as per photographic references and was reconstructed from foundation. The reconstruction was funded and managed Department of Archaeology (DOA).
4. **Plan for rehabilitation of urban fabric**

Almost all of the traditional buildings inside the monument zone were heavily damaged during the earthquake. The priest houses and others inflicted with heavy damage are still under construction and are being built with concrete with intentions of facadism. The construction of the houses is being funded by the private organization which is also funding the under construction Karmaraj Mahabihar.

The Swayambhu parikrama road along with the other roads linked to it in the buffer zone are black topped. The staircases leading to the main stupa, open spaces and pedestrian paths are paved with stones which are indicated in the figure below. No such alteration in material usage before and after earthquake.
The urban fabric was accessed through rapid visual assessment. Strategic points on the map were marked to gather photographs to assess existing urban fabric around the buffer zones as well as the monument zone.
5. General assessment of rehabilitation of physical setting

![Diagram showing the rehabilitation of physical setting]

No encroachment of such were found within the monument zone but Devdharma Mahabihar was reconstructed with recessed footprint by four feet as it created visual hinderance to the Harati Temple and also to open up the circumambulation path as suggested by the FSMC.

Similarly, no additional structures were created for storage area after the earthquake.

References


1. Introduction:

The Patan Durbar Square is situated in the center of Lalitpur District which lies 6 kilometers south of the capital. Patan Durbar Square is one of the seven groups of monuments and buildings which were listed in the world heritage list in 1979 under one single entity as Kathmandu Valley World Heritage Site. The Core Zone boundary encompasses the Durbar Square and covers an area of 15.89 ha while the buffer zone covers an area of 86.48 ha. The amalgamation between the Hindu and Buddhist religion led to a powerful artistic and architectural fusion beginning at least from the 5th century AD. These monuments defined by the outstanding cultural traditions of the Newar, manifest in their unique urban settlements, buildings and structures with intricate ornamentation displaying outstanding craftsmanship in brick, stone, timber and bronze that are some of the most highly developed ones in the world.

![Figure 1 Patan Durbar Square Monument Zone Boundary](image)

2. Impact of the 2015 Earthquake

On April 25, 2015, a 7.8 magnitude earthquake struck central Nepal, leaving widespread destruction in its wake, killing 185 people and damaging 29,056 houses alone in Lalitpur District (GON, 2018). Its impact on the Kathmandu Valley was devastating and also on the heritage, where, around 130 cultural heritages in Lalitpur were destroyed among which 13 were collapsed, 20 were partially collapsed and 87 were partly damaged (Archaeology). In the April 25, 2015 earthquake, the TheHarishankar Mandir, Char Narayan Mandir and The Gold-Plated statue of Malla King Yonarendra Malla were destroyed in the disaster, while Degu Taleju Mandir, Krishna Mandir, ChyasiDega Mandir, Bhimsen Mandir, the palace of
Bahadur Shah, Narayan Mandir and Bhishwanath Mandir sustained varied degree of damage.

Many of these monuments lies in the durbar square which were listed in the World Heritage sites in 1979 for their archaeological, historic, cultural and religious importance. In order to protect the historic building elements from theft and weather, the Kathmandu Valley Preservation Trust moved rapidly to coordinate security and clean-up efforts in Patan in the days after the earthquake. Remnants of the fallen temples in Patan Darbar Square, - thousands of carved timber elements as well as bricks and roof tiles,- were secured with the help of hundreds of volunteers and the Nepal Army, Armed Police Force, and Police. All valuable historic building elements were securely stored in the Patan Museum and the walled garden of the Royal Palace complex and were gradually cleaned, documented, and inventoried in preparation for the restoration and rebuilding. The loss of the unique architectural heritage had disfigured and diminished Patan’s townscape and religious and social life, and left its deities unsheltered. (KVPT, 2017)

The earthquake of 2015 had a massive impact in the heritage of Patan Durbar Square. As per data collected from DOA, six monuments were totally collapsed, four monuments were partially damaged and 5 monuments were structurally weakened. The inner sanctum of the Visveshvara Temple remained intact and the exterior layer of veneer bricks collapsed. The tenons at the column base of the outer ambulatory were dislodged.

Figure 2 Damaged and Collapsed Heritage in Patan Durbar Square
Another important monument Krishna Temple which is made entirely out of stone was partially damaged. The maximum damage was seen on the second floor. Due to the lateral movement the columns had moved out of the plumb, key stones were dislodged and some stone especially at the corners were severely damaged. The roof of the north and south Taleju was also damaged. The earthquake also caused a total collapse of the upper two storey of the east wing’s rear façade and the central portion of the first and second storey of the quadrangle’s façade.

3. Efforts in conservation and reconstruction

The KVPT set out a campaign that sought to restore the urban landscape and again shelter the deities for whom the temples were built. Pre-earthquake documentation of recent years provided a good basis for rebuilding and restoring the temples on the square. There was a lack of detailed documentation of the mandapas, but a good amount of forensic evidence survived in the plinths and other recovered building elements. Using the many salvaged fragments, the temples and mandapas were returned as closely as possible to their original configuration. The projects follow international norms in using a maximum of historical material and creating careful and extensive documentation that will enable future generations to track the design and construction processes. (KVPT, 2017)

The planning and building processes are based on local expertise, with designs for in situ repairs as well as rebuilding based on traditional technology and materials. One of the landmarks in this local collaboration process is the assembly of master carpenters (Newari Silpakār), wood carvers (Kijyami), and masons (Avāḥ) from Bhaktapur, as well as stone carvers (Lvahakahmi) and metal workers from Patan. These craftsmen from the ethnic group of Newars bring to bear the experience and skills handed down through many generations.

There was an expert committee which gathered, and advised the DoA on post-earthquake guidelines for preservation and was able to enrich the discussion and devise the official approved draft (June 2016). One critical and useful point the new draft explains is that while traditional materials are desirable, each historic structure must be examined for its own conditions and characteristics and may require exceptional measures for its preservation. (NRA 2016 Guidelines, Section 12b: "Use of Non-traditional Construction Material and Technology: If in the course of restoration and rebuilding of a particular monument it is deemed that the use of traditional construction material and traditional technology cannot reduce seismic risk from a technical perspective, non-traditional construction materials and technology may be used, with prior approval from the Department of Archaeology, in order to rebuild a fully collapsed monument, in a manner that the non-traditional materials are not visible from outside.") (KVPT, 2017)

4. Plan for rehabilitation of remaining damaged monuments

Most of the reconstruction and repair of heritage structures of the Patan Durbar Square were taken care of by the KVPT. The traditional architecture features have been carefully analyzed. Architectural preservation work in post-earthquake Nepal brings to the forefront the two themes of this publication, both of which are inherent in KVPT’s ongoing development of techniques and working philosophy since 1991. The first -- how one repairs, replaces, re-carves, or redesigns lost elements of this rich architectural/iconographic vocabulary -- engages questions of authenticity, and has been dealt with in earlier chapters. The second -
how one determines the level or type of seismic reinforcements, i.e. strengthening measures to help protect the building in a future earthquake, is the subject of this chapter. Almost all of the monuments and temples have been restored in the durbar square with only.

This has been the reconstruction procedures of all the monuments that KVPT has repaired. The same reconstruction measures have been applied to other heritage as well, in which KVPT provided technical assistance. However, in some of the temples like in the Suraschandra Mahavihar, the Indian Embassy has been involved in the reconstruction process and the process of assigning the construction process is unclear. Many of the other temples like the Radhakrishna temple in Swotha Square, which were supervised by the DoA, have gone through a process of tender in the reconstruction phase, which has seen quite a bit of poor workmanship and sheer neglect and ignorance in basic construction techniques.

5. The current context of urban fabric

![Figure 3 Paving according to material](image)

The main Durbar Square area has more or less the same ambience. The paving is still bricks, and majority of the structures which were reconstructed there, used maximum salvaged materials, only with a few exceptions. The surrounding areas and buffer zones have rather seen a change. Some of the newly constructed houses either follow facadism or are constructed with R.C.C. Most of the buffer area has also seen black pitched roads. However the floor heights and the overall building heights around the area have not dominated the temple’s divine skyline. The use of stone paving was also seen in some of the areas, which complimented the heritage area more than the use of pitched roads. Along the roads, the native people are still seen practicing their traditional occupations like selling of brass utensils and artefacts, selling of cloths, and selling of puja items, which they have still
continued on along this generation. Adaptive reuse of some of the buildings were seen, where hotels and inns were constructed, but in Newari style, which conserved both our tradition and space, and also created a source of income.

Figure 4 Adaptive reuse of buildings at certain places

Figure 5 Society still practicing traditional occupation of local products
The picture below shows the urban fabric of different places of the Patan and the alphabetical numbering represent its location in the map right below.

Figure 6 urban fabric of different places of the Patan Durbar Square

[a]  

[b]
6. General assessment of rehabilitation of physical setting

The new construction of the damaged buildings, especially in the buffer zone of the world heritage site have seen brick construction, and display the traditional façade as can be seen while walking on the road. As we move towards the outer edge of the buffer area however, construction of reinforced cement concrete was also seen. Near the vicinity of the main durbar square, there were also seen many houses which have been made as hotels and inns, but nevertheless, retained the main traditional style of architecture of Patan. This has been appreciated hugely by the tourists and is quite popular.

The roads have mainly been reconstructed in asphalt however. This could be due to the fact that, the usage of bricks and stone as pavement requires skilled manpower, and poor construction may result in water logging and hence become dangerously slippery.

A. The South Manimandapa and North Manimandapa (Totally collapsed)

At the northern end of the square two arcade buildings, raised on a platform, flank the stairs leading down to the Manihiti step-well, the details of which demonstrate that it had been at this site since the 7th century. Till today the supply with water is ensured. Both buildings are halls with sixteen columns. They are therefore called “arcades with sixteen feet” (Sorakuttepati). The northern and wider hall was used for royal councliling and as the coronation site. At this site the hall stood as one of the nine Jewels of the square for over a thousand years. For 1701 documents tell us about a fundamental renewal, the roof was renewed for the last time in the early 1980s. (Gutschow, 2016)

Impact of the 2015 earthquake

The structures were completely destroyed in the earthquake. They collapsed into the step well, one week later all valuable fragments were salvaged. This was mainly attributed to the fact that the heavy roof was supported by a colonnade of wooden pillars, with no walls to support the load from above. This had caused the overall center of gravity to be high and hence led to its collapse. Drawings were made after the earthquake based on site measurements, pre-earthquake photographs and rescued wooden elements. (KVPT, 2017)All historical parts are preserved. The rebuilding of the Manimandapa needed a new roof, which was designed by engineering standards. The columns were connected with the threshold stones by stainless steel pins. (Gutschow, 2016)
In October 2015 the damage of the twelve columns was assessed. The copy of one totally destroyed column was ordered and the careful repair and restoration of the remaining eleven columns was achieved by four carpenters till early April. On 25 April the former Prime Minister Prachanda Dahal visited the Darbar Square in the company of a couple of ministers and on that occasion he laid the foundation stone for the rebuilding of the Mandapa. The cornice above the columns was also repaired in the meantime. For the time being the windows of the upper level were restored. The rafters after being prepared, roof tiles were acquired from demolished houses – till end of December the rebuilding was done. It was the first rebuilding of a collapsed monument in Nepal. (Gutschow, 2016)

After excavation of the existing plinth and foundations, it was discovered that there were base stones for the central core columns at a depth below the current grade level. These were likely the original column base levels in previous times, before the Square’s grade level was raised. A previous rebuild or restoration raised the column bases by approximately 90
cm, likely due to extensive wood rot found at deeper levels due to improper detailing. The proposed construction brings the post bases back down to a similar level and improves ventilation to resist wood rot.

The south Manimandapa was reconstructed with the financial aid provided by Ministry for Foreign Affairs, Federal Republic of Germany Himal Initiative Deutschland e.V., Bamberg (Germany) Mangal Tol Sudhar Sangha, The Embassy of Japan in Nepal Prince Claus Fund for Culture and Development (Netherlands) and South Asia Institute (SAI), Heidelberg (Germany)

The north Manimandapa was reconstructed with the aid provided by Ministry for Foreign Affairs, Federal Republic of Germany, and The Embassy of Japan in Nepal.

Excavation of the foundation was carried out up to 4 feet below the top brick layer at some places for inspection. The entire foundation was found to be filled with poor quality bricks. The paving of the foundation was done with brick in lime surkhi mortar. The northeast corner of the plinth which is also the south wall of the stone stair well leading to hiti is brought back to its original configuration on the basis of historic photographs.

**Present status of the Manimandapas**

The restoration works has been completed. The southern mandapa still has the intricately carved columns and some which could not be obtained were replicated by the KVPT. The Mandapas are being used as places of public gathering and do not show any signs of poor construction.

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**Figure 8** North manimandapa's present (Jan 2020) condition, fully constructed (KVPT)

**Figure 9** Base beams (lakasi) assembled at Bhanadrakhal Garden before on site transfer. Photo: Sep. 13, 2017 (KVPT)
B. The Krishna Mandir (Partially damaged)

The Krishna Temple was designed with three-storey with 21 pinnacles. Narrative friezes wrap the structure. As per architectural historian Niels Gutschow, the Krishna Temple “redefined the scale and materials of the architecture of the Kathmandu Valley, for its impact was greater than any other single structure and its influence can be seen in 21 temples built over the subsequent 20 years. It takes the shaft of the North Indian shikhara tower and reinterprets it with the stepped quality of its own multi-tiered temples, culminating in a pyramidal top.” The structure raises on a modest plinth. Open and covered spaces alternate on the first and second floor levels where “the devotee moves through a virtual forest of 40 columns”. In order to provide stability to the structure, the central shrine dedicated to Bālagopāla, Kṛiṣṇa’s form as the youthful cowherd, was raised to the first level. The temple was consecrated by King Siddhinarasimh Malla on 23rd February, 1637.

The Krishna temple is built in the shikhara style, inspired from India. Beneath its 21 golden pinnacles are three floors. The first floor enshrines Krishna, the second Shiva, and the third Lokeshwor. Scenes from the Ramayana narrated in Newari script decorate the interior of the temple. (orientalarchitecture.com, n.d.)

**Damage after 2015 earthquake**

After the earthquake. On two lower levels, there is not much externally visible damage, but the upper Shiva levels have many structural problems. Despite the fact that only the second floor — the Shiva temple level — was damaged by the earthquake in 2015, the whole Krishna Temple was closely inspected for damage.

The maximum damage seems to be at the second floor, the Shiva temple level. If one looks at the plans, the structure at this level is the most delicate and the heavy roof is supported on slender colonnades.

It is probably for this reason that the maximum damage was caused to this level. Due to the lateral movement during the earthquake, the columns have moved out of plumb, old repair shaves come out; the columns, brackets, and bases of the columns have been damaged; the window frames and key stones have been dislodged; and some stones, especially at the corners of the domed womb-chamber (garbhagriha) have been severely damaged.

The temple seems to have been repaired at some earlier date. All the stone joints have been repointed and stone plastic repairs done. This has been done with a grey cement-like material.
C. Harishankhara Temple (Collapsed)

Effect of the 2015 earthquake

The temple collapsed in total on 25 April 2015. The thresholds of the sanctum are still in place, albeit dam-aged. Hundreds of wooden fragments were salvaged, and first stored in the Keshav Narayan Chowk. In June 2015, a storage shack was constructed to store all the fragments which belong to the Harishankara temple. The pillars survived in full length; the tenons, however, are broken. The doorways are also intact. Seven of the 20 colonnettes and the tympana which they had been supporting are broken. Most of the 44 struts and 12 corner struts survived in full length. The same is true for the 20 symbolic windows of the first, second and third levels. Only minor damage occurred. The entire inner frames of the doorways and the secondary lintels of doors and windows cannot be retrieved from the large heap of fragments because they are not carved.

Present Status of the temple

The temple has been restored to its original configuration. The missing parts were reconstructed and the materials salvaged were put to best use. Structurally steel pins were used to bind the timber frame inside but this was made as to not be seen from the outside.
D. Vishveshvara Temple (Partially damaged)

Effect of the 2015 earthquake

The Vishveshvara Temple withstood the April 25 2015, earthquake but suffered major damages at the ground floor level. At the inner core, the masonry panels between the wooden door frames and corner columns popped out or suffered severe damage. With the masonry out of place, the structure is currently mainly resting on its wooden frames and pillars and the outer timber arcade. These elements are also dislodged and out-of-plumb. Plum-bob spot checks of the sloping timber arcade unveiled horizontal dislodgements between 3 to 8 cm maximum (measured below capital and bottom of pillar). All timber joists and beams above the sanctum space are rotten and beyond repair. The upper levels appear to be in better condition, although access for a more detailed inspection is not possible at the moment.

Present Status of the temple

The temple has been carefully built without being dismantled and the overall aesthetic integrity has been conserved. Shoring was done so as not to dismantle the whole structure at once. The temple was meticulously repaired keeping in mind the following points.

- The outer core walls above the timber arcade removed to allow the careful realignment of the timber arcade and subsequent rebuilding of the walls
- Removal and reconstruction of the roof levels. The removal of the heavy roofs facilitated the realignment of the wooden elements of the inner core
- Insertion of a x-braced steel frame within the sanctum. This reversible strengthening measure will significantly upgrade the lateral resistance of the inner core, which has to transfer all lateral forces induced by an earthquake.
- The frame tied down into the foundation level of the structure and extend up to the first floor level.
- All below-grade steel galvanized, tar-coated and encased with 12cm of cement mortar
• At the first floor level, a wooden diaphragm made of two layers of waterproof plywood panels installed to create a rigid floor plane at this level.
• This coupled the outer masonry core to the inner one and prevented differential movement within the event of an earthquake At the upper end of the outer masonry core, a wooden horizontal truss will be installed to tie the cores together at this elevation
• All roof structures reconstructed with one layer of plywood panels on top on one layer of traditional sal wood planking
• Connections between the wooden struts and the strut rails strengthened with steel straps on the rear side

E. Char Narayan Temple (Completely collapsed)

Figure 11 Char Narayan Temple before earthquake. Source: KVPT, 2013

Figure 12 Char Narayan Temple after the earthquake. Source: KVPT, 2015.
Damage after the 2015 Earthquake

The 2015 earthquake reduced temple to a heap of rubble. Within a few days following the earthquake, most of the wooden elements, including simple structural wooden elements such as rafters, were salvaged, first stored indiscriminately in the courtyard of the neighboring palace, in May 2015 roughly organized and stored and in June 2016 professionally ordered and presented. It took a year of stock-taking to identify the constituent components of all portals, doorways, windows and cornices. The historic veneer bricks (daciapa) were also properly stored. (KVPT, 2017)

All large bricks and molded cornice bricks were damaged to such an extent that replicas, produced by the only active traditional brickmaker (Aval) of Bhaktapur, will replace the original ones. Salvaged veneer bricks (daciapa) were reused for the ground floor levels of the Char Narayana temple. Matching the size of the old bricks, new bricks were produced in November 2016.

Evidence of the details of all the portals, doorways (jambs, lintels, colonnettes, outer frames), columns, colonnettes of the two-tiered Char Narayana temple were preserved.

Present Status of the temple

The temple is reconstructed as per the original configuration. Maximum use of salvaged materials was done and rest of the parts were successfully replicated. The major elements like doors, windows, toranas could be seen with newly attached parts. This contributes to the temple’s authenticity, because a major part of a temple being authentic is the distinction of the reconstruction of the temple during the various stages. This was achieved from the use of new complimented elements.

The temple has regained its place in the durbar square and the dabali and the temple plinths have once again become a place of gathering of anyone wishing to admire the traditional beauty of Patan.
F. Narsingha Temple (Not affected)

Narasimha Mandira is located to the west of Patan Darbar Square, in front of the Taleju Temple (LAL1270) and north of the Hariśaṅkara Temple (LAL1280). This is one of the few early śikhara towers in the Valley. It was built by PurandaraSiṃha, a mahāpātra of Lalitpur, in NS 710 (CE 1590) in memory of his elder brother Narasiṃha Deva. Although Śaiva mortuary temples are found in many places, this is said to be the first known case of a mortuary temple with a Vaiṣṇava image (Tiwari 2013, 113). Two stone lions guard the lower plinth, and two deities have been placed on either side of the top plinth. The left deity is a four-handed Garuḍa using two hands to pray and the others to hold a flower and a water vessel. The deity sitting on the right-hand side is holding cakra (wheel), aṅ kuśa (hook), gadā and pāśa (noose). Inside the sanctum, one can find an eight-handed stone image of Narasiṃha, the fourth incarnation of Viṣṇu, standing on a pedestal holding khaḍga, cakra, vajra and gadā with his right hands and śaṅkha, padma and aṅ kuśa with his left hands. Garuḍa sits to his left and Laksāṇi is located to his right. Unlike other commonly found Narasiṃha images, this Narasiṃha is standing but is not pictured tearing apart Hiraṇyakaśipu's abdomen. The temple itself is based on two lower plinths and an upper plinth with a porch that opens up in all four directions. The corner of the main sanctum wall is serrated and tapers upwards towards the śikhara. Located on the ground floor, the main sanctum can be accessed from the east side by a series of steps. Stone pillars rest on either side of the porch, though the columns attached to the walls of the sanctum are made of timber. The lintel beam is also made from timber and has layers of brick cornice above it. Four doorways can be found on each of the sanctum's walls, but the main entrance is on the eastern side. Four porches have been built to form turrets above the sanctum, and are attached to the main śikhara tower. These turrets have small openings on three of their side walls, as well as terracotta toran a capped by decorative brick work and a stone finial. Their walls have been plastered with lime. The main brick tower is at the centre and contains seven bands known as saptaaratha. The topmost crown of the śikhara is embellished with layers of floral-patterned cornices and an āmalaka plastered with lime. The pinnacle is made from stone. Recently, someone added the surrounding railings and a small garden adjacent to the shrine.
Present status of the temple

The temple is now in the same state as after the earthquake. There has not been dismantled yet, but efforts are being done for the reconstruction. The north-west part of the temple has also been reconstructed in newly made but used old materials.

The temple however was not damaged in the earthquake, and continues to exist that way till this date. However the present condition of the temple is very damaged and needs immediate reconstruction. Wall cracks are very much apparent and the brick work signals readily erosion in the event of rainfall.

G. Bhaidegah (Not affected but dismantled later)

The Patan Darbar Square is a temple scape of Malla-era pagoda and shikhara style architecture. Most of these great monuments were brought to the ground by the Great Earthquake of 1934. The local community and the Rana regime of the day were able to rebuild the palace complex as well as the temples, except for the largest temple of all, standing at the southwest corner, Bhaidegah. Bhaidegah was built more than three centuries ago by the Patan kingdom's chautaria (prime minister) Bharo Bhagirath Bhaiya in 1678, and it seems to have been one of the most intricately carved temples of the 17th century. It was constructed as a three-tiered pagoda temple, consecrated to Vishveshvara (the lord of the world' Shiva), to evoke the Kashi Vishwanath Temple in Benaras.

Unlike all the other temples of the palace square, Bhaidegah was built by a commoner who rose to become part of Patan city-state's nobility. Perhaps this was one reason that the temple was the last on the list for rebuilding, which in the end did not happen. Instead, a Moghul-style dome was put up on the temple plinth to protect the Shiva lingam which is the focus of devotion. The Bhaigedah temple, representing the finest example of Nepali pagoda architecture, for its carved woodwork, aesthetics and dimensions, deserves to be restored to its original shape, as a representative of Kathmandu Valley's living culture. The citizens came together in the year 2011 CE, nearly eight group decades after the Great Earthquake, to restore Bhaidegah. By involving the citizens of Kathmandu Valley in the restoration, the hope was to enhance the sense of ownership over the architectural heritage of the Valley, and reinforce the sense of wonder at what made the city-states of the Valley so accomplished in the arts and culture. The Bhaidegah Rebuilding Project hopes to engage in this effort all individuals and institutions who value the history and cultural heritage of Kathmandu Valley. (The Rebuilding of Bhaidegah Temple, 2011)
Present Status of the Temple

Bhaidegah was originally a tiered temple and in fact was the largest temple in the durbar square. The reconstruction in the original style is now being carried out with various photographs and drawings used as documentation. The extensive carvings that existed originally are now being replicated to the best possible extent.

However, since Bhaidegah previously existed as a dome shaped construction, all of the materials now had to be new and could not be salvaged. This has taken a lot of time for the reconstruction, and the further inadequacy of financial aid has halted the construction process for the time-being.

It is being take care that the temple be reconstructed in its original setting, because it was the largest temple that existed in the durbar square, and its traditional presence contributes a lot to the traditional setting of the square.

The expertise of conservation architects, woodworkers and bricklayers will be availed for the job of Bhaidegah's rebuilding. What was lacking originally was the information required to carry out a professional rebuilding. Fortunately, investigation by many well-wishers in the community of conservation architects, historians and community activists has served up the required details. Firstly, some photographs of Bhaidegah taken in c. 1920 were located in the collection of Felix Brandt in Altottin, Germany. From a distance, or showing only partial facets, these pictures help provide a sense of the size of the temple under its spreading jhingati tile roof. The photographs also provide a window into the human activity on Darbar Square. Henry Ambrose Oldfield, the doctor at the British Residency who had made many landscape sketches during his Kathmandu tour of duty, made a detailed water colour circa 1853 of the woodwork of the first-floor struts, cornices and pillars of Bhaidegah. This discovery in the collection of the British Museum was a great boost to the rebuilding effort. Most significantly, the huge 14-foot carved wooden struts and subsidiary struts and pillars of the temple were discovered in the Patan Museum storeroom at Bhandarkhal. With the permission of the Department of Archaeology, it was possible to imagine using some of the original parts in the restored Bhaidegah temple. Further, the accuracy of Oldfield's sketch of the woodwork was confirmed when placed against the surviving woodwork, which provides a guide to the new woodwork that is required. The discovery of the Austrian photographs, the London watercolour and the Patan Museum struts have made it possible to plan with confidence for the rebuilding of Bhaidegah, remaining faithful to the original design of Bhagirath Bhaiya. The rebuilding will happen on the intact foundation and plinth, using some of the original struts as well as the original finial. The building techniques and material will replicate what the artisans of Patan did when they built Bhaidegah nearly three-and-half centuries ago.

H. Lion pillar of Bhimsen Temple (Collapsed)

The stone pillar in front of Bhimsen Temple was built in Nepal Sambat 827 (1708 CE) in the reign of King Shree Tin Indra Malla. This is a gilded lion statue on top of a stone pillar in front of Bhimsen Temple in Patan Darbar

Damage after 2015 earthquake

The pillar was destroyed in the devastating earthquake of April 25, 2015. The stone pillar was broken into three pieces, with the lower part of the pillar remaining standing.
The broken parts of the stone pillar were restored (joined together) by the experts of the University of Applied Arts, Vienna with stainless steel rods in August 2015. Newar stonemasons, metal craftsmen, and laborers restored the repaired stone and copper parts to their original positions on April 24, 2016. This project by the Kathmandu Valley Preservation Trust was the first monument restoration in Nepal after the devastating earthquake of April 25, 2015.

Although the KVPT was directly involved in the restoration, the local also participated by providing manual labour during the erection of the pillar.
I. Bhimsen Temple (Non-threatening damage)

Damage after 2015 earthquake

The temple sustained partial damage but did not undergo structural collapse. Reconstruction work had just completed a month before the earthquake of 2015, and hence the damage sustained was minimal. However, the structure was in a deteriorating condition and needed immediate repair.

Present Status of the Temple

The main problem of the temple was because of the foundation. The base of the foundation of the temple was uneven ranging from 5-7 feet. This led to uneven distribution of load and hence unequal settlement underneath. To solve this, the foundation was redug, and made an equal 7 feet under all places. The temple was not damaged but was dismantled at parts for the renovation works, in parts, and also because this would lessen the load on the structure making it lighter during renovation works. This part-part works, would further lessen the burden of transfer of materials which would omit the manual labour to some extent and make the process efficient.

This was done mainly because once dismantled roughly, the materials had minimal salvage value. The mud which would have been extracted would have been mixed with other materials and would be useless. The walls were hence dismantled in parts and reconstructed.

One major problem though was the repair and reconstruction of the Bhimsen temple which was completed just before the earthquake by the Department of Archaeology (DoA). This had been a multiyear planning for the reconstruction and it was processed through a tender. The construction that they did was full of mistakes and displayed ignorance. The new walls constructed inside the temple at the first floor was just for beautification and was not linked to the old existent walls, which had caused the whole section to disintegrate. The pillars
were out of plumb up to 5 inches horizontally which needed to be repaired. The timber beams at certain places were overloaded and it had not been properly addressed. The beam which needed to be replaced was just held on by a thin metal strip with nuts and bolts.

All of this is now being looked at by the Chamber of commerce of Lalitpur with the technical assistance and supervision of the KVPT. The temple is now being restored in its traditional way, and analysis of the structural load distribution is being taken care of, with all the issues like dampness and uneven load distribution addressed. The techniques of construction have not used any foreign materials, but use of metal has been done specially to coat the pillars, to prevent them from dampness.

J. Radha Krishna Mandir (Completely collapsed)

It was originally built by a son of Siddhi Narasimha Malla. The Rādhākrṣṇa Temple is located on Svatha square, which lies on the way from Patan Durbar Square to Shankhamul. Before the 2015 earthquake, this tiered temple stood on four plinths. 13 steps led to the wood-carved main doorway flanked by two lions in a sitting position facing east. Next to the lions, there were two statues of guardian deities which were stolen in the 1990s. According to local informants, the original main deities in the sanctum were also stolen prior to 1967. During the 1967 renovations, new stone icons of RādhāKrṣṇa, Viṣṇu and Lakṣmī were installed and consecrated. However, a few years later these newly placed images were stolen yet again. The daily nityapūjā was performed by a Rājopādhyāya priest, but no particular seasonal or annual rituals are performed at the temple.

Effect of the 2015 earthquake

During the 2015 earthquake, the temple collapsed completely. Some salvaged materials such as temple struts were moved to the archaeological garden in Patan where they were stored in the open.

Present Status of the temple

The temple, as of January 2020 is undergoing reconstruction through a tender process appointed by the DoA., and has fences put around it for that. The main principle of conservation is to restore the monument in its original position maintaining its Value and Authenticity.

As this temple is totally collapsed remaining the plinth. Main sanctum/ Garbha area is tried to be restored.

Hence conserving the main garbha area, circumulatory area/peti is excavated up to 5'-0" in order to study the condition of foundation as well as nature of soil. Excavation also showed the nature of foundation to see either intake or not. Preserving the central grabha area, surrounding peti and circumulatory area is excavated 5'-0" depth. Stone in lime, surkhi and sand mortar is used for foundation. The excavated width and depth of the circumbulation is equal. Stone are placed in equal level and binded with lime surkhi and sand.

The foundation is totally made compacted with the stone, sand and surkhi mortar. Foundation is mat foundation with central grabhagriha is retain safely with any type of interventions.

After the proper foundation, peti are made with dachhiapa in outer face and inner ma apa are used. At the peti, each corner is made bounded and strong with the stone mirror stone. Three layes of peti is completed now. And now for the superstructure construction, as wooden thams, meths, nidal and decorated cornices are essential as according to the
existing design. Most of the wooden decorations are needed to be carved, hence carving works are going on Bhandarkhal garden.

K. Golden Temple (No major effect of earthquake)

The Buddhist shrine of Kwabaha, popularly known as the Golden Temple, is one of Nepal’s most beautiful monasteries. It is situated north of Patan’s Durbar Square on the road leading to Kumbeshwor. Although it is more commonly known in Patan as Kwabaha: and its Sanskrit name is Hiranyavarna Mahavihar.

Kwabaha is one of the eighteen main Bahas of Patan and ranks on top in terms of its religious status. The formal name of the monastery is ‘Bhankaradevasaeskarita Hiraeyavarea Mahavihar’, which suggests that it was founded or reconstructed in the reign of Bhaskaradeva (1045-48). The presence of the four metallic sculptures reminiscent of those of the Licchavi period confirms the antiquity of the site.
Effect of the 2015 Earthquake

The temple did not sustain any major damage, but had only a slight angular distortion in the structure of the main temple. This may be due to the fact that the main temple had just completed its retrofitting work just before the 2072 earthquake. Nuts and bolts along with timber frames were used during the work. The timber frames were double braced on each floor to add to the strength.

The 1934 earthquake tilted the main temple a few inches. The 2015 earthquake destroyed the roof of the complex and it is in reconstruction. The second floor is planning to be reconstructed soon. The internal of the main temple has been retrofitted while the external façade has not been tampered with. The Department of Archaeology, has been requested with for the aid to make the roof and temple.

The zinc roof would now be replaced with copper plates, because it has been worn out with time. Biharsudhar samiti, is in charge of the main decision and management of the activities that take place there. Once a year the internal nuts and bolts are tightenend, along with the cleaning of the whole temple complex.

The foundation however has not been altered with, and only the superstructure had been modified.

Present status of the temple

The temple is now fully reconstructed and daily functions of the temple are performed without any hindrance. The daily rituals of the baphacha, , the priests there have been continued throughout. Due to the significance of the temple it was the utmost priority not to alter the façade and hence no change in the façade of the temple can be seen. Due to the structural strengthening of the temple, people can without any hesitation visit the temple for their daily rituals.

L. Patuko Ganesh (Partial damage)

This is the one storey temple located at the lalitpur sub metropolitan city, Tadha chowk, patuko. This is the temple built in 801N.S. This temple is also renovated in different phases. Struts are renovated in 951. Roof and jhingaties are built by Dhirjaman and kajiman. There is a stone; local people believe it is the God Ganesh. In 2058 B.S the tympanum (Tudals) was stolen.

This temple is Daily worship by the local people. God Ganesh is the symbol of wealth and intelligence. It is very important temple in tangible and intangible culture of Nepal. This temple is open colonnade in three sides and fixed in only North direction.

Effect of the 2015 Earthquake

This temple was little bit crack during the earthquake of 2015. This temple is totally dismantled up to the plinth after earthquake. The main deity of temple is in lower level from the

Figure 24 Patuko Ganesh during reconstruction phase
original ground. Materials were separated. Columns and other decorated elements were placed safely and minimum maintenances were done. While bricks were also stored in order to used the usable ones. After dismantling the total temple detail drawing was prepared with total estimate. The main work undertaken by this temple is Department of Archaeology. In fiscal year 2073-74 DOA had separated 11 lakhs for the reconstruction of this temple. After estimate of this temple quotation was awarded and work was started according to the terms and conditions of DOA.

The renovation is completed up to the first-floor level with reuse of the Thams with certain maintenance and

According to the budget of this fiscal year, walls of North direction are finished and the columns of three directions is completed with Nidal. and tarfolin is covered to save from natural calamities.

In this fiscal year 2074-75 ,15 lakhs is allocated to complete the work above the Nidal.

**Present status of the monument**

The monument has already completed construction. As the one storey of this temple was done the upper portion ie, the roof was completed. Maximum tulads are in good position so are fitted with the minor modifications, and carnices are too maximum re-used and the structural members are added with the new sal wood. then roofing was done with the references of the photographs of existing.

**M. Kumbeshwor Temple (Partial collapse)**

Kumbheshowr temple is the five tiered temple in Kumbheshowr (Bangalamukhi) area. One of the valley's three five-storey temples. The temple dominates the surrounding streets and is said to date from 1392, making it the oldest temple in Patan. Roofs of the temple are of brass, coated with gold. Gajurs are of five numbers and in one line.

The temple is noted for its graceful proportions and fine woodcarvings. Carving of Tulads are taken as examples. In this area along with the kumbheshowr, Bangalamukhi temple, satals, pati and other small temples too exist.

![Figure 24 Kumbeshwor temple before the Earthquake](image_url)
Effect of the 2015 Earthquake

Due to the Earthquake of 25th April 2015, Kumbheshowr temple was badly affected. The top roof of the temple was totally collapsed. Copper sheets were damaged and wooden members were too damaged and decayed. Walls were cracked and 2 upper tiers roof got dislocated. Salvages after earthquake of this monument are preserved safely at Mulchowk of Patan Durbar Square. Gajur is also preserved at Mulchowk. As this monument is very rich architecturally so stored wooden carved members will be reused after proper study and maintenance of that but till now no tests are considered to know the strength of the materials.

Present status of the temple

This project of restoration was undertaken by DOA. Tender awarding work was finished and after evaluation work this restoration work was awarded for Darma/ Tulshi JV pvt. Construction. Department of Archaeology had given them work starting order (Karyadesh) after having agreements with Contractor. The restoration has almost been completed. Double Scaffolding work of this temple had completely finished. Tubular pipes are used for scaffolding purpose. Dismantling work has been done slowly and in progressive manure. All the used material is taken with special cure and save properly for proper future use. All other materials are too saved carefully to segregate and study.
1. Introduction:

**World Heritage attributes, boundary and buffer**

Bhaktapur Durbar Square (‘Layaku’ in Newari language) is one of the two World Heritage monument zone located in Bhaktapur. It is a historical plaza in front of the royal palace of old Bhaktapur Kingdom and is one of the most visited tourist sites of the Kathmandu Valley. It is full of historical monuments such as the 55 Window Palace, National Art Gallery, Big Bell, Golden Gate, Statue of Bhupatindra Malla, Pashupatinath Temple and the Vatsala Devi Temple. (Khwapachhen, 2019)

The city is 15 km far from Kathmandu. Bhaktapur is also known as a museum of medieval art and architecture with many examples of sculpture, woodcarving and colossal pagoda temples consecrated to different gods and goddesses. It is a conglomeration of pagoda and shikhara-style temples grouped around a fifty-five-window palace of brick and wood. The square is one of the most charming architectural showpieces of the Valley as it highlights the ancient arts of Nepal. The golden effigies of kings perched on the top of stone monoliths, the guardian deities looking out from their sanctuaries, the wood carvings in every place-struts, lintels, uprights, tympanums, gateways and windows—all seem to form a well-orchestrated symphony. Pottery and weaving are its major traditional industries.

![Figure 1 Boundary and buffer areas for Bhaktapur Monument Zone (UNESCO)](image)

The boundary encompasses the Durbar Square and Taumadhi Square and the trade route up to Dattatraya Square. The boundary corresponds to the area gazette in 1996. (Area 14.60 ha approx.)
The Buffer Zone encompasses the whole historic city of Bhaktapur comprising of the municipal cultural heritage sub-zone and the buffer sub-zone. (Area 121.43 ha approx.) (Kathmandu Valley World Heritage Site Integrated Management Framework, 2007)

**Short historic description**
Bhaktapur, the city of devotees, was established in the 9th century. The city served as capital for Malla Kingdom from 9th century to 18th century until King Prithivi Narayan Shah conquered the city, unified Nepal and began to rule from Kathmandu. The first Malla palace in Bhaktapur is believed to be built around 1150 A.D. Yakshya Malla built Yakshyeshwor Mahadev temple in 15th century which is the oldest temple remaining in the Bhaktapur durbar square.

After Yakshya Malla, his sons established different independent kingdoms in Kathmandu (Kantipur), Bhaktapur (Bhadgaon) and Lalitpur (Patan). In time, the rivalry between these brotherhoods led to fragmentation and poor rule in the country as well as the greatest competitive buildings periods. (Cultural Portrait Handbook 3, 2006)

During this time, structures like 55 Windows palace, Vatsala Devi Temple, Nyatapola Temple, etc. were built.

**Rehabilitation history**
The monuments in Bhaktapur monuments zone have undergone restoration and renovation many times through different time periods. Bhaktapur Development Project can be taken as the major turning point in the field of conservation of monuments. During the 16 years period of the project, many monuments were conserved applying various concepts of conservation. Pujari Math, Chyasilin Mandap, Asamari Sattal, TilMadhav Narayan Temple, Swet Bhairab Temple at Nag Pokhari, Shiva Temple at Golmadhi, Lokeshwor Temple at Tapalchhe, etc. are some of the monuments that were conserved in the project.

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<td>Nag Pokhari was repaired by King Jitamitra Malla</td>
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<td>1677 A.D.</td>
<td>Extensive renovation of Kumari chowk by Jitamitra Malla</td>
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<td>1707 A.D.</td>
<td>Figures of Ugrachandi and Bhairab were installed on either side of entrance gate of Basantapur Durbar</td>
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<tr>
<td>1707 A.D.</td>
<td>Renovation of Malati chowk and added stone lions and idols of Hanuman and Narsimha guarding the entrance</td>
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<td>1717 A.D.</td>
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<td>2003 A.D.</td>
<td>Renovation of 55 windows palace began</td>
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</table>
2. Overall impact of the Gorkha earthquake

The 2015 Gorkha earthquake has taken life of thousands of people and has damaged millions worth of property. Bhaktapur was also severely affected by Gorkha earthquake 2015. Many of the monuments which carries historical, archeological, religious and cultural importance were damaged. Temple like Vatsala Devi temple collapsed to its plinth.

![Damage Assessment of Bhaktapur Monument Zone](image)

This figure shows that major destruction of the monuments occurred at Durbar Square, where monuments like Silu Mahadev Temple, Vatsala Devi Temple and Kedarnath Temple collapsed. And also the figure shows the settlements at Suryamadhi, Tachapal, Maheshwori, Golmadhi and Byasi were heavily affected by earthquake.

<table>
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</table>
3. Plan for on-going rehabilitation of monuments

Emergency Response after 2072 earthquake:
After the earthquake youths and other volunteers joined to clear the debris and other ruins. At the beginning public safety was prioritized. Then the ruins and salvage materials etc. were collected and stored in specific places. Inventory of the debris were done in major structures.

Then a committee “Post Earthquake Excavation and Reconstruction Committee” under the leadership of public representative Prem Suwal was formed. In the meeting of the committee, it was decided who will undertake the reconstruction of the heritage. The division of work was done between Municipality and DOA respectively.

Authorities:
The major responsible authorities for rehabilitation of monuments are as follows:

- Department of Archaeology, Monument Conservation and Durbar Care Office
- Bhaktapur Municipality
- Ward Office
- Respective User Committee

Documentation:
DOA and Bhaktapur Municipality carried out the documentation of the heritages. In many cases, ancient photographs of the ancient times were helpful to ratify the authenticity form-wise. The photographs and the other documents were all accounted for and then plans and other construction drawings were prepared.

Community Participation:
Bhaktapur has led an example for the reconstruction encompassing the community participation. Almost all the projects that were carried out by the municipality were handed over to the community and community carried out the reconstruction process under supervision of the municipality. Ward office has been generally involved in the paving of the street with community involvement. The community was also involved in the decision-making process.

Artisan availability:
Bhaktapur is independent on the artisans. In almost all of the projects, skilled and semi-skilled manpower involved were locals who had been working with traditional materials. Even most of the reconstruction works on other places were carried out with the skilled manpower from Bhaktapur.

Funding:
Most of the funding in the reconstruction works of Bhaktapur was either from the Government of Nepal through DOA or the Bhaktapur Municipality itself. In some of the projects donation from the locals had also helped in managing fund. Bhaktapur hasn’t given reconstruction work solely to any foreign donor agencies. Also it has not taken any foreign aid for reconstruction.

Storage and use of salvaged materials:
There was no specific space designed for storage of the salvaged materials. Storage was done as per the availability of space near the monuments. Open squares and courtyards were used to pile the salvaged materials.

Salvaged materials were used in reconstruction as far as possible.
Materials:
Traditional materials like dachi apa, maa apa, salwood, etc. which are allowed by DOA guidelines had been used. In most of the projects, lime-surkhi mortar was used replacing the original mud mortar.

Monitoring mechanism:
Monument Conservation and Durbar Care Office and Bhaktapur Municipality were monitoring and supervising the reconstructions works. An effective mechanism for monitoring, supervision and reporting of the works were lacking.

Detail study of Monuments

A. Silu Mahadev Temple (Fasi Dega)
Silu Mahadev temple is situated in the eastern part of the Bhaktapur Durbar Square. The temple is dedicated to Lord Shiva. This is one of the tallest temples in Bhaktapur. The temple is standing on six steps of plinths with a pair of animal guardians (elephants, lions and bulls) on first three steps. King Jitamitra Mall built this temple in Shikhara style which was damaged in 1934 earthquake. And it was rebuilt in dome shape. Due to this dome shape, the temple is locally known as ‘Fasi Dega’.

The Gorkha earthquake again destroyed the temple to its plinth level.

<table>
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<th>Figure 3 Painting of Silu Mahadev by Henry Ambrose Oldfield</th>
<th>Figure 4 Old Photograph of Silu Mahadev Temple</th>
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<td>Figure 5 Silu Mahadev before earthquake (DOA)</td>
<td>Figure 6 Silu Mahadev Temple collapsed by April 25th Earthquake 2015 (DOA)</td>
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</table>
As the structure was damaged badly leaving down only part standing, but in vulnerable condition, so it was assessed as a collapsed monument by DOA in its inventory prepared and published just after the earthquake. All the objects of archaeological importance were salvaged from the debris and damaged structure. There is detail photography of dismantling process and salvaged objects.

In the process of dismantling, all the required objects were collected and documented with photography. The salvaged objects and materials are stored in the temple premise and are being used as the reconstruction work is going on. The damaged temple structure was dismantled safely to top plinth level and stored all material of archaeological importance. Detail estimation and proposed drawings were prepared by Monument Conservation and Durbar Care Office in coordination with Bhaktapur Municipality. The temple will be restored in Shikhara style as it was before the 1934 earthquake. DOA has awarded tender to Tulsi and Sanu Suwal Joint Venture with contract amounting to Rs. 42,292,561.06 for reconstruction with multiyear procurement system.

The reconstruction work is going-on. Repair work of the plinths is complete. For the repair work, the outer shell of the mud mortar plinth, 2 feet width, were carefully removed and replaced by lime-surkhi brick wall, without disturbing the inner core. During excavation of upper fourth and fifth level plinth, it was observed that the upper sanctum was constructed separately from the plinth below. The whole of the upper two plinths were carefully removed separating the inner sanctum. Local skilled artisans are used for the reconstruction of the temple under supervision of Monument Conservation and Durbar Care Office, Bhaktapur.

B. Siddhi Laxmi Temple

The 17th century Shikhara style stone temple, dedicated to goddess Siddhi Laxmi, is located at south eastern corner of the 55 windows palace. It was built by King Jagat Prakash Malla. The temple stands on seven levels of plinth and is guarded by pair of each child and dog, horses, rhinos, man-lions, and camels from bottom to top plinths.

The 2015 earthquake damaged the building with some major cracks.

Considering the possibility of future collapse of the monument, measured detail drawings were prepared. To prevent further damage in the temple timber shoring was provided at first.
Then the temple was dismantled to the ground to begin reconstruction and each element of the temple was marked. There is detail photography of dismantling process and salvaged objects.

Demolition of the temple was done carefully, marking each stone of the monument and stored in temple premise. Most of the salvage stones were reused in the reconstruction later.

The tender for reconstruction of the temple was awarded to Drama S., Tulsi and Binayak Joint Venture with contract amounting to Rs. 22,214,387.17 incl. VAT. After demolition was complete, mat foundation was laid four feet below ground level. A gap was created between the temple and Peti 55 windows palace was created. Lime-surkhi mortar was used instead of mud mortar. For structure above plinth, detail structural analysis was done by an expert. The reconstruction was complete with total cost amounting to Rs. 17,349,000.00. The whole process was carried out under the supervision of Monument Conservation and Durbar Care Office, Bhaktapur.
C. National Art Gallery

The western end of the Bhaktapur palace was converted into National Art Gallery, established by Government of Nepal, Department of Archaeology in 1960 A.D., which contains numerous paintings, manuscripts and stone sculptures. Previously, this building was part of Malati chowk built by King Bhupatindra Malla in 1707 A.D. The eastern part of the palace was reshaped in 1855 A.D. by Dhir Shumsher to create a large hall known as Lal Baithak.

The National Art Gallery and Lal Baithak both were damaged by Gorkha earthquake.

Wooden shoring was provided to the monuments to prevent the further damage, which was funded by GIZ and DOA in cooperation with UNESCO. The north-west wing of the gallery is under construction during the first phase. This wing will be reconstructed in the original form with two tiered fucha crowning the structure. This reconstruction work is carried out by Tulsi and Sanu Suwal Joint Venture with contract amounting to Rs. 56,657,618.71. The salvage materials are stored in the premise of the northwest wing.

There was conflict for reconstruction of the south wing of the building. For this, Bhaktapur Munnicipality hosted a discussion programme with experts about architecture of the building. The conclusion of the discussion was to reconstruct the building in Malla style taking the reference from some old paintings. Drawings were prepared by expert team and now Bhaktapur Municipality is waiting for response of UNESCO for the reconstruction.

D. Tawa Sattal

Tawa Sattal, also known as Taha Pha, is located at western corner of Bhaktapur Durbar Square. It is believed to be built by King Jagat Prakash Malla and size of the sattal used to be double of the present size. After 1990 B.S., it was rebuilt to present form. The northeast wing of the sattal is currently being used as office for Monument Conservation and Durbar Care Office.

In 2015 earthquake, southwestern part of the sattal collapsed and the remaining part was damaged and numerous cracks were observed.

All the objects of archaeological importance were salvaged from the debris and damaged structure. There is detail photography of dismantling process and salvaged objects.

The damaged part of the sattal was dismantled carefully and salvaged elements and materials were stored in the premise. Some salvaged materials were reused in the reconstruction of the sattal.
Destruction of the Tawa Sattal resulted in the loss of a space to hangout for locals.

Before reconstruction began, the remaining part of the sattal was supported by wooden shoring to avoid further damage. The damaged part was dismantled to the ground level. Detail Drawings and estimation was prepared by Monument Conservation and Durbar Care Office in coordination with Bhaktapur Municipality. DOA awarded the tender to Tulsi and Sanu Suwal Joint Venture with contract amounting to Rs. 31,291,389.00. Foundation was laid four feet below the ground level. Various salvaged materials like lakasi, tham, meth and unbroken bricks were reused. In the damaged eastern part, there was unnecessary dead load of gravels laid on first floor, which was then removed after consulting technical team. The reconstruction work of Tawa sattal was completed using local craftsmanship.

![Figure 14 Shoring the remaining part of sattal (DOA)](image)

E. Dhatukala Museum

Dhatukala Museum or metalworks museum is located opposite to the Wood Carving Museum, behind Dattatryaya temple at Dattatraya. The museum exhibits bronze and brass objects from medieval periods like rituals lamps, hanging lamps, ceremonial jars, water pots, oil pots, etc. The building was built in 18th century using traditional bricks like dachi apa and chikan apa.

The 2015 earthquake had partially damaged this building.

The damaged of part the building was dismantled carefully and salvage was stored in the inner courtyard. Local craftsmanship were assigned to duplicate the missing parts and repair the damaged members of the building. Detailed drawings and estimation of the building was done by Monument Conservation and Durbar Care Office, Bhaktapur in coordination with Bhaktapur Municipality. The funding work was done by Department of Archeaology and construction was carried out by a contractor under supervision of Monument Conservation and Durbar Care Office. The renovation and reconstruction work included construction of boundry wall in northeast corner and construction of counter for the museum in traditional architectural outlook. The reconstruction work has already completed.
F. Rameshwor Temple

Rameshwor temple lies just right to entrance gate of Bhaktapur Durbar Square. This temple is one of the Char Dham of Bhaktapur. The open shrine, dedicated to lord Shiva, stands on four stone pillars and is topped by gumbaj. The name Rameshwar comes from that it was Ram as an incarnation of Vishnu who had the original temple of Mahadev built at Rameshwar Temple in South India.

The reconstruction of this temple was started before 2015 earthquake due to degrading condition. But the earthquake stopped the work for some time. Now the restoration of the temple is already completed. Some salvage elements like the four stone pillars and bricks were reused.

![Figure 15 Rameshwor Temple after restoration (DOA)](image)

G. Badri Narayan Temple

Badri Narayan temple is a Shikhara style temple located west of the Gopi Nath temple beside the Rameshwor temple. The Badri Narayan temple, also known as Badri Nath temple, is dedicated to lord Vishnu and is one of the Char Dham of Bhaktapur. The temple was reconstructed into Traditional Nepalese pitched roofed temple after it collapsed in 1990 B.S. earthquake.

Reconstruction of the temple started before 2015 earthquake but the work halted some months after earthquake. It was done through a contractor under supervision of Monument Conservation and Durbar Care Office, Bhaktapur. The salvaged elements like stone posts, stone lion guards, stone beams and some unbroken bricks were reused. Local craftsmen were assigned to make wooden door for the temple. Now the reconstruction of the temple is already completed.
H. Gopi Nath Temple

The two tiered traditional Nepalese style temple is situated at western corner of the Bhaktapur Durbar Square. The temple housed three deities, left to right, respectively: Satyabhama, Krishna and Radha. The temple is also known as Krishna temple or Dwarika Nath Temple. It is difficult to see the deities as the door remains mostly closed. The temple is regarded as one of the Char Dham of the Bhaktapur Durbar Square. The temple stands on two levels of plinths. On each plinth a pair of lions sits to guard. A garud sits in Namaskar position on a stone pillar in front of the temple.

During the 2015 earthquake, the inner walls of the sanctms were damaged. To avoid further damage, the temple was supported by wooden shoring inside and outside by using DOA emergency fund. Only damaged parts of the temple were repaired by a contractor under the supervision of Monument Conservation and Durbar Care Office, Bhaktapur.
I. Khauma Gate or Durbar Prabesh Dwar

Khauma gate is the western entrance of the Bhaktapur Durbar Square. The gate was built in late 19th century. The original gate was built up of brick masonry wall with no plaster. Later, during the visit of Queen Elizabeth II, the gate was plastered with lime-surkhi and different wooden images were added to the gate.

The middle portion of the southern leg of the gate was completely destroyed by 2015 earthquake. And cracks were observed at different places of the gate. The gate was later demolished carefully as it possessed threat of collapsing by itself.

Drawings of the gate were prepared with reference from old photographs. Reconstruction work was managed by user committee led by Mr. Laxmi Prasad Gora under supervision of Sampada Sakha and funds were provided by Bhaktapur Municipality. The design of the gate was restored to the original one without line-surkhi plaster and the wooden images were not installed as per suggestion of the local people. Reconstruction was done from the foundation and salvage materials were used to some extent. Lime-surkhi mortar was used to bind bricks instead of mud mortar due to lack of availability of good quality clay. The estimated budget for reconstruction of the Khauma gate was Rs. 3,412,318.00. But the project was completed within the budget of Rs. 3,019,066.00.

![Figure 19 Damage on Khauma gate due to earthquake](image1)

![Figure 20 Khauma gate after reconstruction (DOA)](image2)

J. Kedarnath Temple

Kedarnath temple is terracotta made Shikhara style temple, located at western part Bhaktapur Durbar Square. The temple, dedicated to lord Shiva, was built by King Bhupatindra Malla. This temple is also regarded as one of the Char Dham of Bhaktapur Durbar Square. The temple was repaired after it was damaged in 1990 B.S. earthquake, but top part of the temple was not restored to original design.

In 2015 earthquake, top half portion of the Kedarnath temple was collapsed. But the temple was completely demolished to plinth level for reconstruction. Drawings were prepared taking
reference of photographs before 1934 A.D. Timber upright posts were added after structural analysis for strengthening. Five new pinnacles were designed as per the photographs before 1934 A.D. Lime-surkhi mortar was used instead of mud mortar. Local skilled artisans were assigned for the reconstruction project which was managed by a user committee led by Mr. Ram Krishna Twana. A single mason completed all of the brick masonry work of the temple. The Reconstruction work was funded Bhaktapur Municipality and supervised by its Sampada Sakha. The estimated budget of the project was Rs. 7,263,697.00 and it was completed with total cost of about 46 lakhs.

K. Shankar Narayan Temple
Shankar Narayan Temple is located in front of 55 windows palace and west of Siddhi Laxmi temple. The domical Shikhara temple is dedicated to lord Vishnu and was built by King Bhupatindra Malla.

The temple was critically damaged by the 2015 earthquake. Wooden shoring was provided to support the temple until the reconstruction work started. The whole temple was dismantled carefully and the salvage materials were stored in the premise. Drawings and detailing of the temple were prepared from old photographs and the salvage materials. About 60% of the salvage materials were used in the reconstruction work. Lime-surkhi mortar was used instead of mud mortar to bind the brick masonry. The temple was not plastered. There were not any contractor or user committees involved for this temple. Bhaktapur Municipality, itself, took lead in funding, supervision and management of the reconstruction of the temple. Local skilled artisans were assigned for the works. The budget estimated for this project was Rs. 489,496.00 and total cost of construction after completion was Rs. 539,681.00.
L. Tribikram Narayan Temple

This Shikhara style temple is located to the south of the Yakeshwor Mahadev Temple in Bhaktapur Durbar Square. The temple, which is dedicated to lord Vishnu, was built by King Jitamitra Malla. The temple was coated with lime-surkhi plaster on the exterior.

The temple was critically damaged by the 2015 earthquake. Huge cracks and bulking were observed from top to bottom of the temple. To prevent further damage, the temple was supported by wooden shoring immediately afterwards. The whole temple was then dismantled carefully and the salvage materials were stored. Drawings and detailing of the temple were prepared from old photographs and the salvage materials. Upright wooden posts and wooden tie beams were kept in the temple as it was before. Lime-surkhi mortar was used instead of mud mortar to bind the brick masonry. The temple was not plastered. Except for broken bricks, almost 70% of salvage materials were used. There were not any contractor or user committees involved for this temple. Bhaktapur Municipality, itself, took lead in funding, supervision and management of the reconstruction of the temple. Local skilled artisans were assigned for the works. The budget estimated for this project was Rs. 1,761,603.00 and total cost of construction after completion was Rs. 1,468,503.00.
M. Harihar Narayan Temple

Harihar Narayan temple is located in the eastern part of the Bhaktapur Durbar Square east of Silu Mahadev Temple. This shikhara style temple was built in the 17th century and is dedicated to lord Vishnu.

The 2015 earth quake completely destroyed the temple. The temple was demolished upto foundation level and salvage was store beside the temple. Detail drawings were prepared from the available evidences and salvage materials. The timbers of the temple were all rotten so no timbers were reused. Only bricks were reused in the reconstruction. The detailing of the pinnacle was done with reference form Tribikram Narayan temple. Lime-surkhi mortar was used instead of mud mortar to bind the brick masonry. The temple was not plastered. Local skilled artisans were assigned for the reconstruction work which was managed by a user committee led by Mr. Satya Ram Suwal. Funding was provided by Bhaktapur Municipality and supervision was done by its Sampada Sakha. The estimated budget for this project was Rs. 1,582,063.00 and total cost of construction after completion was Rs. 1,559,189.00. Some locals have also donated valuable goods for the construction work.
N. Vatsala Devi Temple

Beside the Big Bell, there stands a stone carved Shikhara temple, Vatshala Devi temple, on three levels of plinths. The temple is dedicated to Vatsala Devi, a form of goddess Durga. The architecture of this temple resembles with the Krishna Mandir of Patan Durbar Square. The temple was originally built by King Jitamitra Malla in 1696 A.D. and the present structure was reconstructed by King Bhupatindra Malla. Behind the temple is a traditional water spout, Dhungedhara.

The Vatsala Devi Temple was completely collapsed in the 2015 earthquake. Excavation works were done at the temple premise with the help from UNESCO in collaboration with Department of Archeology, Bhaktapur Municipality, National Art Museum, Durham University, British archeological experts and structural experts. A big building structure was found within the surface in front of the buff stone Vatshala Devi temple which was razed by the quake. The excavation team also surveyed other areas of Durbar Square by ‘Ground Penetrating Radar’ to carve out the map of the underground structure and materials for its safety. Lichchavi era manuscript, statue, remnants of the structures, materials used to cover the earthenware pots, ancient bricks, stones, coin dating back to 1968, bangles used by women, locket, old form of tiles and coal were uncovered. The team also collected samples of geo-archeological finds. The UNESCO has taken the materials found during the excavation for examination to find the absolute date and other information.

The elements of archeological and architectural importance were salvaged from debris of the temple and stored in the temple premise. Each salvaged elements were well documented with detail photography. Then drawings were prepared for reconstruction with the help of the salvaged materials, drawings by Wolfgang Korn and Niels Gutschow and old sketches. Structural analysis was done from which upright timber posts were introduced in the temple for strengthening. The plinths were repaired and reconstruction work started above that. About 60% of the salvaged materials were used most of which is stone and idols. Lime-surkhi plaster is being used to bind the blocks. The temple is now being constructed completely with stone. Local skilled artisans were assigned for the reconstruction work which
was managed by a user committee led by Mr. Ram Hari Gora. Funding was provided by Bhaktapur Municipality and supervision was done by its Sampada Sakha. The estimated budget for this project was Rs. 12,862,214.00. The temple is under construction and soon to be completed.

O. Bhairabnath Temple
Bhairabnath temple is a rectangular based traditional Nepalese temple located at Taumadhi square. This temple was first built as a one-storey pagoda but was later changed into a three storey temple in 1718 AD by King Bhupatindra Malla. This temple is dedicated to god Bhairabnath but also houses god Betal. The present temple of Bhairav was built only after 1934 AD. And again the temple was reconstructed in 2052 B.S.

In 2015 earthquake, the top tier was damaged partially. After structural analysis of the temple, the work of repair was started. The temple was demolished at those parts where repair was necessary. Timber posts were added in the middle portion to increase the strength of the structure. About 90% of the salvaged materials were used in the work. Local participation was high in this project. People involved in funding, volunteering work and also in decision making. Local experienced artisans were assigned in the work. Major funding was provided by Bhaktapur Municipality and supervision was done by Sampada Sakha. The construction work was managed by user committee led by Mr. Nuchhe Ram Bhele. The estimated budget of the project was Rs. 14,636,745.00 but the construction was completed with total cost of Rs. 5,661,288.00.
P. Nyatapola Temple

Nyatapola temple is located in the Taumadhi square. The temple is five tiered and is tallest temple in Nepal. The temple is dedicated to goddess Siddhi Laxmi, the manifestation of female force and creativity. The temple was built by King Bhupatindra Malla in 1702 A.D. Four temples of ganesh is located at the corners of the temple.

The top tier of the temple was twisted a little and there were some cracks observed after the 2015 earthquake. Bhaktapur Municipality is funding the conservation work of the temple and the work is managed by user committee. At present, scaffolding work has stared along with dismantling of roof tiles on the bottom roof. The estimated budget of the project is Rs. 5,744,242.00.

Q. Kwachhen Pati

This is a traditional Nepalese pati located at Kwachhen. The pati was partially damaged in 2015 earthquake. Drawings were prepared from the remaining parts of the temple. The pati was demolished completely for reconstruction. The salvage materials were stored in the premise. About 40% of salvage material were used. Surkhi-lime mortar was used instead of mud mortar. The reconstruction work was carried out by user committee led by Mr. Sundar Lal Mule. Funding was provided by Bhaktapur Municipality and supervision was done by Sampada Sakha. Local artisans were involved in the work. The estimated budget was Rs 1,685,635.00 and the construction was completed with total cost of Rs. 974,071.85.

R. Inacho Nasu Dyo

Inacho nasu Dyo, also known as Nirtyanath Mandir, is located in Inacho on the way to Dattatraya. It is a one storey temple with a fucha crowning on the top.

The temple was slightly damaged in the 2015 earthquake. But it was dismantled completely for the reconstruction. The temple was rebuilt from the plinth level. The reconstruction was managed by user committee led by Mr. Padma Sundar Shakya. Bhaktapur municipality provided with funding and Sampada Sakha Supervised the work. The estimated budget of the project was Rs. 340,016.00 and the project was completed with total cost of Rs. 339,891.00.
S. Bhimsen Mandir

The Bhimsen Mandir is located in Dattatraya Square. Structurally, it was made in traditionally rectangular with single tier four side jhingati roofs and single tier four side copper phucha roof with 7 metal pinnacles. There was highly carved window, door and struts which are artistic. There is sanctum in the center where Clay image of Bhimsen and Draupadi are placed. In front of the temple there is an open raised platform. The temple was renovated during Bhaktapur Development Project.

The temple was partially damaged by 2015 earthquake. The damaged temple structure is dismantled safely and stored all material of archaeological importance. Drawings were prepared with reference from old drawings. The damaged roof was repaired. Salvaged materials like timner elements and roof tiles were used to some extent. Local skilled artisans were involved in the work. The whole project was managed by a user committee led by Mr. Nati Bhai Hyamba. Funding was provided by Bhaktapur Municipality and supervision was done by Sampada Sakha. The estimated cost of the project was Rs. 1,891,440.00 and the project was completed with total cost of Rs. 992,702.00.
T. Laxmi Narayan Temple
Laxmi Narayan Temple is a two tiered temple located at Dattatraya Square. The temple had minor damages due to earthquake. But a corner of the temple was severely damaged by fire. The premise of the temple was used to store salvage of the nearby monuments. These caught fire then ultimately damaged the temple. Detailed drawing of the temple was prepared from the remaining parts of the temple. No demolition was done. The damaged part was dismantled from the temple and replaced with new one and the wall was repaired. Most of the salvaged materials were reused except the burnt bricks and timber elements. Local workers and artisans were involved in the work. The project was managed by a user committee led by Mr. Krishna Gopal Lachimashu. Funding was done by Bhaktapur Municipality and supervision was done by Sampada Sakha. The estimated budget of the project was Rs. 1,301,978.00 and the construction work was completed with total cost Rs. 589,319.00

![Laxmi Narayan Temple after reconstruction (DOA)](image)

4. Plan for rehabilitation of remaining damaged monuments
These are the remaining damaged monuments in core zone to be rehabilitated:

*Table 12 : Rehabilitation of remaining damaged monuments in core zone*

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Description of monuments</th>
<th>Address</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Betal Bhajan Ghar</td>
<td>Taumadhi</td>
<td>User committee is finalized</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Will start soon</td>
</tr>
<tr>
<td>2</td>
<td>Lal Baithak</td>
<td>Durbar Square</td>
<td>To be built as Malla style</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Design was sent to UNESCO for approval</td>
</tr>
<tr>
<td>3</td>
<td>Yakshyeshwor Mahadev Temple</td>
<td>Durbar Square</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Project Name</td>
<td>Location</td>
<td>Estimated Budget</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------</td>
<td>----------</td>
<td>------------------</td>
</tr>
<tr>
<td>4</td>
<td>Til Madhav Narayan Temple</td>
<td>Taumadi</td>
<td>Rs.5534714.52</td>
</tr>
<tr>
<td>5</td>
<td>Jagannath Temple</td>
<td>Arniko Sabha Bhawan</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Jagannath Temple</td>
<td>Durbar Square</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Narsingh Mandir</td>
<td>Gahiti</td>
<td>Rs.37127515.38</td>
</tr>
</tbody>
</table>

5. **Plan for rehabilitation of urban fabric**

Most of the traditional buildings in the monument zone were affected by the earthquake. The most affected part of the city was Byasi, Golmadhi, Maheshwori, Tachapal and Suryamadhi. This has affected the urban fabric of the whole city.

![Current scenario of urban fabric in the monument zone](image)

Reconstruction of buildings in the core area of the monument zone is done with RCC framed structures while keeping the façade traditional.

**Stone Paving**

Paving of stone is going on at different places of the Bhaktapur city. This work is also being carried out by different user committee. The brick pavements will be removed from the road and stone will be laid. The gaps between the blocks of stone will be filled with sand. This will make the road permeable.
Table 13: Description of stone paving

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Road Description</th>
<th>Funding</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kwachhen to Dattatraya</td>
<td>Bhaktapur Municipality</td>
<td>Will be done by tender procedure</td>
</tr>
<tr>
<td>2</td>
<td>Tachapal</td>
<td>Bhaktapur Municipality</td>
<td>Construction will be carried out by user committee</td>
</tr>
<tr>
<td>3</td>
<td>Taumadhi to Kwachhen</td>
<td>Bhaktapur Municipality</td>
<td>Construction will be carried out by user committee</td>
</tr>
<tr>
<td>4</td>
<td>Gahiti</td>
<td>Bhaktapur Municipality</td>
<td>Construction will be carried out by user committee</td>
</tr>
<tr>
<td>5</td>
<td>Taumadhi to Bharbacho</td>
<td>Bhaktapur Municipality</td>
<td>Will be done by tender procedure</td>
</tr>
<tr>
<td>6</td>
<td>Fasi dega to DSP office</td>
<td>Road Division</td>
<td>Construction will be carried out by user committee</td>
</tr>
<tr>
<td>7</td>
<td>Balakhu Ganesh to Yalachhen</td>
<td>Bhaktapur Municipality</td>
<td>Construction will be carried out by user committee</td>
</tr>
<tr>
<td>8</td>
<td>Peti construction from ward 02 office to CDO</td>
<td>Bhaktapur Municipality</td>
<td>Construction will be carried out by user committee</td>
</tr>
</tbody>
</table>

Showing roads where stone paving will be done

6. References

1. World Heritage Site Integrated Management Framework (2007), Kathmandu; DOA
1. General description to the Monument Zone

World Heritage attributes, boundary and buffer
The temple of Changu Narayan is built on top of a high hill to the east of Kathmandu and north of Bhaktapur cities. This temple is the most celebrated Vaishnava shrine in the Kathmandu valley. Its origin dates back to the fourth century, but the earliest inscription on a stone pillar belongs to the ruler of Licchavi dynasty Manadev who ruled at the end of the fifth and early sixth century. The Central image in the sanctum is worshipped by Hindus as a god Garuda Narayan, and by Buddhists as a deity HariharaBahanLokeshwara. The temple has been restored during the late 1500-s and devastated by fire in 1702 but was then restored. Although the present temple is not one of the oldest in the Kathmandu valley, some of its decorative ornaments are extremely old. (The Rubin, 2015)

The core boundary area of Changu Narayan monument comprises large area with more than 90 monuments and private residences. The core area also carries living traditions such as Jatras, Melas, Parvas etc. The major monuments are Changu Narayan temple, Kileshwor Temple, Laxmi Narayan, Balambu Pati, Sarswati Temple, Bhimsen Pati etc. The areas including temple square, settlement and forest etc. all lie in the core areas. While on the other hand, the buffer area isn’t specifically marked. The areas outside the core areas that include forest areas largely can be considered as the buffer area for the monument.
History

The authentic history of this place, based on the reliable evidences, is yet to be ascribed and ascertained. So, we are not in a position to say anything definitely about the person responsible to erect this magnificent temple and in the same way, we also cannot say anything exactly about the period on which it might have been built. But even then the historians have tried to fix a tentative date to it by deducing some tangible and intangible evidences available at our disposals. For example, the references provided by the chronicles of the country, the prevailing traditions and myths, are some sources by which the historians have drawn some valuable information, which have been immensely helpful to make some inferences to determine its historicity. Among them, the oldest chronicle of the country, the “Gopal Raj Vamsavali”, which is believed to be compiled during 14th century AD, has credited a king named Hari Dutta Verma as its consecrator who built this temple along with three other temples at the four cardinal directions of the Kathmandu valley, dedicated to the Hindu God Narayan. The other Vaisnavait temples he had built were the temples of Shesa Narayan, Bishankhu Narayan and Ichangu Narayan respectively. A huge stone pillar erected on the north-western corner of the Changu Narayan temple, actually a commemorative, installed by the great king Mana Deva in 464 A.D, intending to immortalize the great victories made by him during his life time. The lower parts of this pillar, which is partially buried under ground, have very beautifully composed verses dealing with the references of his great victories and been inscribed in popular Lichhavi script. This is also taken as to be the most authentic historical evidence of the country.

Besides, it also has details of the charities he had made to the Brahmins at that occasion after performing a grand yagycic ceremony. On it, he also had given the names of his ancestors along with the names of his parents. But unfortunately, he did not mention anything about the person responsible to erect this temple. All these indicates that the temple must have been built somewhere before the time of the Mana Deva. Except these, the temple complex with its surrounding abounds with other evidences in the form of sculptures and some other inscriptions of the times representing the kings followed by Mana Deva and others. Such evidences are found here so profusely that this place also can be taken as an open-air Museum of Arts, Architecture Culture and History. Apart from the pillar inscription of Mana Deva, the stone slab inscription of Niripeccha, SivaDeva - Amsuvarma, AbhayaMalla, Jaya Rudra Malla, JayasthitiMalla and others which have helped our historians to write the authentic history of those times. The kings from the Shah dynasty also did not lag in this respect. Even the Ranas left their presence here with their deeds.

It is considered to be the oldest temple of Nepal. It remains a milestone in Nepali temple architecture with rich embossed works. The two-storey roofed temple stands on a high plinth of stone. The temple is surrounded by sculptures and arts related to Lord Vishnu. Also we can find the temples of lord Shiva, AshtaMatrika, Chhinnamasta, Kileshwor and Krishna inside the courtyard of the main temple. There are four entrances to the temple and these gates are guarded by life-size pairs of animals such as lions, sarabhas, griffins and elephants on each side of the entrances. The ten incarnations of Lord Vishnu and the other idols are carved in the struts, which support the roof. The entrance door is gilded with carvings of Nāaga (snakes). On the main entrance gate (i.e. western entrance gate), we can find the Chakra, Sankha, Kamal and Khadga all at the top of a stone pillar. These stone pillars have an inscription in Sanskrit. This inscription is considered as the oldest inscription of Nepal and the stone inscription pillar was erected by Licchavi (kingdom) King Manadeva in 464 AD.
The main image in the sanctum is worshiped by Hindus as a Garuda Narayan, and by Buddhists as a Harihar VahanLokeshwara. Only the priest are allowed to see the image.

Changu Narayan, one of the world heritage sites of Nepal listed in 1979 A.D. is about 6 km north of Bhaktapur. The temple dates back to 1702 A.D. when it was rebuilt after a fire, its origin goes right back to the 4th century. It is said to have been built by King Hari Datta Verma in 323 A.D. (Department of Archeology, 2016)

**Rehabilitation History**

Historically, the monument was highly respected and worshipped and because of that, it has undergone various restoration and conservation process during various parts of history. It is believed that Changu Narayan itself underwent destruction by fire during 1700s and it was restored afterwards, similarly the earthquake of B.S. 1990, damaged various parts of other monuments and it was believed JuddhaShumsher ordered the restoration of the heritages. The detail damage assessment of the 90s earthquake is still unknown but it is believed that, the Sattal, Laxmi Narayan, BhimsenPati, BalambuPati etc. were destroyed and was restored. Similarly, after the 2042 earthquake, DOA visited the site and ordered restoration for the monuments that were required. Inhawa area was massively restored by DOA during that period. InhawaSattal, Inwahapatni etc. they were restored. Also, in 2052-53, DOA again ordered restoration of the various other monuments. Gamdhoka area was restored during that period. BhimsenPati, GamdhokaBhairavPati etc. were restored during the period and Do Che was reconstructed in 2061. These were the overall history of restoration that has been accounted for in this area.

The tentative history of reconstruction and the restoration works carried out in the Changu Narayan area is given in the table. The details of restoration are unknown in many restoration cases, and the only account of restoration is mentioned historically. Also, there are other mythologies that believe, Anshuverma also ordered huge restoration of the temple and so on. The table is listed chronologically below:

<table>
<thead>
<tr>
<th>Date (B.S.)</th>
<th>Name of the monument</th>
<th>Restoration works carried out</th>
</tr>
</thead>
<tbody>
<tr>
<td>5th Century</td>
<td>Changu Narayan</td>
<td>Believed to be renovated by Licchavi King Anшуverma</td>
</tr>
<tr>
<td>1564</td>
<td>Changu Narayan</td>
<td>Minor renovation by Devaki Devi Gakurani</td>
</tr>
<tr>
<td>1642</td>
<td>Changu Narayan</td>
<td>Believed to be renovated by Queen Gangaranani</td>
</tr>
<tr>
<td>1736</td>
<td>Chinnamasta</td>
<td>Restoration of wooden toran</td>
</tr>
<tr>
<td>1751</td>
<td>Changu Narayan</td>
<td>Destroyed by fire and restored by BhupitendraMalla</td>
</tr>
<tr>
<td>1986</td>
<td>Chinnamasta</td>
<td>Minor Restoration</td>
</tr>
<tr>
<td>1990</td>
<td>Changu Narayan, Western Sattal, Laxmi Narayan</td>
<td>Restoration carried out by JuddhaShumsher after the earthquake</td>
</tr>
<tr>
<td>2017</td>
<td>Changu Narayan</td>
<td>Minor Restoration</td>
</tr>
<tr>
<td>2030</td>
<td>Gamdhokalnar</td>
<td>Minor Restoration</td>
</tr>
<tr>
<td>2043</td>
<td>InwahaSattal, Dhungedhara, Ganesh,</td>
<td>Restoration carried out by DOA</td>
</tr>
</tbody>
</table>
2. **Overall Impact of Gorkha Earthquake**

Gorkha Earthquake of 2015 caused subsequent heavy damages to the monument areas. The temples such as Kileshwor, Laxmi Narayan and Sattals collapsed while other monuments such a main temple of Changu Narayan was critically damaged. The overall impact is discussed below:

**Response and Rehabilitation Planning**

The immediate response after the earthquake was rather chaotic. The monuments and sattals collapsed and the main temple were also heavily damaged.

**Immediate Response:**

After the earthquake, locals tried to look around the debris in search of any humans that might be trapped in. There were no major causalities inside the monument core area. Few hours later, locals and the police group were mobilized on searching the debris. One day later, representatives of DOA visited the site and the during the emergency period, DOA along with the locals and police group provided shoring on the monuments such as Western Sattals, Changu Narayan temple etc. The Changu Narayan temple was tilted on the eastern side and shoring were provided for structural stability. After a day or two, a 25 members group of police led by the inspector of the area, were mobilized for the storing of the debris. The inventory of the debris was kept according to the format given by the DOA.

<table>
<thead>
<tr>
<th>Year</th>
<th>Monument</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2053</td>
<td>BhimsenPati</td>
<td>Restoration</td>
</tr>
<tr>
<td>2055</td>
<td>Gamdhoka BhairavPati</td>
<td>Restoration from DOA</td>
</tr>
<tr>
<td>2055</td>
<td>Sarswati Mandir</td>
<td>Restoration</td>
</tr>
<tr>
<td>2058</td>
<td>BhairavPati</td>
<td>Restoration by Jusana</td>
</tr>
<tr>
<td>2061</td>
<td>Dho Che</td>
<td>Reconstruction of the Dho Che</td>
</tr>
</tbody>
</table>
Monument conservation and Durbar care office, Bhaktapur under Department of Archaeology along with Bhaktapur municipality has been working for the reconstruction and conservation of damaged monuments inside Bhaktapur. Beside Monument conservation, the Durbar care office, Bhaktapur is also responsible to carry out protection, repair and reconstruction of monuments of inside the Bhaktapur district.

After earthquake, immediately wooden shoring was done for monuments inside world heritage site to avoid the further damage which was funded by GIZ and DOA in corporation with UNESCO. Further study and analysis were done to figure out required intervention for each monument by the team of Monument conservation and Durbar care office, Bhaktapur under constant guidance of DoA.

**Damage Assessment of the monuments:**
The damage assessment of the monuments was done by DoA, Durbar Care office and other various NGOs and INGOs were also involved. The visual assessment and the overall damage assessment was carried out by analyzing the debris, present situation and the drawings of Changu Narayan from NSW Department of Technical and Further Education was accounted. The drawing was drafted on 1986 A.D and it had tentative plans and elevations was there. The graphical image based on the data and the drawings from the NSW foundation given by DoA is given below:
The damage assessment was done and the following data were obtained.

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Monument</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Changu Narayan</td>
<td>Critically Damaged</td>
</tr>
<tr>
<td>2.</td>
<td>Sridhar Bishnu</td>
<td>Non-Critically Damaged</td>
</tr>
<tr>
<td>3.</td>
<td>Nateshwar</td>
<td>Not affected</td>
</tr>
<tr>
<td>4.</td>
<td>Madhav Narayan</td>
<td>Not affected</td>
</tr>
<tr>
<td>5.</td>
<td>Mahabishnu</td>
<td>Not affected</td>
</tr>
<tr>
<td>6.</td>
<td>Somlingeshwor Mahadev</td>
<td>Non-Critically Damaged</td>
</tr>
<tr>
<td>7.</td>
<td>Parijat</td>
<td>Main tree died (in 2019)</td>
</tr>
<tr>
<td>8.</td>
<td>Ganesh</td>
<td>Not affected</td>
</tr>
<tr>
<td>9.</td>
<td>Chinnamasta Bhagwati</td>
<td>Completely collapsed</td>
</tr>
<tr>
<td>10.</td>
<td>Shivalinga Mandir</td>
<td>Non-Critically Damaged</td>
</tr>
<tr>
<td>11.</td>
<td>Bishwarupa</td>
<td>Not affected</td>
</tr>
<tr>
<td>12.</td>
<td>Laxmi Narayan</td>
<td>Completely Collapsed</td>
</tr>
<tr>
<td>13.</td>
<td>Kantibhairav</td>
<td>Not affected</td>
</tr>
</tbody>
</table>
14. Kileshwor Mahadev Critically Damaged
15. Southern Sattal Completely Collapsed
16. South East Sattal Critically Damaged
17. South West Sattal Completely Collapsed
18. North East Sattal Critically Damaged
20. 10+ residential building Completely Damaged

**Figure 5  List of status of monument**

The damage assessment of the monuments inside the Changu Narayan temple area shows that the Sattals area are heavily damaged and even though some of them are critically damaged, they are just sight away from being completely collapsed. The smaller monuments inside the Changu Narayan Temple are not affected while there are other temples such as Samalingeshwor Mahadev, whose pinnacle was only broken. The notable area is also the Parijat tree situated on a mold, wasn't affected from the earthquake but the main tree died in 2019. The overall damage assessment inside the whole core area of the heritage is given below:
This figure shows the damage of the other smaller monuments within the core areas including more than 10 residential buildings. The other buildings and monuments inside the core area, that has been damaged hasn’t been officially accounted.

3. Plan for On-going rehabilitation of the monuments:
Among the various destroyed monuments, very few numbers of them are reconstructed, majority are on-going and there are few numbers of monuments whose reconstruction has yet to be started.

In the beginning, the Government of Nepal announced to international community for assistance in the reconstruction and the restoration of the monuments which was damaged by earthquake. Global Heritage fund came forward to DoA and discussed with the authorities for rehabilitation of monument in Changu Narayan monument zone along with training programmes for local manpower. Global Heritage submitted the proposal to DoA and it was forwarded to the ministry for the approval. It was rejected regarding various issues one of the principle reason was Global Heritage Fund not being reconized by the US government. Another proposal was submitted with the technical and financial support from Global Heritage fund to NGO from Nepal Government in the model of turnkey basis. The proposal was subsequently approved by Ministry and a MoU was done between DoA and the NGO, Heritage and Environment Conservation Foundation, Nepal (HECFN). The proposal was to carry out the reconstruction of the of Monuments of Changu Narayan World Heritage site which was damaged in the earthquake of 2015. Department of Archaeology completed Reconstruction / Conservation of Major monuments such as Saraswoti Temple, Changu Narayan, Chhinnamasta with monitoring by Monument conservation and Durbar care office, Bhaktapur. Heritage & Environment conservation Foundation, Nepal completed reconstruction / Conservation Kileswor temple, AmatyaSattal and submitted the proposal to Department of Archaeology for the reconstruction of the Laxmi Narayan Temple. HECFN
proposed for the reconstruction of the Laxmi Narayan temple as two-tiered temple, which was previously one tired. The evidence was gathered from the Tudal, plinth projection method and the other Laxmi Narayan temple around the valley. However, the Department of Archaeology didn’t forward the proposal. On the other hand, HECFN was short on the budget and the reconstruction didn’t carry out as planned.

Then, tender was announced by the government of Nepal on 2074 and the companies, Lumbini, SanuSuwal and Pawan J.V were selected for the reconstruction of ‘ChaugheraSattal’ on 2075- Magh 10. The total project is estimated to be completed on 2078, Ashad. DoA is the supervising body and local people are also being involved in the decision making from a committee led by the Ward Head Mr. Buddhilal Maharjan.

The ongoing and the completed projects that has been carried out as of 2020, January are listed below:

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Name of the monument</th>
<th>Reconstructing Body:</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Changu Narayan</td>
<td>DoA, HECFN</td>
<td>Completed</td>
</tr>
<tr>
<td>2.</td>
<td>Kileshwor</td>
<td>DoA, HECFN</td>
<td>Completed</td>
</tr>
<tr>
<td>3.</td>
<td>Shankha Chakra Ganesh</td>
<td>DoA</td>
<td>Completed</td>
</tr>
<tr>
<td>4.</td>
<td>AmatyaSattal</td>
<td>HECFN, Living Traditions Museum, DoA</td>
<td>Completed</td>
</tr>
<tr>
<td>5.</td>
<td>Sarswati Temple</td>
<td>DoA</td>
<td>Completed</td>
</tr>
<tr>
<td>6.</td>
<td>Chinnamasta</td>
<td>DoA</td>
<td>Ongoing (80%)</td>
</tr>
<tr>
<td>7.</td>
<td>ChaugheraSattal</td>
<td>Lumbini Constructions, SonuSuwal Constructions and Pawan Constructions J.V.</td>
<td>Ongoing (20%)</td>
</tr>
<tr>
<td>8.</td>
<td>BhimsenPati</td>
<td>SonuSuwal Constructions</td>
<td>Ongoing (5%)</td>
</tr>
</tbody>
</table>

Description of the monuments:

1. **Changu Narayan Temple**

General description:

Changu Narayan is considered to be the oldest temple of Nepal. It remains a milestone in Nepali temple architecture with rich embossed works. The two-storey roofed temple stands on a high plinth of stone. The temple is surrounded by sculptures and arts related to Lord Vishnu. Also we can find the temples of lord Shiva, AshtaMatrika, Chhinnamasta, Kileshwor and Krishna inside the courtyard of the main temple. There are four entrances to the temple and these gates are guarded by life-size pairs of animals such as lions, sarabhas, graffins and elephants on each side of the entrances. The ten incarnations of Lord Vishnu and the other idols are carved in the struts, which support the roof. The entrance door is gilded with carvings of Nāaga (snakes). On the main entrance gate (i.e. western...
entrance gate), we can find the Chakra, Sankha, Kamal and Khadga all at the top of a stone pillar. These stone pillars have an inscription in Sanskrit.

**History:**

The temple dates back to 1702 A.D. when it was rebuilt after a fire, its origin goes right back to the 4th century. It is said to have been built by King Hari Datta Verma in 323 A.D. Among the oldest chronicle of the country, the “Gopal Raj Vamsavali”, which is believed to be compiled during 14th century AD, has credited a king named Hari Dutta Verma as its consecrator who built this temple along with three other temples at the four cardinal directions of the Kathmandu valley, dedicated to the Hindu God Narayan. The other Vaisnait temples he had built were the temples of Shesa Narayan, Bishankhu Narayan and Ichangu Narayan respectively. A huge stone pillar erected on the north-western corner of the Changu Narayan temple, actually a commemorative, installed by the great king Mana Deva in 464 A.D, intending to immortalize the great victories made by him during his life time. The lower parts of this pillar, which is partially buried under ground, have very beautifully composed verses dealing with the references of his great victories and been inscribed in popular Lichhavi script. This is also taken as to be the most authentic historical evidence of the country.

Besides, it also has details of the charities he had made to the Brahmans at that occasion after performing a grand yagyaic ceremony. On it, he also had given the names of his ancestors along with the names of his parents. But unfortunately, he did not mention anything about the person responsible to erect this temple. All these indicates that the temple must have been built somewhere before the time of the Mana Deva. Except these, the temple complex with its surrounding abounds with other evidences in the form of sculptures and some other inscriptions of the times representing the kings followed by Mana Deva and others. Such evidences are found here so profusely that this place also can be taken as an open-air Museum of Arts, Architecture Culture and History. Apart from the pillar inscription of Mana Deva, the stone slab inscription of Niripecha, SivaDeva - Amsuvarma, AbhayaMalla, Jaya Rudra Malla, JayasthitiMalla and others which have helped our historians to write the authentic history of those times. The kings from the Shah dynasty also did not lag in this respect. Even the Ranas left their presence here with their deeds.

**Rehabilitation History**

Changu Narayan temple has gone various rehabilitation in the past. Some of them are listed below:

<table>
<thead>
<tr>
<th>Date (B.S.)</th>
<th>Restoration works carried out</th>
</tr>
</thead>
<tbody>
<tr>
<td>5th Century</td>
<td>Believed to be renovated by Licchavi King Anshuverma</td>
</tr>
<tr>
<td>1564</td>
<td>Minor renovation by Devaki Devi Gakurani</td>
</tr>
<tr>
<td>1642</td>
<td>Believed to be renovated by Queen Gangarani</td>
</tr>
<tr>
<td>1736</td>
<td>Restoration of wooden toran</td>
</tr>
<tr>
<td>1751</td>
<td>Destroyed by fire and restored by BhupitendraMalla</td>
</tr>
<tr>
<td>After 1990</td>
<td>Destructions caused by the earthquake and JuddhaShumsher ordered for the minor restorations</td>
</tr>
<tr>
<td>2017</td>
<td>Minor Restoration</td>
</tr>
<tr>
<td>2043</td>
<td>Minor Restoration by DoA</td>
</tr>
</tbody>
</table>
Status after Earthquake:
Changu Narayan Temple was critically damaged after the earthquake of 2015. The walls were cracked, and the temple overall tilted towards the eastern side. The roofs were also bent. However, looking at the condition, the foundation was believed to be intact. The western wall at the upper floor of Changu Narayan had suffered major damage by the earthquake. On further analysis, it was found that the roofs had to be massively replaced.

Emergency Response:
Changu Narayan survived the complete collapse from the 2015 earthquake. After the damage of 2015 earthquake, a week later a team of DoA, Locals and the police force provided the shoring to the monuments. Shoring work and repair of four corners was done almost immediately after earthquake to prevent future damage using DOA emergency fund.

Responsible Authorities:
The general management of the Changu Narayan before the earthquake was done by the guthisaasthan. But for the restoration works, even before DoA had been the leading body. After the earthquake, the responsible authorities were:
- Department of Archaeology
- Heritage and Environment Conservation Fund, Nepal (HECFN)

Documentation:
For the documentation of the Changu Narayan, there was a drafted drawing from the NSW Department of Technical and Further Education. This drawing was drafted on 1986 A.D. However, this drawing lacked detail dimensions and sizes. So, taking these drawings are reference, photographic evidences were also accounted for the documentation of the Changu Narayan. The photographs were general photographs that was available easily.

The process of reconstruction wasn’t documented daily. However, Monument conservation and Durbar care office, Bhaktapur constantly provided report to DoA on the reconstruction of the monument.

Storage and use of Salvage Materials:
The salvage materials were stored in the south wing area and the important precious parts were stored on the ground floor of the temple. The inventory format was prepared by the DoA office. The removal of Gajur and the gilded roof covering was completed, and they were carefully marked, inventory was done and carefully stored at ground floor of the temple itself.
on presence of Department of Archaeology, Armed police force, committee member and contractor. The overall percentage of salvage materials used were around 50-60%.

Materials used

The overall materials used were bricks with mud mortar. The reconstruction process was consistent to the guidelines provided by the DoA and was aimed to achieve the totality of the old state. The newer wooden carvings was prepared as like the old items by the use of similar nature of woods and carving patterns.

Monitoring Mechanism:

The monitoring was done by the Monument conservation and Durbar Care office, Bhaktapur. Heritage and Environment Conservation Fund, Nepal (HECFN) undertook the reconstruction process on the monitoring of the DoA.

Community Participations

The community was involved in the decision makings regarding the detailing in the toran and the other places. Community was consulted and was made aware regarding the reconstruction process. An advisory committee of 4 members including, Main Priest of Changu Narayan, Member from DoA office, Bhaktapur and Ward members is formed led by the ward head, who investigate the matters of public and community participation and community involvement. However, community and the locals hasn’t been involved in the direct reconstruction process.

Artisans available

The artisans were hired from the Bhaktapur area. They were the local artisans who were hired for specific carvings of Torans and doors. For the general reconstruction local skilled and semi-skilled labours were mobilized.

Project Cost

The estimated project cost was Nrs. 94,65,848.00. The project is believed to be completed within the cost limit frame.

2. Kileshwor Temple

General Description

It lies in the South West area of the temple area near Laxmi Narayan temple. It is a two tired temple devoted to Lord Shiva. It represents one of the most important examples of Newari Temple architecture in the Kathmandu Valley. Kileshwor is the only Shaivite shrine in the Changu Narayan temple complex. The temple is dedicated to Shiva as Lord Pashupati, and houses a Chaturmukha Lingam with human faces looking towards the four cardinal directions and one to the heavens. This temple has an outstanding collection carved wooden struts supporting its double roofs depicting incarnations of Shiva and some interesting erotic images. Each of the four doors is modeled on those of the main temple with the main entrance made in gilded metal and the other three are carved in wood.
History

The exact date and era of the Kileshwor temple is still unknown. However, historically, in the "sandhipatra" (agreement) between Tripurarajkul’s Jayaprakash Malla and Dev Prabhu Thakur in B.S. 1552, the temple and the god of Kileshwor was the witness for the contract. This is the first mentioning of the Kileshwor temple in the history.

Status

Kileshwor suffered partial collapse during the earthquake of 2015. The lower walls were broken, and the temple was just short of a major part collapse. The major damages were on the wall side and the roof portion as well.

Emergency Response:

After the earthquake, the bricks and the other parts were kept around the temples north side. Shorings were not provided to Kileshwor.

Responsible Authorities:

The general management of the Kileshwor before the earthquake was done by the guthisaasthan pujari. The generations of Shiva Narayan Bhatta’s pujari were taking care of the Kileshwor Mahadev. But for the restoration works, in the past, DoA had been the leading body. After the earthquake, the responsible authorities were:

- Department of Archaeology
- Heritage and Environment Conservation Fund, Nepal (HECFN)

Documentation:

For the documentation of the Kileshwor, there was a drafted drawing from the NSW Department of Technical and Further Education. This drawing was drafted on 1986 A.D. However, this drawing lacked detail dimensions and sizes. So, taking these drawings are reference, photographic evidences were also accounted for the documentation of the Kileshwor. The photographs were general photographs that was available easily. (see annex)

The process of reconstruction wasn’t documented daily. However, Monument conservation and Durbar care office, Bhaktapur constantly provided report to DoA on the reconstruction of the monument.

Storage and use of Salvage Materials:

The salvage materials were stored in the north area and the important precious parts were stored on the ground floor of the temple. The inventory format was prepared by the DoA office. The security was provided by the armed police force. The overall percentage of salvage materials used were around 50-60%.

Materials used

The overall materials used were bricks with mud mortar. The reconstruction process was consistent to the guidelines provided by the DoA and was aimed to achieve the totality of the old state. The newer wooden carvings were prepared as like the old items by the use of similar nature of woods and carving patterns.

Monitoring Mechanism:
The monitoring was done by the Monument conservation and Durbar Care office, Bhaktapur. Heritage and Environment Conservation Fund, Nepal (HECFN) undertook the reconstruction process on the monitoring of the DoA.

**Community Participations**

The community was involved in the decision makings regarding the detailing in the toran and the other places. Community was consulted and was made aware regarding the reconstruction process. An advisory committee of 4 members including, Main Priest of Changu Narayan, Member from DoA office, Bhaktapur and Ward members is formed led by the ward head, who investigate the matters of public and community participation and community involvement. However, community and the locals hasn’t been involved in the direct reconstruction process.

**Artisans available**

The artisans were hired from the Bhaktapur area. They were the local artisans who were hired for specific carvings of Torans and doors. For the general reconstruction local skilled and semi-skilled labours were mobilized.

**Project Cost**

Budget was allocated for renovation of the temple from HECFN with technical & financial support from John Sanday and associate in 2072.73 The work was completed with supervision by Monument Conservation and Durbar care office, Bhaktapur during 2074 B.S.

3. Shankha Chakra Ganesh

**General Description**

Shankha chakra genesh temple is important temple in Changu Narayan, It lies in few minute western down of the Changunarayan temple courtyard. It is Archaeologically, religiously and culturally important temple around change narayan. The temple is related to son of Mahadev Ganesh .Shankha chakra is a symbol of Hinduism. It was symbolic but artistic in stone which was same as a Shankha (cronch) & Chakra (powerful weapon of god shiva).

**History**

Nobody has known about of this temple regarding the exact date of when and who built it. But archaeological point of view originally it was built in late Malla period because there was an artistic stone Shankha and Chakra which was highly carved & placed in temple area. This temple was collapsed in 1934 AD earthquake or before. It wasn’t built again. The remaining brick wall was found & some images which were related to bisnu / narayan are situated. Also, some other artifact was available in site.

**Status**

This temple was already demolished by the earthquake of 1990 B.S and wasn’t rebuilt again. The temple was only built after the earthquake.
Responsible authorities

The responsible authorities were:

- Department of Archaeology
- Bhaktapur Monument Conservation and Care Office

Documentation:

For the documentation of the Shankha Chakra, there was no any images or documentation regarding the temple’s form. The temple was excavated, plinth was located from the foundation and the temples roof structure was taken out. The drawings were prepared by the DoA.

The process of reconstruction wasn’t documented daily. However, Monument conservation and Durbar care office, Bhaktapur constantly provided report to DoA on the reconstruction of the monument.

Materials used

The overall materials used were bricks with mud mortar. The reconstruction process was consistent to the guidelines provided by the DoA and was aimed to achieve the totality of the old state temples of the past. The newer wooden carvings were prepared using old techniques and so on.

Monitoring Mechanism:

The monitoring was done by the Monument conservation and Durbar Care office, Bhaktapur.

Community Participations

The community was involved in the decision makings regarding the detailing in the toran and the other places. Community was consulted and was made aware regarding the reconstruction process. An advisory committee of 4 members including, Main Priest of Changu Narayan, Member from DoA office, Bhaktapur and Ward members is formed led by the ward head, who investigate the matters of public and community participation and community involvement. However, community and the locals hasn’t been involved in the direct reconstruction process.

Artisans available

The artisans were hired from the Bhaktapur area. They were the local artisans who were hired for specific carvings of Torans and doors. For the general reconstruction local skilled and semi-skilled labours were mobilized.

Project Cost

DoA allocated 22 lakhs budget for reconstruction and Monument conservation and care office, Bhaktapur prepared drawing and estimate for reconstruction.
4. Amatya Sattal

General Description

The *sattal* enclosing the Changu Narayan courtyard consists of two principle units— the Chaughera*Sattal* and the Amatya*Sattal*, which were of simple design and basic construction. These structures were formerly living spaces for the officiating priests (*pujari*) and pilgrims attending them any festivals that take place at Changu Narayan. The Amatya *Sattal*, which occupies the southern side of the courtyard, prior to the earthquake, had been used by the Living Traditions Museum. Previously this *sattal* had been restored by the Department of Archaeology several years ago and the structure was upgraded by the LTM (Living Traditions Museum) to suit their purposes.

History

The Sattal is supposed to have been built during the Shah period for the security of the temple area. It was believed to have been completely collapsed during the earthquake of 1990. And was rebuilt afterwards by JuddhaShumsher.

Status

The sattal was completely collapsed by the earthquake of 2015. The monument collapsed immediately after the earthquake.

Emergency Response

Immediately after the earthquake, locals searched the debris for any casualties. There weren’t any. However, the tudals and the important artefacts from the museum was collected by the team of rescue police and was classified and the inventory was done and kept safely under the supervision of the police.

Responsible Authorities:

The general management of the Amatya*Sattal* before the earthquake was done by the Living Traditions Museum group. Even the minor restorations before were carried out by the Living Tradition Museum (LTM). After the earthquake, the responsible authorities were:

- Department of Archaeology
- Heritage and Environment Conservation Fund, Nepal (HECFN)
- Living Traditions Museum

Documentation:

For the documentation of the Amatya*Sattal*, there was a drafted drawing from the NSW Department of Technical and Further Education. This drawing was drafted on 1986 A.D.
However, this drawing lacked detail dimensions and sizes. So, taking these drawings as reference, photographic evidences were also accounted for the documentation of the Amatya Sattals. The photographs were general photographs that was available easily. (see annex)

The process of reconstruction wasn’t documented daily. However, Monument conservation and Durbar care office, Bhaktapur constantly provided report to DoA on the reconstruction of the monument.

Storage and use of Salvage Materials:

The salvage materials were stored in the north area and the important precious parts were stored on the ground floor of the temple. The inventory format was prepared by the DoA office. The security was provided by the armed police force. The overall percentage of salvage materials used were around 20-30%

Materials used

The overall materials used were bricks with mud mortar. The reconstruction process was consistent to the guidelines provided by the DoA and was aimed to achieve the totality of the old state. The newer wooden carvings were prepared as like the old items using similar nature of woods and carving patterns.

Monitoring Mechanism:

The monitoring was done by the Monument conservation and Durbar Care office, Bhaktapur. Heritage and Environment Conservation Fund, Nepal (HECFN) undertook the reconstruction process on the monitoring of the DoA.

Community Participations

The community was involved in the decision makings regarding the detailing in and the overall forms. Community was consulted and was made aware regarding the reconstruction process. An advisory committee of 4 members including, Main Priest of Changu Narayan, Member from DoA office, Bhaktapur and Ward members is formed led by the ward head, who investigate the matters of public and community participation and community involvement. However, community and the locals weren’t involved in the direct reconstruction process.

Artisans available

The artisans were hired from the Bhaktapur area. They were the local artisans who were hired for specific carvings and doors. For the general reconstruction local skilled and semi-skilled labours were mobilized.

Project Cost

Allocated budget for the restoration of the Sattal by Heritage & Environment Conservation Foundation Nepal (HECFN) and Living Tradition Museum base in 50/50 in conjunction with John Sanday Associates Pvt. Ltd. (JSA). Due to the lack of fund the work was stopped for few months. Then Changu Narayan municipality provided Rs.18 lakhs as fund. After that reconstruction of Structure was completed and internal finishing work was completed on 2075.
5. Sarswati Temple

General Description

Saraswoti Temple Located in Saraswotikhel, Changu Narayan Municipality is the temple of Hindu goddess of knowledge, music, arts, wisdom and learning, saraswotimata. Every year on Saraswoti Puja thousands of people come to visit this temple.

History

According to Brahma Vaivarta Purana, Lord Vishnu had three wives Lakshmi, Saraswati and Ganga. Due to their constant quarrel some nature among them. Once Ganga tried to be close with Vishnu, this rebuked Saraswati but Lakshmi tried to pacify them but faced a curse rather. As per the curse, Lakshmi to appear as Tulasi. Saraswati cursed Ganga to run as a river in the world and Saraswati was cursed to run as a river in the netherworld. After this, Lord Vishnu transformed and became Brahma and Shiva to pacify Saraswati and Ganga. The temple was believed to have been built during the Malla period.

Status

The temple was critically damaged after the earthquake and had to be dismantled safely for further reconstruction.

Responsible Authorities:

The general management of the Sarswati Temple before the earthquake was done by the locals. After the earthquake, the responsible authorities were:

- Department of Archaeology
- Heritage and Environment Conservation Fund, Nepal (HECFN)

Documentation:

For the documentation of the photographic evidences were accounted. The debris was measured and the drawings were prepared by the DoA.

The process of reconstruction wasn’t documented daily. However, Monument conservation and Durbar care office, Bhaktapur constantly provided report to DoA on the reconstruction of the monument.

Storage and use of Salvage Materials:

The salvage materials were not used highly. The temple had to be dismantled and only few percentages of salvage was used. 0-5%

Materials used

The overall materials used were bricks with mud mortar. The reconstruction process was consistent to the guidelines provided by the DoA and was aimed to achieve the totality of the old state.

Monitoring Mechanism:

The monitoring was done by the Monument conservation and Durbar Care office, Bhaktapur and the Changu Narayan municipality.

Community Participations
The locals were involved in the decision makings regarding the detailing in and the overall forms. Community was consulted and was made aware regarding the reconstruction process. An advisory committee of 4 members including, Main Priest of Changu Narayan, Member from DoA office, Bhaktapur and Ward members is formed led by the ward head, who investigate the matters of public and community participation and community involvement. However, community and the locals weren't involved in the direct reconstruction process.

**Artisans available**

The artisans were hired from the Bhaktapur area. For the general reconstruction local skilled and semi-skilled labours were mobilized.

**6. Chinnamasta Temple**

**General Description**

Chinnamasta is associated with the concept of self-sacrifice as well as the awakening of the kundalini-spiritual energy. She is considered both as a symbol of self-control on sexual desire as well as an embodiment of sexual energy, depending upon interpretation. She symbolizes both aspects of Devi: a life-giver and a life taker. Her legends emphasize her sacrifice- sometimes with a maternal element, her sexual dominance and her self- destructive fury. Though she enjoys patronage as part of the Mahavidyas her individual temples-mostly found in Northern India and Nepal-and individual public worship is rare, due to her ferocious nature and her reputation of being dangerous to approach and worship. Her individual worship is restricted to heroic, Tantric worship by Tantric, Yogis and renounces.

**History**

The earlist of this temple is dated by Benrad to the late 17th century. Goddess Chhinnamasta is considered as the Hindu God of Courage and Judgment, and comes in the fifth position among the 10 Mahavidyas. Chhinnamasta is also known by the names Chhinnamastika and Prachanda Chandika. When compared to other Goddess she is believed to be in utmost furious form. Since she sacrificed herself by cutting the head she came to know by the name Chhinnamasta. She is supposed to be the other form of Vajrayogini who had sacrificed by removing her own head. Chhinnamasta also has cut-off her own head with a supreme sword and held the severed head in one of her hands. One of the three jets of blood that ejected out from her bleeding neck is directed to the mouth of her removed head whereas the other two blood ejections to the mouths of her associates, this signifies the spiritual success over desires by self-control with powers of mind. The temple is also mentioned in the SandhiPatra in 1555 B.S.

**Rehabilitation History**

The temple was believed to be rehabilited in B.S 1736 where the wooden Toran was established into it by the Malla kings. It was believed there had been minor reconstruction prior to the 1990s earthquake in 1986 B.S. After the earthquake, JuddhaShumsher ordered for the minor restoration for the damages caused by the earthquake.
Status

The temple was critically damaged by the earthquake of 2015. The temple was just short of collapse due to the shock. There were cracks in the walls and the roof was also bent. The analysis showed that for the restoration, dismantling of the temple had to be done first.

At present the reconstruction of the walls and the plints area is completed and the roof area of the temple is being reconstructed.

Emergency Response:

After the damage, the major parts of the structure collapsed. It also caused the death of the then priest’s mother to be trapped and was killed in the collapse. Police and the locals removed the debris for the rescue of the women who was trapped inside. However, the tudals and the important artefacts from the temple was collected by the team of rescue police and was classified and the inventory was done and kept safely under the supervision of the police.

Responsible Authorities

The general management of the Chinnamasta Temple before the earthquake was done by the locals. After the earthquake, the responsible authorities were:

- Department of Archaeology

Documentations

For the documentation of the Chinnamasta, there was a drafted drawing from the NSW Department of Technical and Further Education. This drawing was drafted on 1986 A.D. However, this drawing lacked detail dimensions and sizes. So, taking these drawings are reference, photographic evidences were also accounted for the documentation of the Chinnamasta. The photographs were general photographs that was available easily. (see annex)

The process of reconstruction wasn’t documented daily. However, Monument conservation and Durbar care office, Bhaktapur constantly provided report to DoA on the reconstruction of the monument.

Storage and use of Salvage Materials:

The salvage materials were stored in the north area and the important precious parts were stored on the ground floor of the temple. The inventory format was prepared by the DoA office. The security was provided by the armed police force. The overall percentage of salvage materials used were around 20-30%

Materials used

The overall materials used were bricks with mud mortar. The reconstruction process was consistent to the guidelines provided by the DoA and was aimed to achieve the totality of the old state. The newer wooden carvings were prepared as like the old items using similar nature of woods and carving patterns.

Monitoring Mechanism:

The monitoring was done by the Monument conservation and Durbar Care office, Bhaktapur. Heritage and Environment Conservation Fund, Nepal (HECFN) undertook the reconstruction process on the monitoring of the DoA.
Community Participations

The community was involved in the decision makings regarding the detailing in and the overall forms. Community was consulted and was made aware regarding the reconstruction process. An advisory committee of 4 members including, Main Priest of Changu Narayan, Member from DoA office, Bhaktapur and Ward members is formed led by the ward head, who investigate the matters of public and community participation and community involvement. However, community and the locals weren’t involved in the direct reconstruction process.

Artisans available

The artisans were hired from the Bhaktapur area. They were the local artisans who were hired for specific carvings and doors. For the general reconstruction local skilled and semi-skilled labours were mobilized.

Project Cost

The reconstruction was given by a direct contract process by the DoA. The estimate and the final drawings was prepared by the DoA and the project cost is said to have been within the estimations of the monument.

7. Chaughera Sattal

General Description

The sattal enclosing the Changu Narayan courtyard consists of two principle units— the ChaugheraSattaland the AmatyaSattal, which were of simple design and basic construction. These structures were formerly living spaces for the officiating priests (pujari) and pilgrims attending the many festivals that take place at ChanguNarayan. The ChaugheraSattal, occupying the east, north and west sections of the courtyard, was formerly a pilgrimage rest house and, prior to the 2015 earthquakes, was used by the local community for various activities, mostly on the lower level. Three priests (pujaris) responsible for daily worship were provided accommodation in these structures as well.

History

The Sattal is supposed to have been built during the Shah period for the security of the temple area. It was believed to have been completely collapsed during the earthquake of 1990. And was rebuilt afterwards by JuddhaShumsher.

Status

The Sattal area was collapsed and critically damaged by the earthquake. Most of the Sattal area is critically damaged and for the reconstruction of the Sattals, the whole Sattal had to be dismantled first.
Emergency Response

The damage of Sattals caused a lot of state of panic as they collapsed entirely. On the south west part, a lady shopkeeper was trapped inside the debris. Locals and the police group rescued her safely. However, the wooden windows and the important artefacts from the temple was collected by the team of rescue police and was classified and the inventory was done and kept safely under the supervision of the police.

Responsible authorities:

In the beginning the HECFN was responsible for the reconstruction of the Sattal area. However due to the lack of funding, HECFN pulled out of the project and then tender was announced. The tender went to Lumbini Construction, SonuSuwal Constructions and Pawan Construction Joint Venture. The drawings and estimate was provide by the DoA. The responsible authorities are:

- Lumbini, SonuSuwal and Pawan JV
- Department of Archeology

Documentations

For the documentation of the ChaugheraSattals, there were less amount of drafted drawing from the NSW Department of Technical and Further Education. This drawing was drafted on 1986 A.D. Due to the lacked detail drawings the debris were measured before dismantling. So, taking these informations are reference, photographic evidences were also accounted for the documentation of the ChaugheraSattals. The photographs were general photographs that was available easily. (see annex)

For the various decisions, Priest and the locals were also consulted while preparing the drawings. There has been subsequent changes in the doors sizes and the window sizes during the consultation of the locals.

The process of reconstruction wasn’t documented daily. However, Monument conservation and Durbar care office, Bhaktapur constantly provided report to DoA on the reconstruction of the monument.

Storage and use of Salvage Materials:

The salvage materials were stored in the north area and the important precious parts were stored on the ground floor of the temple. The inventory format was prepared by the DoA office. The security was provided by the armed police force. The overall percentage of salvage materials used were around 10-15%. For the plinth, the salvage materials were used heavily and the wooden members were classified and reused.

Materials used

The overall materials used were bricks with mud mortar. The reconstruction process was consistent to the guidelines provided by the DoA and was aimed to achieve the totality of the old state. The newer wooden carvings were prepared as like the old items using similar nature of woods and carving patterns.

Monitoring Mechanism:
The monitoring was done by the Monument conservation and Durbar Care office, Bhaktapur. The local committee led by Ward chief also facilitates as the monitoring and consulting body.

Community Participations
The community was involved in the decision makings regarding the detailing in and the overall forms. Community was consulted and was made aware regarding the reconstruction process. An advisory committee of 4 members including, Main Priest of Changu Narayan, Member from DoA office, Bhaktapur and Ward members is formed led by the ward head, who investigate the matters of public and community participation and community involvement. However, community and the locals weren’t involved in the direct reconstruction process.

Artisans available
The artisans were hired from the Bhaktapur area. They were the local artisans who were hired for specific carvings and doors. For the general reconstruction local skilled and semi-skilled labours were mobilized.

Project Cost
The estimated tender cost is around 16 crore 76 lakhs, 29 thousand. The project is estimated to be completed in B.S. 2078. At first the reconstruction process retaining walls were built to stabilize the foundation and the further reconstruction is going on. As of this month only 10-15% of work has been completed.

Works was started from west wings of courtyard. The work of west wing's west south block A,B & D reconstruction of foundation was completed and North east corner foundation work was also completed. Supporting stone machinery retaining wall of north west corner was completed out of old wall where the land slide problem was accrued every year. Stone machinery work was new out of contract, so it was necessary to prepare the variation, so DoA prepared revised estimate to forward for approval. Some elevation problem of Kilesworsattal wings accrued so DOA tried to discuss with local related person and we finalized the outer part elevation and location of stair case, design of window and size of window. Then it finalized the drawing and ground floor wooden post of A & B block which is reusable. Some work of making wooden part was also started. Also dismantling work of east north corner has been completed.

8. BhimsemPati

General Description
BhimsemPati lies blow the temple square and is a small pati used by locals and priest. It is considered to be one of the important pati within the Changu Monument premise.

History
According to the locals the Bhimsenpati was originally built during the Malla period and is supposedly older than the rest of the ChaughheraSattals and pati. It was believed to have been slightly affected by the 1990 earthquake. The restoration of the BhimsenPati was done in 2053 by DoA.
Status

After the 2015 earthquake, the pati was partially damaged. However, for the reconstruction of the pati, the entire structure had to be dismantled. At present, dismantling work is going on.

Emergency Response:

After the earthquake, shoring was provided to the pati and its salvage materials were stored right next to the Pati and the locals and the police provided security for the salvage bricks.

Responsible Authorities

It is recommended that its rehabilitation programme and that all structural repairs and reconstruction are carried out under the supervision of the Bhaktapur Monument Conservation and Care office hold the collection of material and artefacts. The damaged Sattal structure will dismantle safely and store all material sattal premises. For the construction of the pati, SonuSuwal Constructions is the leading body. The bodies are:

- Sonu Suwal Construction
- Monument Conservation and Care office
- Department of Archeology

Documentations

For the documentations. The debris was measured, and the photographic evidence was accounted for. The drawing was prepared by the Department of Archeology. For the various decisions, Priest and the locals were also consulted while preparing the drawings.

The process of reconstruction wasn’t documented daily. However, Monument conservation and Durbar care office, Bhaktapur constantly provided report to DoA on the reconstruction of the monument.

Storage and use of Salvage Materials:

The salvage materials were stored in the periphery of the pati premise. The inventory format was prepared by the DoA office. The security was provided by the armed police force. The overall percentage of salvage materials to be used is estimated to be 0-5%.

Materials used

The overall materials to be used are bricks with mud mortar. The reconstruction process shall be consistent to the guidelines provided by the DoA and will be aimed to achieve the totality of the old state. The newer wooden carvings are prepared as like the old items using similar nature of woods and carving patterns.

Monitoring Mechanism:

The monitoring will be done by the Monument conservation and Durbar Care office, Bhaktapur. The local committee led by Ward chief shall also facilitate as the monitoring and consulting body.

Community Participations

The community are involved in the decision makings regarding the detailing in and the overall forms. Community are consulted and are made aware regarding the reconstruction process. An advisory committee of 4 members including, Main Priest of Changu Narayan,
Member from DoA office, Bhaktapur and Ward members is formed led by the ward head, who investigate the matters of public and community participation and community involvement. However, community and the locals shall not be involved in the direct reconstruction process.

Artisans available

The artisans are hired from the Bhaktapur area. They are the local artisans who are hired for specific carvings. For the general reconstruction local skilled and semi-skilled labours shall be mobilized.

Project Cost

Nepal Government allocated 40 Lakhs budget from this fiscal year to start the reconstruction work with procurement system. The estimate, drawing & report were prepared and forward to Department of Archaeology for approval. Tender was awarded to contractor SonuSuwal Constructions and agreement was going on.

These are the ongoing project of reconstruction and restoration carried out by DoA and other bodies.

4. Plan for rehabilitation of the remaining damaged monuments:

The general plan for the rehabilitation of the remaining damaged monuments are tabulated below:

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Name of the monument</th>
<th>Reconstructing Body:</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Laxmi Narayan</td>
<td>DoA, (HECFN has showed its interest, not yet finalized)</td>
<td>Planning phase</td>
</tr>
<tr>
<td>2.</td>
<td>BalambuPati</td>
<td>DoA, SonuSuwal</td>
<td>To be started shortly</td>
</tr>
<tr>
<td>3.</td>
<td>Shiva Temple</td>
<td>DoA</td>
<td>To be started</td>
</tr>
<tr>
<td>4.</td>
<td>Badeshowr</td>
<td>DoA (for the moment, not fixed)</td>
<td>Planning phase</td>
</tr>
<tr>
<td>5.</td>
<td>Dakshin Narayan</td>
<td>DoA (for the moment, not fixed)</td>
<td>No substantial works</td>
</tr>
<tr>
<td>6.</td>
<td>KarmacharyaPati</td>
<td>Municipality has shown its interest (for the moment, not fixed)</td>
<td>No substantial works</td>
</tr>
</tbody>
</table>

Description based on the table above:

1. Laxmi Narayan

General Description

It is the another temple devoted to Laxmi-Narayan. There is a statue of the Laxmi Narayan inside the temple. It is also believed to have been built during the Kileshowr temple during the 1700s era by Malla kings.
History

The Laxmi Narayan Temple was built in 1770 at about the same time as the Kileshwor Temple and the quality of woodcarving in both temples, appears to be the same and of fine quality. Prior to the 1934 earthquake local villagers recall that the Laxmi Narayan Temple is known to have had a second upper roof. The temple suffered partial collapse in 1990 earthquake and as a result of this seismic action and during the time Juddha Shumsher only partially rebuilt it with a single roof.

Status

The recent earthquakes in 2015 completely flattened the temple to its plinth level. The monument suffered total shear failure and collapsed completely.

Emergency Response

After the earthquake, locals and police were mobilized for the management of the debris. Parts of its timber structure and several carved struts and columns have been rescued and stored for safekeeping. Following further searches other pieces of the temple have come to light. And it is likely that further pieces will be identified within the Changu Narayan Complex. All the timbers are said to have been collected and stored, but the brickwork has been treated as rubble and cleared away. There is evidence that the original brickwork used was the traditional slip glazed bricks (dachheappa).

However, the wooden windows and the important artefacts from the temple was collected by the team of rescue police and was classified and the inventory was done and kept safely under the supervision of the police.

Vandalism and theft

Due to the lack of effective management, the original shrine of Laxmi Narayan statue was stolen and also the Puja materials, such as Argha, Metal pots etc. were stolen.

Responsible authorities

In the beginning HECFN took over the reconstruction of the temple. HECFN proposed the reconstruction of the temple as two-tired temple which is believed to the original state of the temple before the earthquake. The plinth, tudal also show consistency in the claim of the temple being two-tiered temple in the past. Also, the fact that the other Laxmi Narayan temple of the valley are also two-tired. However, due to the lack of strong photographic evidences and drawings DoA, rejected the proposal. HECFN had its funding pulled and the work has been stalled ever since. There are still discussions regarding on whether the temple should be built as two-tired or single tired. The DoA is currently looking after this matter.

Documentation

For the documentation of the Laxmi Narayan, there are drafted drawing from the NSW Department of Technical and Further Education. This drawing was drafted on 1986 A.D. However, as mentioned above, there are still discussions regarding on whether the temple should be built as two-tired or single tired. The DoA is currently looking after this matter. (see annex)
Storage and use of Salvage Materials:

The salvage materials are stored in the south wing area and the important precious parts has been stolen. The inventory format was prepared by the DoA office. The removal of Gajur and the gilded roof covering has been completed, and they were carefully marked, inventory was done and carefully stored at ground floor of the temple itself on presence of Department of Archaeology, Armed police force, committee member and contractor. The damaged temple structure is dismantled safely and stored all material of archaeological importance.

Present Situation

At present the current situation is rather complicated. HECFN has continued to show its interest and the further decisions has not been made regarding this matter formally by the DoA

2. BalambuPati

General Description and Status

The ChaugheraSattal, occupying the east, north and west sections of the courtyard, was formerly a pilgrimage rest house and, prior to the 2015 earthquakes, was used by the local community for various activities, mostly on the lower level. Three priests (pujaris) responsible for daily worship were provided accommodation in these structures as well.

Out of the Changu Narayan temple premises there are many small pati which some are major damaged some are minor damaged by earthquake 2015 April may. Among them Balambupati was also major damaged which was close/attached to private house. It was risk for people so local concern people complain for dismantle. DOA has managed some budget and dismantle top floor and kept it only ground floor.

Rehabilitation and Present Situation

The damaged Sattal structure is dismantled safely and stored all material of archaeological importance in Temple premises. Nepal Government’s DOA had done MoU to Heritage and Environment Conservation Foundation, Nepal for rehabilitation, reconstruction, conservation and renovation of all the monuments of Change Narayan World Heritage zone. But they have lack of fund and work wasn’t run therefore Nepal Government allocated some budget from last fiscal year to start the reconstruction work with procurement system. Detail estimation and propose drawing made from Monument Conservation and Durbar care office, Bhaktapur in last fiscal year. But some local problem the work is not done. This year also allocated some budget and Contract was given to Kiran construction with contracting amount 14,58,791.25 till 30 jestha 2076. Work was completed.

This fiscal year also allocated 35 lakh budgets for reconstruction of second balambupati. we prepared drawing, estimate and report for approval. Tender was to the SonuSuwal Constructions and agreement is going on.
It is recommended that its rehabilitation programme and that all structural repairs and reconstruction are carried out under the supervision of the Bhaktapur Monument Conservation and Care office hold the collection of material and artefacts.

3. Shiva Temple

Inside the Changu Narayan temple premises there are many small temples which some are major damaged some are minor damaged by earthquake 2015 April / May. Among them Shiva Temple close to west of ChhinnaMasta Temple was also completely collapsed. Historically, archaeologically and religiously it was important. Every pilgrimage visited this temple.

Present State of Monument Restoration\Reconstruction

It is recommended that Monument Conservation and Durbar care office, Bhaktapur assists its rehabilitation programme and that all structural repairs and reconstruction are carried out under the supervision of the Monument Conservation and Durbar care office, Bhaktapur hold the collection of loose sculptures and artefacts. There is an urgent need for the reconstruction of the monument and the further process are going on.

Documentation

For the documentation of the Laxmi Narayan, there are drafted drawing from the NSW Department of Technical and Further Education. This drawing was drafted on 1986 A.D. (see annex)

Further process and procedure are going on to decide where the reconstruction is given to SonuSuwal or direct contract process.

4. Other monuments

The other monuments such as Badesahwor, Dakshin Narayan and Karmacharyapati are also awaiting further decisions on the reconstructions. Among of the KarmacharyaPati was damaged during the 1990s earthquake and hasn’t been rebuilt ever since. The municipality has shown its interest to reconstruct the Karmacharyasattal. However, no concrete decisions have been made regarding this.
5. Plan for Rehabilitation of Urban Fabrics

For the rehabilitation of the urban fabrics that has been damaged during the earthquake of the 2015, reconstruction has been going on.

The owners of the residence have started the reconstruction massively. The municipality has been monitoring the façade and the materials used for the reconstruction.

![Figure 7: Affected zone in the urban fabrics.](image)

The ongoing plans are:

- Guidelines for the façade inside the core zones must be followed
- Municipality monitors the drawings, and construction materials
- 35% rebate is offered on the traditional wooden materials. Previously it was 60-75%. However, after the earthquake the percentage was reversed.

6. Overall conclusions and recommendations

The reconstruction in the Changu Narayan hasn’t been top notch to say the least. The drawings from NSW, lack detail dimensions and the positioning in details. It is also notable that the profile section is incorrect in the drawings. Due to the severe lack of drawings and the specific photographs, the reconstruction work has been pushed away. Similarly, lack of proper management from the police and concerned authorities has caused theft of Laxmi Narayan Temple shrine and other materials. Changu Narayan has been reopened to public for almost 3 years and there is a genuine threat of vandalism and halt in the construction process. Also, the change in the reconstructing body from HECFN, to the tender process was rather demotivating in regard to the reconstruction process. Also, public has shown the distress in the lack of direct involvement in the reconstruction process.

However, it is praiseworthy that the reconstruction process reflects the ethos of the conservation and is consistent to the old designs. The reconstruction process shall be focused to be completed in time as far as possible.
7. References


8. Annex: Drawings from NSW Foundation
Changu Narayan
SOUTH ELEVATION
V.M.Z. 3: 1
Established in the 6th Century A.D.
Rebuilt in 1714.

Pilgrim Rest House and Water Fountain
SOUTH ELEVATION
SECTION B - B
V.M.Z. 56
Of unknown date.

Pilgrim Rest House and Water Fountain
EAST ELEVATION
V.M.Z. 56
Of unknown date.
Garuda
VM:23.15
Statue dating from the 5th century A.D.

Kileshwar Mahadev
VM:28.14
Built in circa 1774

Lakshmi Narayan
VM:29.12
Originally built in circa 1680.

Lakshmi Narayan
VM:29.13
Originally built in circa 1680.
ANNEX 8

Bhairav
V.M.Z.9. 13
Of unknown date.

Reject Elephant
V.M.Z.9. 9
Established in the 5th Century A.D.

Vishwarupa
V.M.Z.9. 11
Carvings dating from the 6th century A.D.
ANNEX 8

Chhinna Masta
V.M.Z.S. 9
Originally built in circa 1680.
Extensively altered 1965.

Ganesh
V.M.Z.S. 8
Built in 1930.

Avalokiteshvara
V.M.Z.S. 7
Of unknown date.

Mahadev
V.M.Z.S. 10
Built in 1935.
KATHMANDU VALLEY WORLD HERITAGE SITE
(Nepal) (C 121 bis)
FEBRUARY 2021

Submitted by:
Government of Nepal
Ministry of Culture, Tourism and Civil Aviation
DEPARTMENT OF ARCHAEOLOGY
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3. BHAKTAPUR DURBAR SQUARE PROTECTED MONUMENT ZONE
4. BAUDDHANATH PROTECTED MONUMENT ZONE
5. SWAYAMBHU PROTECTED MONUMENT ZONE
6. PASHUPATI AREA PROTECTED MONUMENT ZONE
7. CHANGU NARAYAN PROTECTED MONUMENT ZONE

ANNEX
Photo Inventory on Progress of Post-Earthquake Conservation and Rehabilitation of Cultural
Heritage of Kathmandu Valley World Heritage Property, 2021 (associate in a separate pdf file)
Introduction

The seven Protected Monument Zones, which are very important for the archaeological, historical, cultural, religious and many other values, were enlisted on the World Heritage list in 1979 as Kathmandu Valley World Heritage Property. The seven in one site consists, Hanuman Dhoka Durbar Square, Patan Durbar Square, Bhaktapur Durbar Square, Swayambhu Baudha, Pashupati and Changu Narayan Protected Monument Zones. Department of Archaeology is the sole national authority of Government of Nepal for the conservation and management of the World Heritage property of Nepal.
Information on Management and Awareness Activities

1. Coordinative Working Committee Meetings (CWC)
   Secretariat of CWC is based in the Department of Archaeology, as the Head of World Heritage Conservation Section chairs it as per the provision of Integrated Management Framework for Kathmandu Valley World Heritage Property.
   CWC has been conducted series of meetings as usual, 13 meetings were held during these two years after 43rd session in 2019. CWC has been mobilized more actively beyond its usual activities in the post earthquake situation and conservation work has been more focused on the earthquake affected monuments. After the earthquake 2015 CWC has been discussing on the ‘coordination plan’ actively for better coordination among the responsible stakeholders, authorities and Department of Archaeology in regard to conservation, restoration and rehabilitation of earthquake affected monuments and sites.

2. III Cycle of Periodic Reporting in Asia and the Pacific Region
   Nepal, as one of the States Parties to the World Heritage Convention 1972, continuously following the each and every provision of convention and its legal tools since its membership. Therefore, Nepal has been actively participating and taking its responsibilities during the six years cycles of Periodic Reporting since 2003. The III Cycle of Periodic Reporting in the Asia and the Pacific has started in the last October, in which Nepal has been continuously taking part actively and submitted Section I within the given deadline and section II will also be completed and submitted. In this process, all of the site managers, who are the members of Coordinating Working Committee (CWC) for the management of Kathmandu Valley World Heritage Property; have been actively participating as DoA mobilized CWC as all of the site managers are members of the committee.

   The Post-Earthquake Conservation Manual, 2073, prepared by Department of Archaeology, and promulgated by Government of Nepal has been actively implemented in the cultural heritage conservation and rehabilitation activities. All the Post-Earthquake Conservation, Reconstruction and Rehabilitation activities have been done as per the provisions of conservation guidelines, which has been implemented in 2072 (2016) and the manual which has some provisions that address to the Disaster especially the Earthquake for the first time in connection to the cultural heritage conservation and management in Nepal.

4. Establishment of CHIMS
   Cultural Heritage Information Management System (CHIMS), a database and a documentation system has been establishing at DoA. Establishment of Cultural Heritage Information Management System (CHIMS) in Department of Archaeology is an important achievement on cultural heritage documentation and information management. A separate Documentation Unit in coordination of World Heritage Conservation Section under the Head of WHC section has also established in DoA. It is aimed to develop a fully scientific documentation database system of cultural heritage of Nepal. During the pandemic of COVID '19, the activities have been carried out continuously, which is targeted to be launched within coming few months.

5. Continuation of Conservation Projects During the Pandemic of COVID-19
   The Novel Corona Virus (COVID-19) pandemic that affected the economy and various other activities in the world, also affected various development activities including cultural heritage conservation and preservation also in Nepal. Owing to the Novel COVID-19 pandemic and the consequent enforcement of lockdown by the government not only hindered community interaction but also affected tangible and intangible cultural heritage.
The lock-down caused by COVID 19 pandemic also has largely impacted after the earthquake rehabilitation work. Almost for three months, all the restoration work remained completely stopped. The lockdown affected the production and supply of construction materials, availability of labors or craftsmen and supervision of the government authorities. However, keeping everything aside, the Department of Archaeology and various other authorities involved in cultural heritage conservation and rehabilitation have already started the hindered conservation works.

6. Publication of Photo Inventory
Publication of Photo Inventory Book is continued. First photo book was published in last fiscal year. The second series of the Photo Inventory Book is being published soon. The second series is comprising photographs of 103 monuments which were affected by the earthquake and the conservation is completed.

7. Review of Integrated Management Plan (IMP)
The Integrated Management Plan (IMP) for Kathmandu Valley World Heritage Property is under the reviewing process. Budget has allocated for reviewing the IMP, which will be completed within the current Fiscal Year 2077/78 (Mid July 2021). DoA has already started reviewing process organizing various level of discussion and interaction program with experts and related stakeholders.

8. Training on Capacity Building
Several trainings on capacity building especially on earthquake recovery and first aid, heritage conservation process and procedure, scientific documentation etc. have been organized by different national and international organization in close coordination with the Department of Archaeology. Salvaging and rescue training for DoA officials was organized by a joint team of ICCROM, ICOMOS, UNESCO and DoA; 'Capacity Building Training on Post-Earthquake Conservation and Rehabilitation of Cultural Heritage' was organized by Ritsumeikan University, Japan targeting to DoA engineers, archaeological officials and contractors and their working staffs as well; 'First Aid to Cultural Heritage in Time of Crisis' was organized by ICCROM, UNESCO and Smithsonian Institute in close coordination with DoA; Two different training program as 'Training for Mason and Other Workers' and 'Skill Enhancement Training for Mason and other Skill's human resources were organized by Department of Archaeology; and a weeklong training on 'Documentation and Photographic Records to DoA officials was organized by ACCU Nara, Japan.

9. Awareness Programs for the Stakeholders
Assessing the need and also the positive result of the program, as in previous fiscal year, budget has allocated for awareness programs focusing to the various stakeholders of cultural heritage and heritage site protection, conservation and management. In the running fiscal year, not only the stakeholders of World Heritage Properties but also the other municipalities are planned to gather and share and exchange information as the awareness program. This program has been extending through the Engineers Network of Municipalities within the Kathmandu Valley in collaborative activities since 2016; which includes the Mayer of related municipalities as well.

10. Extension of Ring Road (Swayambhun Area)
Ring road extension is a highly prioritized national project of Nepal. Therefore, the stake- authorities are trying to solve this issue with no negative effect to the boundary of Swayambhun Protected Monument Zone and the negative impact to OUV of the site as well. The local stakeholders are also very conscious and come to the point that not to effect or encroach in any aspect of the site.
The Department of Archaeology/Government of Nepal will inform to UNESCO World Heritage Committee through its secretariat later if there will be any significant affect accordingly.
11. Submission of English version of Pashupati Master Plan

The Department of Archaeology would like to express its humble thanks for UNESCO's further concern on the Proposed Master Plan for Pashupati Protected Monument Zone prepared by Pashupati Area Development Trust. So far UNESCO has requested to submit the English version of the Master Plan, Department would like to inform you that the Proposed New Master Plan has already been withdrawn. Therefore, it has not been translated into English to send to UNESCO World Heritage Center.
Conservation reports from Individual Monument Zones
UNESCO World Heritage Committee sessions, especially the 39th, 40th, 41st, 42nd and 43rd sessions has focused on post earthquake conservation and rehabilitation activities within the Kathmandu Valley World Heritage Property; and in request of Government of Nepal, three UNESCO-ICOMOS/ICCROM Joint Reactive Monitoring Missions were carried out during October-November 2015, March 2017 and October 2019 for Kathmandu Valley.

Since the first one year after the devastating Earthquake, Government of Nepal, Department of Archaeology had to be engaged seriously on work for the better salvaging, sorting, storing and protection of damaged monuments, its components and sites as well. Storing the salvaged components; emergency protection of the monuments and the sites and several other emergency activities in close collaboration with UNESCO Office in Kathmandu, concerning authorities, I/NGOs, local communities and related stakeholders were carried out. Conducting series of meetings and emergency conservation activities, some of which are still continuing; the intense conservation and rehabilitation works have been carried out; some of these activities have been continuously carrying out since the last fiscal year 2072/73 (2015/16). The projects, those are carried out within the Kathmandu Valley World Heritage Property area, are shown as the protected monument zone wise, as following:

Hanumandhoka Durbar Square Monument Zone
As reported in the previous reports, among 170 monuments damaged within Kathmandu Valley World Heritage 39 monuments were in Hanumandhoka Durbar Square. Among those 39 damaged monument many are already restored some are under restoration. Following is the present status of Hanumandhoka Durbar Protected Monument Zone.

<table>
<thead>
<tr>
<th>Restoration Completed</th>
<th>To be completed soon</th>
<th>Ongoing</th>
<th>Budget Allocated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Degutaleju Temple:</td>
<td>1. Kastamandap</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Panchamukhi Hanuman Temple:</td>
<td>2. Das Avatar temple</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Dashain Ghar:</td>
<td>7. Dashain Ghar:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Nagar Ghar:</td>
<td>10. Nagar Ghar:</td>
<td></td>
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<td>11. Maru Sattal:</td>
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<td>12. Tarini Bahal:</td>
<td>12. Tarini Bahal:</td>
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<td>15. Saraswati Temple</td>
<td>15. Saraswati Temple</td>
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<td>17. Bamsagopal Temple</td>
<td>17. Bamsagopal Temple</td>
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<td>19. Shiva temple in front of Singh dhoka (South)</td>
<td>19. Shiva temple in front of Singh dhoka (South)</td>
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1. **Government of Nepal** (Museum Development Committee)
1.1 **Conservation of Panchamukhi Hanuman Temple.**
The conservation work of Panchamukhi Hanuman Temple, a prominent multi roof temple in the palace premises was completed as first completion after the earthquake. The southern wing of the Mohankali chowk is also conserved as well within the same project budget. The project was under taken by the joint fund of Hanuman Dhoka Museum Development Committee and American Ambassadors fund for Culture Preservation; in the supervision
and monitoring by the Department of Archaeology. The conservation work carried out using traditional material, technology and craftsmanship.

1.2 **Conservation of Degu Taleju Temple**
The conservation work of Degu Taleju was completed in fiscal year 2072\73, recently after the earthquake. This temple was also of the monuments damaged by the devastating earthquake.
The Degu Taleju is tutelary deity of Malla Kings. This temple was built by King Shiva Simha Dev in 17th Century. This is one of the important monuments situated within Hanumandhoka durbar complex. The conservation work of this temple is completed with traditional material and technology.

1.3 **Conservation of Taleju Temple**
The conservation of Taleju temple is completed. Taleju Temple is biggest monument and landmark of Kathmandu Durbar Square. Taleju is a tutelary deity of Malla Kings. The temple was affected by the earthquake; especially in top and second roof and all the small 12 temples on the plinth as well. The conservation work of main temple is completed and the small temple structures (Kachhadega – 12 in numbers) built on the plinth of the temple has also completed recently.

1.4 **Conservation of Sweta Vairab Temple**
Conservation of the Sweta Bhairav Temple attached to Degutaleju is already completed. The recently restored temple of Bhairav was partially affected by the earthquake and well shored just after the quake to protect from the further destruction. Hanumandhoka Palace Museum Development Committee had taken total responsibility of the conservation under the close inspection of DoA.

1.5 **Conservation of Natyeshwor Temple**
The conservation of Natyeshwor temple by Hanumandhoka Durbar Museum Development Committee has completed. The temple was partially collapsed due to the earthquake. Replacing mud mortar by lime-surkhi mortar, conservation work is completed with traditional techniques and materials as it was before. Though small in size, the temple inside the palace premises holds the major cultural and religious importance.

2. **Kathmandu Valley Preservation Trust**

2.1 **Conservation of Shiva Temple**
Conservation of the Shiva temple just outside of main gate of Taleju temple is completed. One of two Shiva temples in front of Taleju gate was collapsed and the northern one was badly affected by the earthquake. The total responsibility of conserving the small but beautiful two roofed temple of the right side of the gate which was not collapsed but badly affected was taken by Kathmandu Valley Preservation Trust. Applying the mud mortar the temple is conserved with traditional method and material as it was built before.

2.2 **Conservation of Laxmi Narayan Temple**
Conservation of the Laxmi Narayan temple just backside of Kalbhairab in Hanumadhoka which was badly affected by the earthquake is completed. The total responsibility of conserving this small but beautiful two roofed temple was taken by Kathmandu Valley Preservation Trust. Applying the mud mortar the temple is conserved with traditional method and material as it was built before. Adding few necessary wood, all the wooden members from the temple is reused in conservation.

2.3 **Conservation of Kageshwori Temple**
The Kageswori Temple, on the west of Taleju, originally built in 1681 and rebuilt after the earthquake of 1934 and lastly restored by Kathmandu Valley Preservation Trust (KVPT)
before about ten years of the earthquake in 2015, was partially collapsed. The after earthquake restoration of the temple is completed. The total responsibility of conserving this temple was taken by Kathmandu Valley Preservation Trust (KVPT). The temple is conserved with traditional method and material as it was built before.

2.4 Saraswati Temple
The one storey Nepali style temple dedicated to Goddess Saraswati located on the just south of Bamsagopal temple in Hanumandhoka Palace Square is completed. The temple was not collapsed but affected by the 2015 earthquake. The temple is conserved over the plinth level preserving the original foundation and plinth as it is; and conserved the super structure with minimum intervention reusing all the useable elements of the original temple. The total responsibility of conserving this temple is taken by Kathmandu Valley Preservation Trust (KVPT). The temple is conserved with traditional method and material as it was built before.

3. Government of Nepal (Department of Archaeology)
3.1 Bamsa Gopal Temple (Chyasin Dega) Restoration
The renovation work of Bal Gopal temple also called Chyasing Dega is completed. One of the prominent multi roof temples in octagonal shape, devoted to lord Krishna was completely damaged by the earthquake. The temple is restored by Department of Archaeology. As the temple was built by the massive use of traditional brick, wood and terracotta tiles, full consideration is paid to restore the temple with the use of traditional technique and materials reusing the old wooden components and other elements as much as possible. Since the 'Surkhi mortar', the mixture of lime, sand and brick powder, is accepted as a traditional construction material, Surkhi mortar is used in restoration of the temple instead of mud mortar.

3.2 Pratap Stambha (The Stone Pillar with the Statue of King Pratap Mall)
The Stone Pillar with the metal statue of King Pratap Malla in front of Degu Taleju temple in Hanumandhoka was partially collapsed by the earthquake. The metal statue was fallen with its stone capital part. The statue of King Pratap Malla with his two queens and four sons were badly damaged. It had taken considerable time of skilled artists for the conservation of the damaged metal statue. The huge stone capital of the pillar was lifted using traditional knowledge and technique to set the statue over it. Now the Pratap Stone Pillar is well restored in its original condition.

4. Kathmandu Metropolitan City
4.1 Restoration of Kasthamandap
Kasthamandap also known as Maru Sattal; literally "Wooden Shelter" is a three-storied public resting shelter that enshrined Gorakshanath, situated in Hanumandhoka Protected monument Zone in the Southwestern corner of Durbar Square was completely collapsed by the by the 2015 earthquake. Several myths and stories about the date of the construction of the structure of the Kasthamandap have been resolved with the recent archeological findings. The newly discovered objects during the rescue excavation in the aftermath of the earthquake have suggested that the Kasthamandap may have been built in the 7th century during the Lichhavi era. Before this, it was assumed that the Kasthamandap was built in around the 12th century. A team of national and international experts from the Department of Archaeology (DoA), Government of Nepal and Durham University with the financial support of UNESCO, had conducted a research excavation in the area.
Regarding the restoration of Kasthamandap, it is being restored by the local community led by "Kastamandal Punamirman Committee” with the fund provided by Kathmandu Metropolitan City office.
Under the project funded by UNESCO, all the remaining wooden and other materials of the temple are salvaged and well documented. On the restoration of the temple, all those salvaged reusable elements of the structure are being reused.

4.2 **Mahavisnu Temple**
The temple of Vishnu known as Mahavisnu temple is located on the northwestern corner of Hanumandhoka Durbar Square. The temple was partially affected by the earthquake. However, as the temple was restored few years before the earthquake, a building west of the temple was collapsed and fallen over the Mahavisnu temple damaging the temple structure partially. The western portion of the first roof was more affected and also the brick walls in the ground floor were cracked.
The conservation work of the temple is completed. The total responsibility of the temple conservation was taken by Kathmandu Metropolitan City Office. For strengthening the structural strength of temple the use of wooden elements is increased in considerable number. The temple was conserved skillfully without dismantling the entire structure.

4.3 **Restoration of Nagaraghar**
The Naghara Ghar, big Drum house, built in early 20th Century, situated just north of Bamsagopal temple in Hanumandhoka Palace Square is a monument of cultural and historical significance. The Conservation work of this structure was completed within a year of earthquake. Replacing the mud mortar by lime mortar the house is conserved with traditional method and material as it was built before. Kathmandu Metropolitan City had taken the total responsibility of the conservation under the close inspection of Department of Archaeology.

4.4 **Restoration of Singha Sattal**
The Restoration of Singha Sattal, popularly known as Silyan Sattal (Traditional Rest House) is completed. The Sattal with a shrine of Natyeswar (god of dance) inside it was in dilapidated condition for a long time. Under the direct inspection of DoA, with detail documentation, it is conserved by KMC and Guthi Sansthan. Traditional types of bricks, Jhigati roof tile and timber are the major construction material as it was used before. Since the construction of the structure is traditionally and mythically connected with Kasthamandap, it was believed to be built in the 12th century; since the recent archaeological investigation has proven the Kasthamandapa older than that period, while restoring this monument, the architect and archaeologist involved have paid very careful attention.

5. **Restoration projects by International Assistance**

5.1 **Support from Government of PR China**
The Nine Storey Palace also known as Basantapur Durbar is being conserved under the support of Government of Peoples Republic of China. Government of Nepal and Government of China have signed the MOU to conserve the Nine Storey Durbar along with the adjacent buildings of Bhaktapur tower, Lalitpur tower and Kirtipur tower. Officially the project had launched in 15th August 2017 in the presence of vice president from the China and director general of Department of Archaeology in a special program held in the palace premises. Minimum intervention has been the major modality of the conservation work; and as reported, 80 percent of total work is completed.
Miyamoto Global Relief

5.2 Conservation of Gaddi Baithak
The strengthening work of Gaddi Bhithak is completed. The work has comprised the structural strengthening of the main building of Gaddi Baithk, interior upgrading and structural strengthening work of adjacent building including main entrance of the Gaddi Baithak. The work was completed in two phase.
The Gaddi Baithak situated in Hanumandhoka Protected Monument Zone, in front of Kumari Ghar, is a neo-classical monument building built in 1908 AD by Prime Minister Chandra Samsher Rana. This monument was heavily damaged by the earthquake. Miyamoto Global Disaster Relief had undertaken the total responsibility of repair and structural upgrade of the building with a grant provided by the US Ambassador's Fund of Cultural Preservation. The project was executed under the signed MoU between Department of Archaeology, Government of Nepal and Miyamoto Global Disaster Relief.

6. Local community
6.1 Conservation of Tarini Devi Temple.
The Tarinidevi temple conservation work is completed. The temple of Tarinidevi, also known as Tarini Bahal, in Hanumandhoka protected monument zone, is located outside the palace premises. The temple was targeted to conserve before the earthquake and was more damaged by the earthquake. The temple is conserved in initiative of local community with the mutual fund of municipality and community under the close inspection of the Department of Archaeology.

6.2 Conservation of Shiva Temple
The next Shiva temple in front of Talejhu Gate is also completed. As mentioned above, the temple in the north side was conserved immediately after the earthquake by KVPT and the southern one which was completely collapsed by the earthquake 2015 has also been completed by local community named Newa Guhali Pucha. Since almost all the wooden emblems of the temple were salvaged and well stored with detail documentation, all the reusable carved wooden emblems are reused in the restoration work. The temple is restored using mud mortar as it was originally. Except carved artistic reusable elements other structural wooden elements of the temple are replaced with new timber.

Patan Durbar Monument Zone

<table>
<thead>
<tr>
<th>Completed</th>
<th>To be completed soon</th>
<th>Ongoing</th>
<th>Budget Allocated</th>
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<tbody>
<tr>
<td>2. Taleju North</td>
<td>2. Radhakrishna temple</td>
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<tr>
<td>3. Sundari Chowk</td>
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<td>4. Manimandap North</td>
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<td>5. Keshav Narayan temple</td>
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<td>6. Yognarendra stone pillar and statue</td>
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<td>7. Bahadur Shah Bhawan</td>
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<td>8. Bhimsen Stone Pillar (Simha Pillar)</td>
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<td>9. Krishna Mandir</td>
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<td>10. Manimandap South</td>
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<td>11. Biswanath temple</td>
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<td>12. Charnarayan temple</td>
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<td>13. Harishankar temple</td>
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<td>14. Keshabnarayan Chowk</td>
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1. **Restoration by KVPT**

1.1 **Restoration of Char-Narayan Temple**

The restoration work of Char-Narayan Temple is completed. The Char-Narayan Temple, devoted to lord Vishnu, enshrined a cylindrical four faced beautiful stone image of Vishnu, representing the art and architecture of 17th century was completely collapsed above the plinth level by devastating 2015 earthquake.

As reported in previous report, from the very beginning after the earthquake, Kathmandu Valley Preservation Trust (KVPT) has been actively involved in the total activity of restoring the temple in its original state. All the damaged wooden carved elements such as columns, windows, door, Carnes etc. which were salvaged and well documented with detail inventory are properly reused with necessary conservation in present restoration work. Since the foundation of the temple was found unaffected and strong enough in examination, the temple is restored over the previous plinth without disturbing original foundation and plinth.

All the base stones of the doorframe, all four doorways, carved tympanums, struts of the temple have been reused and fixed as it was in existing position. Doorways are installed with maintenance of original adding some new wood for missing portions. Fine yellow clay is used as mortar in the wall as its original state. Sufficiently wooden pillar and tie-up beam is given. All the new wood used for the temple is Sala Wood.

1.2 **Restoration of Hari-Shankhar Temple**

The restoration work of Hari-Shankar Temple is completed. The Hari-Shankar Temple devoted to lord Vishnu and Shiva, in Patan Durbar Square, near to collapsed Char-Narayan temple and just beside the Narasimha temple also was destroyed completely above the plinth level by devastating earthquake. As reported in previous report, all the damaged wooden carved elements of the three roofed temple with extraordinary wooden art and architecture was well salvaged with detail documentation. Almost all identified columns, windows, door, Carnes, tympanum, door wings, struts etc. were inventoried and are reused in present restoration of the temple.

As the foundation of the temple was found intact and strong enough in the rescue archaeological investigation, the temple is restored keeping the original foundation intact.

All the wooden emblems are installed with maintenance of original adding some new wood for missing portions. Fine yellow clay is used as mortar in the wall as its original state. Sufficiently wooden pillar and tie-up beam is given. All the new wood used for the temple is Sala Wood.

In Hari Shankar temple some new intervention is also carried out particularly in the outer plinth. Strong Ma-apa (brick) foundation is erected replacing the loose soil and brickbats filling. All the work was done under the close inspection of Department of Archaeology.

1.3 **Restoration of Manimandaps**

The restoration work of Manimandap is completed. The Manimandap, the twin public rest shelter, in front of Mangahiti, water spout, was completely collapsed above the plinth level by the earthquake. As reported in previous report almost all columns, brackets, struts were identified and inventoried; and those all are reused in the present restoration of the structure. As there are two structures of rest house, both of the structures are completed.

1.4 **Conservation of Krishna Temple:**

The conservation of Krishna Temple is completed.

One of the most famous monuments of Patan, the Krishna Temple, built by Siddhinarasingh Malla in 1636 A.D was also partially but severely damaged, especially upper second stories. Immediately after the earthquake the rescue shoring was given to the structure to prevent the further damage. The total responsibility of conservation is taken by KVPT, with close coordination with Department of Archaeology.
In present conservation the damaged threshold stone at northwest corner of innermost sanctum (garbhagriha) is replaced and the base stones at the Second floor level which is the main component of the structure are changed with new stone carving as in original one. Various water seepage problems are solved with careful conservation of dislocated stones. Some outer stone pillars also are conserved. 19 pinnacles out of 21 were taken out and reinstalled conserving it with gold gilding.

1.5 Conservation of Bishwonath Temple
As reported in previous report the Bishwanath Temple, near to Krishna temple, was also partially but severely affected. Immediately after the earthquake the rescue shoring was given to the structure to prevent the further damage. The temple was also conserved by KVPT.
By the detail structural study it was found that the Vishwonath temple was damaged by earthquake but due to lack of periodic conservation as well. Many inner wooden members were found rotten and damaged by damp. In the present conservation all those damaged wooden members are replaced with new timbers. The basic damage was found in ground floor. In the Bishwonath Temple, some new intervention is carried out in the outer plinth also. Strong Ma-apa (brick) foundation is erected replacing the loose soil and brickbats filling. The conservation work of Biswanath is already completed.

1.6 Conservation of Column statue of Yognarendra Mall
The conservation of the stone pillar and installation of Yoganarendra Malla is already completed.
The huge stone column with the statue of King Yognarendra Malla was also largely affected, as the column was broken into three above the stone lotus part including bronze statues of the king was felled down by devastating earthquake.
In the initiation of KVPT with close coordination with DoA, the Austrian expert team had inspected and contributed for the installation of three big pieces of stone. Remaining bronze statues are maintained and installed in original state.

1.7 Conservation of the Lion statue column
The Lion Statue Stone Column in front of Bhimsen Temple was also broken in two pieces by the earthquake. By the technical help of the Austrian expert team it was inspected and joined by inserting stainless steel rod. The column is successfully installed. KVPT is credited to take the initiation to have the expertise of the Austrian stone conservator.

1.8 Conservation of Mul Chowk and Sundari Chowk
As reported in previous report the conservation work of Mul Chowk and Sundari Chowk is a continue work of previous years. KVPT has got the approval from the Department to work on those monuments before earthquake. But the western wing of the Sundari Chowk was collapsed by the earthquake; and the top roof of both of Talaju temple also was collapsed as well.
The collapsed part of Sundari Chowk was restored in its original status using all the traditional technique and materials immediately after the earthquake.
The Southern Taleju temple conservation work was completed already in May 2016 and whereas the Northern Taleju temple is completed in April 2018.

1.9 Conservation of Bahadur Shaha Bhawan
The Bahadur Shaha Bhawan, the building built by Bahadur Shaha, younger son of King Prithvi Narayan Shaha was also partially damaged by the 2015 earthquake. Particularly the Northeastern and eastern part was more damaged. The building conservation work has already completed. KVPT had done the conservation work with the approval of Department of Archaeology, Heritage Conservation and Palace Management office in Patan under DoA also was directly involved in the conservation work led by KVPT.
2. Department of Archaeology

2.1 Conservation of Patuko Ganes Temple
Patuko Ganes shrine in patuko Tole, built in single roof Nepali style, was affected by the earthquake. The conservation work of the temple is completed. The temple was conserved by Heritage Conservation and Palace Management office, Patan under Department of Archaeology with the fund allocated by Government of Nepal.

2.2 Reconstruction of Radhakrishna Temple.
Radhakrishna temple situated in Swatha Tole in northern side outside of Patan Durbar complex was completely collapsed by the earthquake. All the wooden and stone elements of the temple were immediately salvaged and secured inside palace complex. The temple is being restored from the very foundation; however the main sanctum of the temple is preserved in original form. Presently the restoration work is in final phase.

2.3 Conservation of Kumbheswor Temple
Kumbheswor temple is being conserved in the completion phase. The Kumbheswor temple, a five story temple devoted to Lord Shiva, in the Lalitpur Durbar Protected Monument Zone is another temple which also was badly damaged especially upper two-three stories. Allocating the budget by government, Department of Archaeology has taken the total responsibility to conserve the temple. Since the first and second storey was found strong enough and not found big damage by the earthquake, only the upper three storeys were dismantled for conservation. Almost all artistic wooden elements acquire from the original temple are reused with necessary conservation.

2.4 Conservation of Garud Narayan Temple
Garud Narayan temple, a small Gumbaj style temple built in Shah Period, located outside of Patan Durbar Square beside the road to Jawalekkel was partially damaged by the earthquake 2015. The temple is built of brick in mud mortar and the upper portion of Gumbaj is built with brick in Vajra mortar. The temple is conserved safely without dismantling. Conservation of the temple is completed.

Patan Durbar Museum Development Committee
Conservation of Keshav Narayan Chowk
Keshav Narayan Chowk is under conservation now. The portion of the palace is being conserved by Patan Durbar Museum Development Committee. The northern most portion of the Patan Durbar with the courtyard building is known as Keshav Narayan Chowk (courtyard). The portion of the palace was conserved by the mutual fund of Government of Nepal and Government of Austria two decade ago and converted the building as museum. The northern part of the palace was more damaged by the earthquake and the roof of southern part also was affected as well. Presently the conservation work is in progress with the mutual fund provided by Government of Nepal and Government. The roof part of southern building is completed and now the conservation work of the foundation of northern wall is under progress.

Bhaktapur Durbar Square Monument Zone
Bhaktapur Protected Monument Zone, of seven sites of Kathmandu Valley World Heritage Property and one of three Durbar Square of KVWP also was affected by the earthquake, 2015. However, in comparison to Hanumandhoka Durbar, Bhaktapur was less affected. In total 25 monuments were severely affected within the Bhaktapur Protected Monument Zone, whereas 11 monuments were collapsed and 14 were partially collapsed. Almost all the earthquake affected monuments and a few others also are already completed.
1. **Department of Archaeology (DoA)**

1.1 **Siddhi Laxmi Temple restoration**

The restoration of Siddhi Laxmi Temple is completed. The Siddhi Laxmi Temple is a 17th century Shikhara style stone temple, dedicated to goddess Siddhi Laxmi located at south eastern corner of the 55 windows. Earthquake had damaged the Temple with major cracks at South side. Considering the possibility of future collapse of the monuments, measured detail drawings were prepared and the structure was carefully dismantled. In the present restoration process all the stone of the temple are reused but all the wood is replaced by new strong Sal wood. The pinnacle of the temple also conserved with gold gilding.

1.2 **Restoration of Taba Sattal**

The restoration work of Taba Sattal is completed. Taba Sattal, also known as Taha Pha, is located at the west corner of Bhaktapur Durbar Square. The middle portion of the Southwestern wing of the building was completely collapsed by the earthquake. Similarly, the upper portion of the northeast wing was damaged, and numerous cracks were observed. Almost wooden elements are being reused in present restoration work with necessary repair and conservation. All the lattice windows ware well preserved and are reused.

1.3 **Conservation of Golmadi Ganesh**

The conservation of Golmadi Ganesh temple was completed within the year of earthquake. Northern wall of the temple was heavily damaged by the earthquake. Emergency wooden shoring was given just after the earthquake to prevent the temple from further damage. Repair of the damaged wall and roof work was carried out using emergency budget of DOA.
1.4 Balakhu Ganesh Sattal conservation
The Balakhu Ganesh Sattal restoration was completed in 2017. There are two Sattals beside Balakhu Ganesh Temple, situated next to Jana Jyoti Pustakalaya (library) known as Balakhu Ganesh Sattal. Restoration of these Sattal was planned before earthquake, whereas the earthquake had damaged the structure more; and both of these Sattals are restored by DOA.

1.5 Restoration of Rameswor temple
Rameswor Temple, one of the Char Dham of Bhaktapur built by Yakshya Malla is located at the western end of the Durbar square. This free standing open shrine topped by Gumbaj is a temple dedicated to god Shiva. The reconstruction work was carried before earthquake; and halted for few months caused by earthquake. The restoration of the temple is already completed.

1.6 Restoration of Badri Narayan Temple
Badri Narayan Temple is a small temple located west of the Gopi Nath Temple locally dedicated to Vishnu or Narayan. This terracotta built Shikhara temple is one of the char Dham built dates back to 17th century. Restoration work of Badri Narayan started before earthquake under DOA regular Budget; and halted for few months caused by the earthquake. However the restoration process of Badri Narayan is completed and has become the first restoration project completed after earthquake.

1.7 Conservation of Pujari Math
Conservation of Pujari Math is already completed. The 16th century Pujari Math is one of the seven Math surrounding Dattatraya temple built by king Yaksha Malla and is situated to the right of the Dattatraya Temple. Presently Pujari Math is converted into wood and crafts museum. Shoring work was done immediately after Earthquake to prevent further damage. The structure was primarily damaged in the side of the famous Mayur Jhyal Peacock window and the restoration work is completed.

1.8 Restoration of Duimaju Temple
The Conservation work of Duimaju Temple situated at Duimaju Chowk of Bhaktapur Durbar square is completed. Conservation of Duimaju was started before earthquake and estimated to be complete by end of fiscal year 2073-74. The work halted by earthquake was completed as targeted to complete within the fiscal year 2074-75.

1.9 Conservation of Yantra Vatsala
One storey Nepalese Style Vatsala Temple is located at eastern part of Bhaktapur Durbar Square beside Siddhi Laxmi Temple. The conservation work was carried out which included skinning work and repair of the Roof under emergency budget of DOA. Conservation of this temple became first monument to be completed after the earthquake.

1.10 Conservation of Gopi Nath Temple
The conservation of Gopinath temple is completed. The two roofed Nepali style Gopi Nath Temple is located at western corner of durbar square. Gopi Nath is one of the forms of Vishnu. The temple is also known as Dwarika and Krishna Temple as well, houses three deities, left to right, respectively: Satyabhama, Krishna and Radha. The inner walls of the sanctum were damaged by 2015 earthquake and shoring work was given form inside the temple. The temple conservation work is completed with minimum intervention. In the present conservation all the rotten wooden members of the ground floor are replaced with new strong Sal wood. Also the mud mortar is replaced with Lime mortar.
1.11 Silu Mahadev (Fasi Dega) Temple Restoration
The restoration work of the Silu Mahadev temple to retrieve its original style of before 1934 earthquake is under progress in its main sanctum level. Silu Mahadev, temple dedicated to lord Shiva is situated at western part of Bhaktapur Durbar Square complex. This is one of the tallest temples in the second part of Bhaktapur Durbar Square. The temple is standing on a six steps plinth with animal guardians in each step. This temple was damaged by 1934 earthquake and rebuilt in dome shape different than the previous original form. The last earthquake also destroyed the temple and was collapsed over the plinth. The present restoration process is carried out under the budget allocated by Government of Nepal through Department of Archaeology with documentation preparing the detail existing and working drawing and cost estimate. Since the necessity of more detail structural study of the proposed structure was felt, the restoration work was halted for some months for the study; and as the study is completed, following the recommendation of the structural study the restoration work is continued. Now the repair of the plinth level has been completed. For the repair works, the outer shell of the mud mortar plinth of 2 feet width is carefully removed and replaced by Lime Surkhi brick-wall, without disturbing the inner core. The foundation of lowest plinth was taken down to 2 feet. Recently the work is in rapid progress in main sanctum level.

2. Conservation conducted by Bhaktapur Municipal Office
2.1 Khauma gate
Khauma Gate is the main western gate of Bhaktapur Durbar Square. The southern portion of the gate was collapsed by the earthquake. Similarly, the upper portion of the gate also was damaged, and numerous cracks were observed. The entire damage portion is carefully demolished up to foundation. The gate is already restored in its original form in traditional technique and materials. The structure is restored stronger than the previous one using sufficient wooden tie-up and posts of strong Sal wood.

2.2 Vatshala Temple
The restoration work of Vatsala temple is completed. Directly in front of the palace and beside the statue of king Bhupatendra Malla and next to the Big Bell is the Vatshala Devi Temple. This Shikhar style temple was entirely constructed in sandstone and is built upon a three-stage plinth, and has similarities to the Krishna temple of Patan. It is dedicated to Vatsala Devi, a form of the goddess Durga. The temple was originally built by King Jitamitra Malla in 1696 A.D. The structure that can be seen today, however, is reconstructed by King Bhupatindra Malla and dates back to the late 17th or early 18th century. The Vatshala temple was completely collapsed by the earthquake. The foundation of the temple was examined through rescue archaeological excavation executed by DoA with the support of UNESCO Kathmandu office and Durham University, London. Since the foundation of the temple was found strong enough, the temple is restored over the original foundation. The conservation work of Vatsala temple completed in close monitoring of was conducted by local user committee with the funding of Bhaktapur Municipality.

2.3 Kedarnath Temple
The Kedarnath Temple located in front of National Art Museum in Bhaktapur Durbar Square is a significant Shikhara style temple dedicated to lord Shiva. The middle portion of the Southwestern part of the temple was collapsed by the earthquake. Similarly, the upper portion of the northeast part also was damaged, and numerous cracks were observed in the entire structure. The restoration work of Kedarnath temple is completed. The total fund of the restoration work was bear by Bhaktapur Municipality and the responsibility of restoration was given to
local user committee. The temple is restored in its original form with traditional technique and materials replacing mud mortar by lime mortar.

2.4 Harihar Narayan Temple
The Harihar Narayan Temple located in eastern side of Silu mahadev (Phasi deg) was collapsed by the earthquake. The restoration of the temple is already completed by Bhaktapur Municipality. The temple is restored in its original form with traditional technology and materials replacing mud mortar by lime mortar.

2.5 Bhairab Nath Temple
Bhairab Nath temple, one of the significant and most worshiped temples of Bhaktapur, located in Taumadi Square is completed. This temple was first built as a one-storey pagoda but was later changed into a three storey temple in 1718 AD by King Bhupatindra Malla. The local elderly people say that the roof of Five-Storey Temple in the same Taumadi Square got damaged where as the Bhairabnath temple was completely collapsed in the disastrous earthquake of 1934 AD. The present temple was rebuilt after 1934 AD. Bhaktapur Municipality had leaded the project and the significant technical assistance of Khwapa Engineering Collage was capitalized for the conservation work. As the temple was conserved just before the 2015 earthquake, the Temple was not affected badly but there was some damage on the top story and some cracks in some walls of the temple. After series of meeting with experts and stakeholder the modality of conservation was finalized. In the involvement of professor and student of Khwapa Engineering Collage the detail structural and architectural study and analyses was carried out before finalizing the conservation modality. With the minimum intervention principle, without dismantling the entire structure, the temple was conserved with traditional technique using all the traditional construction materials.

2.6 Shankar Narayan Temple
Sankar Narayan Temple located in the eastern end of Fifty-five Window Palace and just on the west of Siddilaxmi temple, was partially collapsed by the 2015 earthquake. The one storey small temple enshrined the image of Sankarnarayan, duet form of Lord Shiva and Vishnu, is already restored in its original form. The work was initiated by Bhaktapur Municipality with close coordination with Conservation and Durbar Management office, Bhaktapur; and the restoration work was undertaken by Local User Committee with the fund provided by Municipal office.

2.7 Tribikram Narayan Temple
The temple of Tribikram Narayan located just south of Yaksheswar temple in Bhaktapur Palace Square was not collapsed but damaged with several cracks. The small but beautiful temple of lord Vishnu built in Shikhara style is already restored dismantling the damaged structure. The temple is restored in its original style replacing rotten wooden elements with new and mud mortar with Lime mortar. Bhaktapur Municipal office had taken all the responsibilities of restoring Tribikram Narayan temple.

2.8 Nyatapol Temple
The Nyatapol five story temple, the most significant temples of Bhaktapur, located in Taumadi Square is completed. This temple was built in 1672 AD by King Bhupatindra Malla. Only the upper one roof of this temple was damaged in the devastating earthquake of 1934 AD. The temple was conserved thoroughly in 1970s under Nepal-German project. There was not observed any severe problems but some damage by the 2015 earthquake. The temple has been conserved in active participation of hundreds of people from Bhaktapur. Bhaktapur Municipality had leaded the project and the significant technical
assistance was provided from Khwapa Engineering Collage. Even the significant amount of the total fund was raised by local people and other heritage lovers. With the minimum intervention principle, the temple was conserved with traditional technique using all the traditional construction materials.

**Swayambhu Protected Monument Zone**

Swayambhu Protected Monument Zone, one of seven sites of Kathmandu Valley World Heritage Property is one of two Buddhist Stupa sites of the inside the property area. The site situated on the top the hill also was largely affected by the earthquake. However, Swayambhu site became the second site after the Bouddha site to be completed all the after earthquake restoration and rehabilitation. FSMC also had played the important role in entire restoration period. UNESCO also had supported partially for tow significant monuments: Santipur and Tashigomang.

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<tr>
<th>Completed</th>
<th>To be completed soon</th>
<th>Ongoing</th>
<th>Budget Allocated</th>
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<tbody>
<tr>
<td>1. Basubandhu Chaitya</td>
<td>1. Karmaraj Vihar</td>
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<td>2. Tasigomang Chaity</td>
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<td>3. Purano Swayambhu Chaitya</td>
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<td>4. Manjushree Sattal</td>
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<td>5. Santipur Pati</td>
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<td>6. Stone Pillar of Mayur</td>
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<td>7. Stone Pillar of Sadakshari Lokeswar</td>
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<td>8. Stone pillars (two) of Tara</td>
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<td>9. Big Bell of Anantapur</td>
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<td>10. Vayupur temple</td>
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<td>11. Basapur temple</td>
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<td>14. Manjushree Shrine</td>
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<td>15. Anantapur</td>
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<td>16. Pratappur</td>
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<td>17. Santipur</td>
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<td>18. Devadharma Vihar</td>
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<td>19. Anandakuti Vihar</td>
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<td>20. Seto Sattal</td>
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<td>21. Gyanmala Bhajan Ghar</td>
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1. **Department of Archaeology**

1.1 **Restoration of Anantapur temple**

The restoration work of Anantapur temple is completed. Anantapur, Shikhara Style temple, situated in the Southeastern corner of Swayambhu hill, built in 1654, is one of many contributions of King Pratap Malla in Swayambhu zone.

The temple built of traditional Ma-apa in mud mortar, wood, Vajra was collapsed by the earthquake 2015 almost over the Cornish level also creating several cracks in down parts.

Department of Archaeology is directly involved in the restoration project allocating the budget under Post Earthquake Reconstruction Fund (PDRF) of Government of Nepal. Federation of Swayambhu Management and Conservation (FSMC) played an important role for coordination and management with priests to perform required religious and cultural procedure and activities on the process of restoration. The restoration work started in fiscal year 2072-73 and completed in fiscal year 2074-75.
1.2 Restoration of Pratappur temple
The Restoration work of Pratappur temple is completed. Pratapur temple, another famous monument, situated parallel to Anantapur in Northeastern corner of the Swayambhu hill was built by King pratap Malla in 1654 AD. This temple was not destroyed but affected severely by the earthquake and was in vulnerable condition. Assessing the hazard of the temple in vulnerable state, it was decided to restore dismantling the damaged temple structure. Pratappur was damaged by fire in 2008; and the restored structure was also again destroyed by thunder in 2011. The newly restored structure was again severely victimized by the earthquake.

The project for reconstruction of Pratappur temple was approved in fiscal year 2073-74 as multiyear project and the work was started from early June 2017. The dismantling of damaged structure, careful opening of plinth and the rescue archaeological work to investigate the condition of foundation had taken up to May 2017. Before starting the restoration work the condition of the foundation was studied through rescue archaeological excavation laying the trenches on northeast and north side of the temple outside adjacent to the foundation wall. Since the foundation was found in good condition, the restoration work was done without disturbing the original foundation of 17th Century. With necessary conservation all four stone pillars are erected and the entire restoration work is completed in its original structure within targeted time frame.

1.3 Restoration of Seto (White) Sattal
The restoration work of the Seto Sattal is completed. The traditional rest house built in early 20th Century situated in southern slope of Manjushree shrine in Manjushree hill of Swayambhu Protected Monument Zone was severely damaged by the earthquake. Under the Government budget allocated as regular budget for the fiscal year 2074-75 the damaged structure was dismantled with detail drawing and documentation; and the restoration work was started.

1.4 Conservation of Gyanmala Bhajanghar
The Gyanmala Bhajan Ghar located adjacent to the Pratappur temple in its east is a traditional rest house specially used for religious hymns and cultural feast. The structure was built in late Rana period in early 20th Century. It was partially damaged by the earthquake and safely dismantled. Now the restoration of the structure is completed. Considering the hazard of the eastern slope of the hill, strong brick block foundation is given with the bracing wall toward the west.

2. Federation of Swayambhu Management and Conservation
2.1 Conservation of Santipur temple
The Conservation work of Santipur, a sacred temple on the northern most part of Swayambhu hillock is completed. The conservation work was conducted by Federation of Swayambhu Management and Conservation (FSMC) with close cooperation and inspection of Department of Archaeology.

The temple was severely affected by the earthquake even destroying almost half part of precious mural painting and affecting the rest half severely. Under the project funded by UNESCO, the remaining mural painting was securely detached from the wall and salvaged with detail documentation in close collaboration between DoA and FSMC. In Santipur temple only the effected parts is conserved very carefully preserving the rest not affected parts. It is conserved with traditional technique and material to retrieve its original value back. Presently, the conservation work of the Santipur has been entirely completed.

2.2 Restoration of Tasigomang Chaitya
The restoration work of Tasigomang Chaitya is completed. Tasigomang Chaitya, locally known as Mangaldwara Chaitya, located on the Southwestern side of Swayambhu Mahachaitya was completely damaged by earthquake. Immediately after the earthquake,
hundreds of artifacts associated to the destroyed Chaitya were salvaged with detail inventory under the fund provided by UNESCO. An emergency archaeological excavation also was conducted with close collaboration between DoA and UNESCO Office in Kathmandu. As recommended by the final report, the Stupa was restored in its original shape without disturbing original foundation. The restoration work was already completed in early August 2017. The Chitya was restored by FSMC in close inspection of DoA. Some of the funding for the restoration was funded by UNESCO Kathmandu office as well. However the temple is yet to be inaugurated to wait for the auspicious day.

2.3 **Conservation and Erection of four Stone Pillar and Big Bell**

Four Stone Pillars and one big bell are conserved and erected in the initiation of FSMC. The stone pillar with Sadakshary Lokeswar, one stone pillar of with Peacock, two stone pillars with Tara image situated on the west of Swayambhunath Mahachaitya just in front of Amitabha Buddha were affected by the earthquake. The Pillar of Sadakshary Lokeswar was felled, the Peacock Pillar was broken into three pieces and the capital of the both Tara pillar were felled. The big bell situated in front of Anantapur Temple also was broken. All those monuments are already erected with necessary conservation.

3.1 **Reconstruction of Devadharma vihar**

The rehabilitation work of Devadharma Vihar is completed. With the approval granted from Department of Archaeology, the rehabilitation work was conducted by Vihara authority with the funding provided by Bhutan Government.

**Bouddhanath Protected Monument Zone**

1. **Baudhanath Area Development Committee**

1.1 **Conservation of Bouddha Stupa**

The conservation work of the Bouddha Stupa is completed. At first, the effect of the earthquake was appeared on the topmost 3 steps of Bhuwanas with cracks and dislocation of the bricks breaking the outer metal cover. Finally the effect of the earthquake found to the entire super structure of the Stupa over the dome.

In the initiative of Bouddha Area Development Committee, with the approval and close inspection of DoA, deputing an engineer and archaeological officer for entire progress, the work of careful dismantling with detail documentation and the conservation of the stupa with the use of traditional method and material was completed within 16 months.

1.2 **Conservation of Mane Wall**

The Mane Wall conservation is completed as it was affected by the earthquake partially. However, as reported in previous report, the entire Mane Wall was conserved re-plastering it with the Bajra mortar , mixture of Lime, sand, brick powder, black lentil powder and molasses with water replacing the original Liun plaster, it was partially affected by the earthquake and conserved in the initiation of Baudhanath Area Development Committee under the direct supervision of DoA.
## Pashupati Area Protected Monument Zone

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1. **Pashupati Area Development Trust**

In Pashupati Area Protected Monumental Zone the number of the collapsed monument by the earthquake 2015 is comparatively less than other monumental zones of KVWH; however the number of the affected monument were not less. In Pashupati Monument Zone conservation work of affected monuments is being carried out by Pashupati Area Development Trust with close cooperation with Department of Archaeology. Following are the monument completed the conservation/restoration work and monument under progress:

1.1 **Restoration of Sattals in Guheswari Complex**

In Guheswari temple complex in Pashupati Protected Monument Zone mainly the three Sattal structures were more affected by the earthquake and approval for restoration was granted from DoA as proposed by Pashupati Area Development Trust (PADT). As the Western Sattal of the premises has been completed recently, all the presently targeted restoration work in the Guheswari complex is completed.

The Sattals are restored in its original structure but using almost all new wood of structural function; however the artistic window and other elements are reused with necessary conservation. In northeaster Sattal very few old wooden elements were found reusable while dismantling the old structure which was badly affected by the earthquake. Whereas from the northern Sattal almost all wooden elements of artistic value were retrieve while dismantling...
safely. But, same as northeastern Sattal all the structural wooden elements were used new in northern Sattal too.

Recently the restoration work of western wing also is completed. The Sattal structure was safely dismantled in presence of DoA officials; and all the wooden elements of the Sattal are inventoried in detail and well stored as well for reuse. This wing also was badly affected by the earthquake and since it is the most artistic part of the complex, there was prepared proper plan for dismantle the structure very carefully protecting all the wooden elements with full documentation for proper reuse while restoring the Sattal. The restoration work has been completed as per the plan in the close technical support of DoA.

1.2 Bhasmeshwar Sattal Conservation

The restoration of Bhasmeshwar Chaughera Sattal (courtyard rest house) in Bhasmeshwar Cremation area is already completed. It was conserved with the approval and close inspection of Department of Archaeology and entire financial responsibility was taken by Pashupati Area Development Trust (PADT). The Sattal is restored in its original style. Almost wooden elements and brick are used new except few artistic windows and wooden posts.

1.3 Amarkanteswar, Sureskanteswar and Pranmukteswar Temple

The three temples Amarkanteswar, Sureskanteswar and Pranmukteswar situated inside Bhasmeswar Courtyard Sattal in Bhasmeswar area were badly affected by the earthquake. Pranmukteswar is in the courtyard of northern Sattal and rest two is in the courtyard of southern Sattal of Bhasmeswar. Among three temples Amarkanteswar and Sureskanteswar had some problems before earthquake and were affected more by the earthquake. All these three temples are in Mugal style with dome on top. All three temples were built in Shah period in early 19th century.

The Restoration of both Amarkanteswar and Sureskanteswar is completed. Both the temples are restored over the original plinth preserving old foundation archaeology. However, before starting the restoration the foundation of the temple was examined in close observation of Archaeological Official from Department of Archaeology; and as it was found intact and not affected by the earthquake, the over structure is built keeping the original foundation intact and maintaining the plinth. The restoration is upgraded with proper use of wooden tie-up and pillars. Since all the wooden elements were found completely rotten, no one is reused in restoration. But all the stone elements and almost bricks are reused.

As proposed from PADT, DoA had granted the approval and involved for required technical support. The approval for the restoration is given with the condition to prepare detail documentation of dismantling and reconstruction process and submit DoA as final completion report. With the approval and close inspection of DoA, all financial and other procedural responsibility was taken by Pashupati Area Development Trust. The Pranmukteswar in the courtyard of completed northern Sattal is yet to conserve, and it is intended to conserve the temple without dismantling; however it is yet to examined structurally in detail.

1.4 Kulananda Jha, Sankarnarayan and Gurju Sattals:

All three, Kulananda Jha Sattal, Sankarnarayan Sattal and Gurju Sattal situated towards the west side of western gate of Pashupatinath temple were not collapse but badly damaged by the earthquake. Kulananda Jha Sattal, the biggest courtyard Sattal among three is situated in front of Sankaracharya (Bhuteswar) Temple. The Sankarnarayan Sattal is joined with Mahasnanghar in its east side and the Gurju Sattal is situated just in front of Mahasnanghar.

Though no one Sattals mentioned above were collapsed but severely damaged by the earthquake, Southern upper portion of Kulananda Jha Sattal was fallen. The front wall was bulged out. Many cracks were observed all over the structure.
There were many vertical cracks in Gurju Sattal. The entire structure was tilted toward front busy road to Pashupati. The eastern wall was almost fallen. The state of Sankaracharya Sattal was not good even before the earthquake, as it was assessed by ASI team from India in 2014. The 2015 earthquake had brought more effect on it. All three are already dismantled safely with detail documentation of all wooden and other elements. The restoration work of Kulananda Jha Sattal is completed. The Sattal is restored as original. However, except some artistic reusable elements all the wooden elements are replaced by new one and mud mortar is replaced by Lime_Surkhi mortar. Sanknarayan Sattal restoration work also is completed. All the reusable wooden elements were secured well while dismantling and reused present restoration work. As in the Kulananda Jha Sattal mud mortar is replaced by Lime mortar in Sanknarayan Sattal too. Pashupati Area Development Trust (PADT) is directly involved in restoration of all Sattals mentioned above with total responsibility of funding. Department of Archaeology is involved for required technical support.

1.5 Conservation of Ram Mandir:
The conservation of Rammandir is already completed. Rammandir, a temple of lord Ram, situated on the east bank of Bagmati river opposite of Bhasmeswar Crematorium had general damage by the earthquake. Present structure of the temple was built in late 19th century. However, the image enshrined in the sanctum is of ancient period. Comparatively there was less damage in Rammandir. The upper part of the portico in front was damaged and fallen. The arched front entrance of the temple was cracked. There were some vertical cracks observed on northern wall. In the initiation of Pashupati Area Development Trust (PADT) the temple was conserved with donation of some donors. In some extent Guthi Sansthan is also one of the related organizations in the process of conservation. DoA had a role of approving the proposal and providing required technical support. Now Rammandir is already repaired in its original form using same types of materials used before.

1.6 Restoration of Chautariya Sivalaya Temple
The restoration of both Chautariya Sivalaya temples is completed. The both Chautariya Sivalaya temple located in southern side of Pashupati temple complex, just outside the southern gate, in the western side of Bhasmeswar was partially collapsed by the earthquake. The remaining vulnerable structures of the damaged Chautariya Sivalaya were dismantled with the help of Nepali Army and Armed Police in the initiation of Pashupati Area Development Trust (PADT). Department of Archaeology had inventoried the objects of archaeological importance. As per the proposal of PADT, approval for the restoration of the Shivalayas was provided by Department in June 2017. The total restoration work is completed. The temple is restored over the original plinth as approved from the DoA. The temple is built in stone masonry in its original style using 90 percent same stone elements replacing all the wood by new quality timber.

1.7 Conservation of Pandra (Fifteen) Sivalaya Sattals:
Restoration of Pandra Sivalaya Sattal is completed. The Pandra (fifteen) Sivalaya Sattal was generally affected by the 2015 earthquake. But roof of the Sattal was already in the state to be conserved before the earthquake. Though the purpose of building of this Sattal is not clear; however, since the name is given 'Pandra Sivalaya Sattal', it must be built as a priest residence of the Pandra Sivalaya (15 temples dedicated to Siva) just in front of this Sattal.
As per the proposal of Pashupati Area Development Trust (PADT), Department of Archaeology had given the approval for its conservation. Now the conservation of the Sattal is completed.

1.8 Restoration of Kotilingeswar Temple
Restoration of Kotilingeswar temple is completed. The Kotilingeswar temple located inside the Pashupati complex just outside the main courtyard towards south in the Chausatthi Sivalinga premises was partially damaged by the earthquake. Kotilingeswar temple is one of the oldest and important monuments of Pashupati area which was built by King Pratap Mall in second half of 17th century AD. It is one of very few multi roof temples of Pashupati having circular plan with three circular metal roofs.

After the approval from DoA for its entire restoration, as per the proposal of PADT with detail drawing and cost estimate, the temple was dismantled safely. While dismantling all the wooden elements of the temple were well documented but almost all the wooden elements of the temple were found rotten and damaged and only very few of them are be reused.

1.9 Bankali Sattal Restoration
Bankali Sattal restoration work is already completed. Bankali is a famous and one of most worshiped goddess shrine of Pashupati. The shrine is located in the southern part of Pashupati Protected Monument Zone. The Sattal built in the Shrine premises to facilitate the devotees in their religious and cultural activities in the Bankali shrine is named Bankali Sattal. The Sattal was partially damaged by the earthquake 2015. The upper part of the western wall was collapsed and other brick walls were cracked in many places.

The Sattal was dismantled safely and stored all reusable objects just after the earthquake. The Sattal is restored over its original foundation and used almost artistic wooden material of original structure. The ground floor of the Sattal was occupied illegally and also partitioned for residential purpose. After the restoration of the Sattal, it is reopened for cultural activities. Replacing the mud mortar the Sattal is restored using Lime mortar. All the responsibility of restoration was taken by PADT.

1.10 Restoration of Bagmati River Bank Sattal of Guheswari
In Pashupati Protected Monument Zone, 3 Sattals inside the Guhyeswari complex and one Sattal on the bank of Bagmati River were damaged by the earthquake. However the Rever it was Sattal was not collapsed. But many cracks were observed in the brick wall of the structure. As per the proposal of PADT, DoA provided the approval for the restoration of the Sattal. All the financial responsibility was taken by PADT and DoA provided the necessary technical support.

1.11 Pode Pati conservation
Pode Pati, a small but beautiful public rest house located on the southwest side of main Pashupati temple complex and on the west side of Vajraghar was partially damaged by the earthquake. The Pati is restored by Pashupati Area Development Trust.

1.12 Taraprakaseswar Temple Restoration
The restoration of Taraprakaseswar temple is completed. Taraprakaseswar temple inside the Kriyaputri premises was not collapsed but severely damaged by the 2015 earthquake. Since the damage structure was more vulnerable in the very busy Kriyaputri area, the temple was dismantled immediately after the earthquake by PADT with the help of Nepal Army.

All the drawing documentation was prepared by PADT and approved by DoA for the conservation of the temple. All the stone and almost reusable bricks are reused in present
restoration work; but all the wood are replaced by new and the mud mortar is replaced by Lime mortar.

1.13 Mahasnanghar Sattal Conservation
Conservation work of Mahasnanghar is completed. Mahasnanghar is one of the dominating heritage buildings situated in western part of Pashupati area in front of Gurju Sattal. It is a big courtyard Sattal complex built in early 19th century. It was partially damaged by the earthquake. However, the back, northern portion of the building was partially fallen. Since the Mahasnanghar was recently conserved entirely from Department of Archaeology in 2006, there is less damage occurred in the structure. But the back, northern part was much affected than the front colonnaded side. The northern wall of the building was fallen partially also affecting the western wall in northwestern part. The eastern wall adjacent to Sankaracharya Sattal was cracked. The fissure in the joint of eastern and southern wall was much prominent. However, the building is not tilted. In the initiation and coordination of Pashupati Area Development Trust, the huge structure of historical, archaeological and cultural importance is restored by a private company, Nepal Investment Bank Pvt. Ltd. The restoration work has been completed recently.

1.14 Yogi Naraharinath Ashram restoration
The Yogi Naraharinath Ashram in Gorakhnat area is completed. The building resided by great historian of Nepal Yogi Naraharinath is known as his abode and named after him. The building was built in late 20th century and damaged by the earthquake. Now, with the approval granted from DoA, PADT is restoring the building dismantling entire old structure. All the wooden elements are replaced by new wood and mud mortar is replaced by Lime mortar in present restoration work. It is planned to use the building as library of Yoginaraharinath collection.

1.15 Gorakhnath Bhansaghar Sattal
Gorakhnath Bhansaghar building conservation work is completed. The building just on the west of Gorakhnath temple has been used as Bhansaghar, kitchen, of Gorakhnath Yogies. The building was in very bad state before the earthquake and more damaged by the earthquake. The building is being restored dismantling the old structure. PADT has taken all the responsibilities of this restoration work and DoA has the role of providing necessary technical support.

1.16 Restoration of Kirateswar Sattal
Kirateswar Sattal is conservation work is completed. The Sattal located on the Kirateswar hilltop is a structure built in the name of Kirateswar and has been used as resident of the priest and other people related with the worshiping, management and cleaning of Kirateswar temple and surrounding. The Sattal has also been used as center for religious hymns and singings. The building was in very bad state before the earthquake and more damaged by the earthquake. PADT had taken all the responsibilities of this restoration work and DoA played the role of providing necessary technical support.

1.17 Restoration of Laxminarayan Temple
Laxminarayan temple restoration work is completed recently. The temple is located in the southern slope of Kailash at Rudragadeswar area. The temple structure was not in very poor state even before the earthquake 2015 and was more affected by the earthquake. The temple housed a biggest stone image of Laxminarayan. The temple is restored in its original state but replacing the corrugated zinc sheet by copper roof.
1.18 Dyochen of Dathu Tole
Dyochen, the God's house located in the Dathu tole of Pashupati is completed. The structure was not collapsed by the earthquake but was affected. The structure is built as a residential house was dismantled and restored from the very foundation. The Dyochhen is restored by PADT in close technical coordination of DoA.

1.19 Restoration of 10 Sivalaya Temples in Mrigasthali
The restoration of ten Sivalaya temples in Mrigasthali, especially around the Gorakhnath temple, are completed. There are more than 50 Shivalays and other small temples in bell shaped style. Seven such shivalays were collapsed and all most all rest were affected by the earthquake. Among all 10 Shivalayas are already restored in their original style and the10 are approved from DoA for restoration. All above temples are restored by PADT in close coordination of DoA.

Changu Narayan Protected Monument Zone
Changunarayan Protected Monument Zone, one of seven sites of Kathmandu Valley World Heritage Property also a significant heritage site for its archaeological, historical, cultural and art and architectural point of view. The site also was affected by earthquake 2015. In total 10 monuments in Changu were affected, whereas 4 were collapsed and 6 were partially collapsed by the earthquake. Seven monuments out of damaged ten are already restored in their original state and one is under restoration.

7.1 Changunarayan Temple Conservation Work
Changunarayan, one of the world heritage sites of Nepal listed in 1979 A.D. is about 6 km north of Bhaktapur. The temple dates back to 1702 A.D. when it was rebuilt after a fire, its origin goes right back to the 4th century. It is said to have been built by King Hari Datta Verma in 323 A.D. Changunarayan Temple was not collapsed but affected largely by the earthquake. The conservation of the temple is already completed. The conservation work was carried out from Department of Archaeology employing highly skillful manpower, since the temple was conserved very carefully without dismantling the structure. All the rotten wooden inner posts and bands are replaced by new strong Sal wood timber. The temple is conserved in traditional technique and material replacing the mud mortar by lime mortar.

7.2 Kileshwor Mahadev Temple
The beautiful small multi roof temple in the southwestern corner of Changu Narayan temple in Changunarayan temple complex is known as Kileshwor. The Kileshwor temple is the only Shaivite shrine in the Changu Narayan temple complex. The temple is dedicated to Shiva as Lord Pashupati, and houses a Chaturmukha Lingam with human faces looking towards the four cardinal directions and one to the heavens. This temple has an outstanding collection carved wooden struts supporting its double roofs depicting incarnations of Shiva and some interesting erotic images. Each of the four doors is modeled on those of the main temple with the main entrance made in gilded metal and the other three are carved in wood. Like many of the smaller shrines Kileshwhor Mahadev had also suffered damage from the earthquake, but it was not collapsed. The worst damage is at the base of the temple structure and the original brickwork has been disturbed. The hidden timber frame structure has however stood firm and will require minor repairs to restore its structural integrity. The remaining structure appears in reasonable condition, but will require careful checking once scaffolding is built to provide access. The roof structures were disturbed by the earthquake, and will need to be checked for alignment. The magnificent carved doors and struts are in poor condition, and desiccated. Since the MoU was done between Department of Archaeology and Heritage and Environment Conservation Foundation Nepal for the conservation of some monuments in
Changu Narayan complex, the Kileshwor Temple is conserved by an HECFN with close coordination with Department of Archaeology.

7.3 **Amatya Sattal**
Restoration of Amatya Sattal is completed.

The sattal enclosing the Changu Narayan courtyard consists of two principle units— the Chaughera Sattal and the Amatya Sattal, which were of simple design and basic construction. These structures were formerly living spaces for the officiating priests (pujari) and pilgrims attending the many festivals that take place at Changu Narayan. The Chaughera Sattal, occupying the east, north and west sections of the courtyard, was formerly a pilgrimage rest house and, prior to the 2015 earthquakes, was used by the local community for various activities, mostly on the lower level. Three priests (pujaris) responsible for daily worship were provided accommodation in these structures as well.

Amatya Sattal, which occupies the southern side of the courtyard, was, prior to the earthquake, used by the Living Traditions Museum. Previously this Sattal had been restored by the Department of Archaeology several years ago and the structure was upgraded by the LTM to suit their purposes.

The rest houses (sattals) enclosing the courtyard either collapsed or seriously damaged during the recent earthquake in April/May2015. The upper floors and roofs were considered dangerous and the military moved in and demolished all the remaining standing sections of the upper floors and roofs of the sattals. There remains only the ground/upper floor.

Presently the restoration of Amatya Sattal is completed. All the reusable wooden members are used in restoration of same structure. The Sattal is being restored using mud mortar as in original structure.

7.4 **Saraswoti Temple**
Restoration of Saraswati temple is already completed.

Saraswoti Temple Located in Saraswotikhel, Changu Narayan Protected Monument Zone is the temple of Hindu goddess of knowledge, music, arts, wisdom and learning. The temple was damaged by the earthquake and damaged temple structure was dismantled safely immediately after the earthquake. From the budget allocated by Nepal Government the temple is already restored in its original form. The restoration work was carried out under the supervision of the Bhaktapur Monument Conservation and Palace Maintenance office under Department of Archaeology that holds the collection of sculptures and artifacts from the site.

7.5 **Chhinnamasta Temple**
Chhinnamasta temple Conservation work is completed.

The Chhinnamasta temple located in the south east corner of Changunarayan temple premises, one of most worshipped Goddess temples of Changunarayan, was affected by the 2015 earthquake. The present structure of Chhinnamasta temple is dated 17th century, however the images enshrined inside the temple are dated as back to ancient period. Chhinnamasta is one of 10 Mahavidhya in Sakti cult of Hinduism, holds her fifth position among ten Mahavidhya. When compared to other Goddess she is believed to be utmost furious, since she sacrificed herself by cutting the head and came to be known by the name Chhinnamasta.

The temple structure is conserved carefully without dismantling the entire structure. The brick wall was conserved in first phase also replacing inner rotten wooden posts and the roof was conserved in second phase replacing all the rotten wooden elements by new timber.
7.6 **Balambu pati**
The after earthquake conservation work of both Balambu Pati have been completed. Both Patis located outside of the Changu Narayan temple premises in eastern side were damaged by the earthquake. These both Patis were restored by Japanese University Student Association Nepal before around 20 yaer ago; but because of some technical lacking both were damaged by the Earthquake 2015. Detail drawing of the both structures were prepared before dismantling the damage structure. Both the Paties are well restored in their original state by Department of Archaeology.

7.7 **Bhimsen Pati**
The Bhimsen Pati conservation work is completed. Bhimsen Pati located just outside of the temple premises was severely damaged by the earthquake. Detail drawing of the existing situation of the structure was prepared before dismantling. All the wooden and other artistic materials were secured dismantling the damaged structure carefully. All the damaged structural wooden elements are replaced by new timber and all the rescued artistic materials are reused in present restoration work. The roof is roofed by traditional tiles (*Jhingati*) as original. The monument was restored with fund allocated by GoN to be executed by DoA.

7.8 **Chaughera Sattal**
The Sattal enclosing the Changu Narayan courtyard consists of two principle units– the Chaughera Sattal and the Amatya Sattal, which were of simple design and basic construction. These structures were formerly living spaces for the officiating priests (*pujari*) and pilgrims attending the many festivals that take place at Changu Narayan. The Chaughera Sattal, occupying the east, north and west sections of the courtyard, was formerly a pilgrimage rest house and, prior to the 2015 earthquakes, was used by the local community for various activities, mostly on the lower floor. Three priests (*pujari*) responsible for daily worship were provided accommodation in these structures as well.

Almost all the Sattal structure was damaged by the 2015 earthquake. The damaged Sattal structure was dismantled safely and stored all material of archaeological importance in Temple premises.

However there was a MoU between DOA/GoN and Heritage and Environment Conservation Foundation Nepal (HECFN), for rehabilitation, reconstruction, conservation and renovation of all the monuments of Changu Narayan temple premises; due to lack of sufficient fund the INGO could not continue the work as signed MoU. Now DoA has started the conservation work allocating sufficient budget as a multi-year project. More than 40 percent work has completed.
Few Words

It is well known that Nepal is very rich in its cultural and natural heritage, and also well known that Nepal is in the prone zone of the earthquake, where we are suffering with the big earthquakes within each 60–100 years interval, the earthquake history shows the clear picture of this reality. As a government sole authority responsible for all kinds of conservation and management of cultural properties, Department of Archaeology initiated every activities to rescue, salvage, temporary protection, conservation, reconstruction and the rehabilitation as per the rules and regulation of Government of Nepal coordinating all of the stakeholders.

Facing several national and international gravities, Government of Nepal/Department of Archaeology, has been made significant progress on conservation, reconstruction and rehabilitation of earthquake damaged cultural heritage within Kathmandu Valley World Heritage Property and also all over affected area of Nepal; with its limited human resources and provided financial resources by the government. DoA is on mission to rehabilitate all of the cultural heritage within the time frame of 5–7 years as declared by the government.

I hope, this inventory will be a milestone for the progress document or record and it will be helpful to all levels of learners, i.e. students, researchers, policy makers, record keepers and several other fields.

I would like to thank to Dr. Suresh Suras SHRESTHA, Head of the World Heritage Conservation Section of the department for his commitment and dedication on given responsibilities; due to his continuous efforts, this inventory has published in this design and also thank to his entire team who was involved in this process.

Thank you.

Damodar Upadhyay
Director General

DIRECTOR GENERAL
Acknowledgement

I would like to express my sincere gratitude to all, as we are coming with more inventories of the cultural heritage that were affected by the earthquake 2015 and now rehabilitation of those heritages have been completed in their original state.

Cultural heritage is less prioritized sector in many country in the world, this is the reality however there are several reasons behind it however, the scenarios clearly shows, that within these five years after the earthquake 2015, the consequences of earthquake made people much aware, especially in the conservation and management of cultural heritage and also put in high priority realizing its importance by the government. Due to these consequences it is much easier to carry out conservation and rehabilitation of cultural heritage and also easier to coordinate to all stakeholders including government authorities and local communities. Therefore, Government of Nepal has made this progress- more than 100 monuments within Kathmandu Valley World Heritage Property have already been completed, most of the monuments are continuing and some are in line to start very soon.

UNESCO World Heritage Committee has been trying to put KVWHP in the list of World Heritage in Danger since 2015, only due to the impact of earthquake; but the Government of Nepal has been made significant progress year by year. Conservation and rehabilitation of cultural heritage is not a flash work activity; its takes time, because of their historical, archaeological, aesthetic, socio-cultural and many other values; any of these values should not be disappeared as a cause of conservation or rehabilitation. In such a condition, Government of Nepal has made this progress and this Photographic Inventory of Kathmandu Valley World Heritage Property is trying to cover all of the progress made by the GoN within this five years after earthquake 2015.

First of all, I would like to sincerely thank to Mr. Damodar Gautam, Director General, Department of Archaeology, for invaluable suggestions and also thanks to and Mr. Ram Bahadur Kunwar, Chief Archaeological Officer for his valuable suggestions.
My great appreciations and sincere thanks goes to Ms. Shova Maharjan for taking responsibility to complete this work as her responsibility and also to Mr. Sunil Dongol, Photographer Officer, who was always with us in the field taking photographs and preparing design of this inventory and also his appreciative ideas in this process. I would like to thank to Mr. Debendra Bhattarai, Archaeological Officer for his incredible efforts in preparation of the inventory and also thanks to Ms. Subhadra Bhattarai, Archaeological Officer for her assistance to the team in preparation of this inventory.

I hope, this inventory will be a little window from where the reflection of all progress made by the Government of Nepal could be peered down by all levels of enthusiastic intellectuals, academicians, researchers, policy makers, documenters and many others.

Finally, thanking our ancestors, who created and were devoted in these creations for their enormous knowledge and skills and also to the Government of Nepal, Department of Archaeology for giving responsibility and opportunity to prepare this inventory for publication, which will also be a good record for future conservation of these precious heritages.

Thank you.

Dr. Suresh Suras SHRESTHA
Head, World Heritage Conservation Section
Department of Archaeology, Nepal.
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Kedarnath Temple : Damaged by earthquake 2015
Kedarnath Temple (17th Century): A temple representing one of four sacred pilgrimage of India, enshrined Shiva Linga in the main sanctum, only temple in Bhaktapur with portico in all four cardinal direction.
Narayan Temple: Temple of Lord Bishnu, damaged by earthquake 2015
Narayan Temple: Temple of Lord Bishnu, built in shikhara Style in 17th Century. (After Renovation)
Narasimha Narayan Temple: Damaged by earthquake 2015
Narasimha Narayan Temple (18th Century) : Temple of Lord Vishnu in Narasimaha form, one of ten in camation of Vishnu. (After Rehabilitation)
Yantra Vatsala Temple:
Damaged by earthquake 2015
Yantra Vatsala Temple (18th/19th Century): The Temple of Vatsala worshiped in Yatria form by the Yantra/Tantra followers (After Conservation)
Dwemaju Temple: Under Conservation
Dwemaju Temple and chowk: One of 99 courtyards of Bhaktapur Palace, a famous shrine for animal sacrificing. (After Conservation)
Dwarika Temple : Damaged by earthquake 2015
Dwarika Temple: Temple representing one of four sacred pilgrimage of India, dedicated to Lord Krishna (After Rehabilitation)
Khauma Gate: Damaged by earthquake 2015
Khauma Gate: The western gate of the Bhaktapur Palace Square. (After Rehabilitation)
Shilu Mahadev Temple: Damaged by earthquake 2015
Shilu Mahadev Temple (17th Century) : Locally also known as fasidega. one of few temples built in high plinth in Bhaktapur. (Under Rehabilitation)
Narayan Temple:
damaged by earthquake 2015
Narayan Temple: Temple of Lord Vishnu, built in 19th Century. (After Rehabilitation)
Rameshwor Temple: Damaged by earthquake 2015
Rameshwor Temple: A temple representing one of four sacred pilgrimage of India, enshrined Shiva Linga in the main sanctum, representing a unique architecture in Nepal.
(After Renovation)
Vatsala Temple: Damaged by earthquake 2015
Vatsala Temple: (18th Century) Temple of Goddess Vatsala one of consort of Lord Shiva. (After Renovation)
Tawa Sattal: Collapsed during earthquake 2015
Tawa Sattal (17th /18th Century) The biggest Sattal in Bhaktapur (After Renovation)
Bhairabnath Temple : Damaged by earthquake 2015
Bhairabnath Temple: (13th Century) The temple of the Bhairab, one of forms of Lord Shiv and one of most worshipping shrine in Bhaktapur, it was first built in 13th century and renovated in early 18th century. (After Conservation)
Ganesh Temple: after Renovation
Balakhu Pati: a public rest house especially built dedicating to Balakhu Ganesh for religious hymning of Ganesh (Under Restoration)
Pati, a public rest house (After Rehabilitation)
Southern and Eastern wings of Sadashiva Chowk: (17th Century) A component of Bhaktapur Royal Palace. After Rehabilitation.
Taleju Temple  :(14th Century)  The Temple of Goddess Taleju, the tutelary deity of Malla Dinasty. Present structure is of 15 to 17th century. (After Rehabilitation)
Kitchen Building, Currently reused by Nepal Army. (After Rehabilitation)
National Art Museum Building, a rear part of Simha Dhoka Palace. (Under Renovation)
Sattal of Dattatraya Square: Presently used as Dhatukala museum (After Conservation)
Balakhu Ganesh: Built in 17th Century Temple of Lord Ganesh. (After Rehabilitation)
Balakhu Pati: (18th Century) A public rest house, especially built dedicating to Balakhu Ganesh for religious hymning of Lord Ganesh. (After Rehabilitation)
Tripurasundari Dyochhen : (17th /18th Century) House of Goddess Tripurasundari Temple. (After Rehabilitation)
Pati, Traditional public rest house in Dattatraya Square. (After Renovation)
Narayan Temple: (18th/19th Century) Temple of Lord Vishnu, Dattatraya Square. (After Rehabilitation)
Natyashwor Temple: (16th/17th Century): Temple of Lord Shiva depicting in the dancing form. (After Rehabilitation)
Narayan Temple : (17th Century) :
A Temple of Ganesh in Golmadhi tole
(After Rehabilitation)
Badrinath Temple: Also called Badrinarayan temple, a representation of one of four sacred pilgrimage of India, dedicated to Lord Vishnu. (After Renovation)
Pujari Math: After Conservation
PATAN PROTECTED MONUMENT ZONE
Krishna Mandir: (17th Century) A Hindu temple dedicated to Lord Krishna. The temple completely built up of stone, was partially damaged by earthquake 2015.
Krishna Mandir: After Rehabilitation
Taleju Temple: Damaged by Earthquake 2015 (View from outside)
Mulchowk and Taleju Temple: (17th Century) The courtyard was an administrative center of the Kingdom and the Taleju was the Tutelary deity of Malla Dynasty. (After Renovation)
Mainmandap : Both Structures were collapsed by earthquake 2015 (Twin sattal)
Mainmandap : After Renovation (Twin sattal)
Sundari Chowk : (17th Century) The eastern wings of the Chowk was collapsed by earthquake 2015. (View from Bhandarkhal Pokhari)
Sundari Chowk: After Renovation
Vishwonath Temple : (17th Century) After Renovation
Char Narayan Temple: (16th Century) The temple was completely collapsed by earthquake 2015.
Hari Shankar Temple: (17th Century) The temple was completely collapsed by earthquake 2015.
Hari Shankar Temple: After Renovation
Kumbheswar Temple: Partially collapsed by the earthquake 2015.
Kumbheswar Temple: (14th Century) Temple of Lord Shiva, the only five storied Nepalese style temple of Patan was first built in the area. (Under Conservation)
Taleju Temple: (17th Century) The Taleju was the Tutelary deity of Malla Dynasty, Damaged by earthquake 2015.
Taleju Temple: After Rehabilitation
Yog Narendra Stone Pillar: damaged and broken by earthquake 2015
Yog Narendra Stone Pillar: after Rehabilitation
Radhakrishna Temple Renovation in the Progress
Bahadur Shah Bhawan: after Rehabilitation
Bhimsen Pillar: after Rehabilitation
HANUMANDHOKA DURBAR PROTECTED MONUMENT ZONE
Bamsagopal Temple - Chasin dega: collapsed by earthquake 2015
Bamsagopal Temple - (17th century): Temple of Lord Krishna Known as Chasing Dega - Octagonal temple (After Renovation)
Taleju Temple - (15th century: Temple of Taleju Bhawani, tutelary deit of Malla Dynasty (After Conservation)
Taleju Temple: After Conservation
Kageshwori Temple - (17th century): Partially collapsed by earthquake 2015
Kageshwori Temple - (17th century): A Shiva Temple (After Renovation)
Degu Taleju Temple - Damaged by earthquake 2015
Degu Taleju Temple -
(17th Century) A secret family shrine of Malla Dynasty of Kathmandu (After Conservation)
Laxminarayan Temple: Damaged by earthquake 2015
Laxminarayan Temple - (17th century) Temple of Bhishnu with his consort. (After Renovation)
Saraswati Temple : Damaged by earthquake 2015
Saraswati Temple - (17th Century) : Temple of goddess of knowledge. (After Renovation)
Panchamukhi Hanuman Temple:
Damaged by earthquake 2015
Panchamukhi Hanuman Temple:
Temple of Hanuman with five faces, built in 17th century (After Conservation)
Gaddhi Baithak : Severely Damaged by earthquake 2015
Gaddhi Baithak - (19th Century) : after Renovation
Swet Bhairab Temple: Damaged by earthquake 2015
Swet Bhairab Temple: Built in 18th century (After Conservation)
Dashain Ghar : Damaged by earthquake 2015
Dashain Ghar: (20th Century) A shrine inside Hanumandhoka palace to perform homage and worshiping on the occasion of Dashin festival (After onservation)
Shisha Baithak: Damaged by earthquake 2015
Shisha Baithak : (16th Century) One of the oldest preserved wings of the Hanumandhoka Palace. (After Conservation)
Nagaraghar: severely Damaged by earthquake 2015
Nagaraghar : (19th Century) A house to palace big traditional drum (After Rehabilitation)
Between Gaddi Baithak and Nautale Durbar (Block A) : (18th Century): Severely Damaged by earthquake 2015.
Between Gaddi Baithak and Nautale Durbar (Block A) (Under Renovation)
Kacha Dega: Damaged by earthquake 2015.
Kacha Dega: After Renovation
Maru Ganesh Dyochhen: A house for Maru Ganesh Temple (damaged by earthquake 2015)
Maru Ganesh Dyochhen : (20th Century): A house for Maru Ganesh Temple (After Renovation)
Tarini Bahal: A Buddhist Monastery Damaged by Earthquake 2015
Tarini Bahal: A Buddhist Vihar, also popularly known as Tarini Devi Temple (After Rehabilitation)
Shiva Temple:
Damaged by Earthquake 2015
Shiva Temple: 17th Century (After Renovation)
Das Avatar Temple: collapsed by earthquake 2015
Das Avatar Temple : under Renovation
Maju Dega: Collapsed by earthquake 2015
Maju Dega : under Renovation
Maru Sattal, Kasthamandap : Collapsed by earthquake 2015
Maru Sattal, Kasthamandap under Renovation
Pratap Malla Pillar: Broken and damaged by earthquake 2015
Pratap Malla Pillar : after Rehabilitation
Bhagawati Temple: damaged by earthquake 2015
Bhagawati Temple: after Renovation
Ganesh Temple: damaged by earthquake 2015
Ganesh Temple: after Rehabilitation
Masan chowk Nateswar: damaged by earthquake 2015
Masan chowk Nateswar: after Rehabilitation
Kritipur Tower: (Nautale Dubar) Damaged by earthquake 2015. (18th century)
Kritipur Durbar: after Renovation
Nautale Dubar : (Under Renovation)
Bhaktapur Durbar: after Renovation
Dhukutighar: National Treasure house of a historical period, built in 20th Century (After Conservation)
Pati: A traditional rest house for travelers or pilgrims on the way (After Renovation)
CHANGU NARAYAN PROTECTED MONUMENT ZONE
Changu Narayan Temple: The temple was severely damaged by earthquake 2015.
Changunarayan Temple: Temple of Lord Vishnu, one of the most ancient Vishnu temple in Nepal which is also mentioned in an inscription of 5th century. Present structure is of medieval period. (After Rehabilitation)
Kilaswar Temple: Temple of Shiva, enshrined Shivalinga in the main sanctum severely damaged by earthquake 2015.
Kilaswar Temple: (17th Century): Temple of Shiva, enshrined Shivalinga in the main sanctum. (After Rehabilitation)
Chhinnamasta Temple: Damaged by earthquake 2015.
Chhinnamasta Temple: (20th Century): Temple of the Chhinnamasta, Goddess with Head. (After Rehabilitation)
Amatya Sattal : Collapsed during the earthquake 2015.
Amatya Sattal: (19th Century): A pilgrim rest house. (After Renovation)
Bhimsen Pati: (Under Renovation)
Pati: (Under Renovation) Temple Complex North
Pati: (Under Renovation) Temple Complex west north
Pati: (Under Renovation) Temple Complex west south
THE END
KATHMANDU VALLEY WORLD HERITAGE SITE

INTEGRATED MANAGEMENT FRAMEWORK

Prepared by:
Government of Nepal
Ministry of Culture, Tourism and Civil Aviation
Department of Archaeology
in close collaboration with the
World Heritage Centre and
UNESCO-Kathmandu Office

1 JUNE 2007
Amendment 2021

Prepared by:
Government of Nepal
Ministry of Culture, Tourism and Civil Aviation
Department of Archaeology
in close collaboration with the
World Heritage Centre and
UNESCO-Kathmandu Office
FOREWORD TO FIRST AMENDMENT 2021

Mr. Damodar Gautam
Director General
Department of Archaeology
Government of Nepal

Since the preparation of the Integrated Management Framework document and its adoption by the Cabinet of the Government of Nepal in June 2007, the Kathmandu Valley World Heritage property has faced many new challenges.

The Gorkha Earthquake that struck on 25 April 2015 caused extensive damage to monuments. The Gorkha Earthquake had a devastating effect on vernacular architecture and historic monuments. The earthquake destroyed about half a million houses with a further quarter million being seriously damaged. A total of 920 monuments were affected in 31 districts. This does not include approximately 845 Buddhist monasteries which come under the Monastery Management Committee. Of these within the seven monument zones of Kathmandu Valley World Heritage property, there were 33 collapsed and 137 partially damaged monuments.

Furthermore, with the promulgation of the new Constitution of Nepal 2015, the government has gone through major restructuring. The federal system has introduced provincial governments with various important jurisdictions. Furthermore, the local government has been given even greater powers. The reorganization within this new governance system has required flexibility and caution, particularly in respect to the objective of safeguarding heritage, even after the destruction caused by the Gorkha Earthquake.

Taking into account these enormous challenges, it has been high time to adopt an updated and amended management framework document. The process of review took place between 2012 and 2015 in close collaboration with the site managers of the individual monument zones and the local community. A draft amendment was prepared and finalized in April 2015, just when the earthquake struck, changing circumstances and the immediate focus. Now that a certain level of rehabilitation has been carried out, it has been possible to again review the management requirements of the World Heritage property of Kathmandu Valley.

I hereby present you with the new amended Integrated Management Framework document which addresses the latest needs of the Kathmandu Valley World Heritage property. I would first like to thank the members of the Coordinate Working Committee representing all the monument zones for their constant contribution. Further, I would like to thank my team at the Department of Archaeology for supporting this endeavour, which includes Mr Ram Kunwar, Mr Suresh Shrestha, Mr Debendra Bhattrai and Ms Subhadra Bhattarai. I would also like to thank our consultants Mr Kai Weise and Ms Anie Joshi for formulating, compiling and editing this document.

June 2021

Damodar Gautam
Director General
Department of Archaeology
FOREWORD FOR 2007 EDITION

Mr. Kosh Prasad Acharya
Director General (former)
Department of Archaeology
Government of Nepal

The Seven Monument Zones of the Kathmandu Valley were inscribed as a single World Heritage Site as early as 1979. Twenty four years later, in 2003, this property was inscribed on the List of World Heritage in Danger due to the loss of traditional vernacular heritage and the threat of uncontrolled development.

Over the past four years, the State Party has committed itself to work closely together with the stakeholders and responsible international agencies to address the issues that have threatened the outstanding universal value of the Kathmandu Valley World Heritage Site. One of the key achievements have been this process oriented Integrated Management Plan, which was prepared in close cooperation between the Department of Archaeology and the local authorities and site managers, with international support and expertise.

The Integrated Management Plan has defined the approach and strategies for the preservation of the outstanding universal value of the property through the improvement of existing institutional, legal and economic frameworks. The process is defined by the sixteen documents that comprise the Integrated Management Plan. The Integrated Management Framework is the official document that has been adopted by the State Party, which is supplemented by a working document, the Integrated Plan of Action. Additionally, Management Handbooks have also been prepared for each of the seven Monument Zones, each supplemented by individual Plans of Action. These documents are to be reviewed and revised at regular intervals.

I am proud to announce that this process is being implemented.

I would like to take this opportunity to thank all those who have contributed to the preparation of the Integrated Management Plan, many of whom will be responsible for its implementation.

- The preparation of the Integrated Management Plan was funded by the Dutch Government and the World Heritage Fund.
- I wish to thank World Heritage Centre and the UNESCO Kathmandu Office for their cooperation and support.
- Here I would specially like to mention the members of the UNESCO – ICOMOS joint missions of June 2006 and April 2007; Prof Herb Stovel, International Technical Advisor and ICOMOS expert and Ms Junko Okahashi of the World Heritage Centre, who supported the project throughout its two years of preparation. The preparation of the Integrated Management Plan was facilitated by Mr Kai Weise, UNESCO Consultant.
- I am grateful to the Site Managers and local authorities of the seven Monument Zones and my colleagues of the Department of Archaeology for their enthusiastic participation.

May 2007

Kosh Prasad Acharya
Director General
Department of Archaeology
Mr. Francesco Bandarin  
Director  
UNESCO World Heritage Centre

I sincerely wish to congratulate our friends and colleagues in Nepal, who, with strong sense of responsibility and commitment for the safeguarding and conservation of the country’s important heritage of Outstanding Universal Value, accomplished this document through a remarkably process-oriented approach.

It is my great pleasure to mention that this Integrated Management Plan for the Kathmandu Valley World Heritage property could be exemplary, in many respects, for other World Heritage sites in the world which share similar pressing challenges, addressing the social, political and economic complexities of the site with multi-component values.

Heritage values cannot be protected, preserved and promoted without the management capability and the sense of ownership by the site-managers and stakeholders, first locally, nationally, then on the international level. This process for the Integrated Management Plan for the Kathmandu Valley has proved the joint efforts of all concerned, on all levels, and I hope for the best towards the sustainable implementation of the plan, with our continued efforts with no end.

May 2007

Francesco Bandarin  
Director - UNESCO World Heritage Centre

Prof. Herb Stovel  
International Technical Advisor  
ICOMOS Expert

“In summary, the IMP process has accomplished what it set out to do during development – to put in place a widely shared framework for implementation – and provided a complementary and carefully detailed set of guiding management instruments, each adapted to the specificity of the individual monument zones, while focussed at their core on retention of the property’s OUV. It can be particularly commended because it constitutes a management plan clearly intended to work to modify and improve an existing management system, and because the focus on “integrated” has ensured pragmatic attention to fitting its objectives and operational activities into existing legal, institutional and economic frameworks”.

May 2007

Herb Stovel,  
International Technical Advisor  
ICOMOS Expert
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Preamble

The Integrated Management System for Kathmandu Valley has been established consisting of adopted management frameworks, established processes and actions along with various sector plans. With regular consultation with government authorities, local representatives and community, it has been possible to come to an overall understanding of how Kathmandu Valley, with the seven monument zones, needs to be managed to ensure that heritage in safeguarded while enabling the local communities to improve their livelihood. Close relationship has also been developed with related sectors such as local administration, tourism, sustainable development and disaster risk management. Specific Management Handbooks define management of each of the monument zones.

The Integrated Management
1. Integrated Management Framework (IMF)
2. Integrated Plan of Actions (IPA)
While the Integrated Management Framework document has been officially adopted by the State Party, the Integrated Plan of Actions is a working document requiring ongoing amendments and changes to be carried out and would be the basis for establishing annual action plans.

Sectoral Plans or Strategies
Additionally, there are four sectoral plans or strategies:
3. Conservation Management Plan (CMP)
4. Sustainable Development Strategy (SDS)
5. Disaster Risk Management Strategy (DRM)
6. Tourism Management Strategy (TMS)
These sectoral plans or strategies contain detailed definitions, assessments and means of managing the particular sector. Cross-sectoral coordination is achieved through the Integrated Management Framework and Integrated Plan of Actions. An executive summary of each sector plan would be included in the Integrated Management Framework while specific actions determined for each sector would need to be included in the Integrated Plan of Actions. The sectoral plans link to the relevant planning at provincial and federal level that have been prepared through the relevant government agencies, and coordinate with other ongoing planning. This requires close collaboration with the government at local and provincial level as well as the concerned authorities at federal level.

Monument Zone Management Handbooks
Based on the IMF and IPA, each of the seven monuments zones will prepare their site specific Management Handbooks, which specifically define the management framework and processes.
1. Hanuman Dhoka Durbar Square Monument Zone Management Handbook
2. Swayambhu Monument Zone Management Handbook
3. Pashupati Monument Zone Management Handbook
4. Bauddhanath Monument Zone Management Handbook
5. Patan Durbar Square Monument Zone Management Handbook
7. Changu Narayan Monument Zone Management Handbook
1. IDENTIFICATION and OBJECTIVES

1.1 INTRODUCTION

The Integrated Management Framework (IMF) for the Kathmandu Valley World Heritage Property (KVWHP) is a document adopted by the State Party that defines the process of implementing the Integrated Management Plan (IMP). The IMP is comprised of additional supporting documents: the Integrated Plan of Action (IPA), Sectoral Strategies and Site Management documents for individual monument zones.

Need for the IMP
The World Heritage property within the Kathmandu Valley is probably one of the most complex in the world, comprised of seven monument zones, each with specific management requirements. Each monument zone contributes to the outstanding universal value of the World Heritage property. However, the threat to each zone is different in form and degree. The aim of this management plan is to develop a framework for the integration of the seven monument zones within a single management system, while taking into account each of their specific management requirements.

The Kathmandu Valley was placed on the List of World Heritage in Danger in 2003 due to uncontrolled development and loss of historic fabric. With the adoption of the IMP by the cabinet of the Government of Nepal in 2007, the property was removed from the danger list. The World Heritage property was again threatened by the 2015 Gorkha Earthquake, requiring coordinated management.

Status of the IMP
The Integrated Management Plan must be seen as a road map towards achieving the goal of conserving the outstanding universal value of the seven monument zones of the KVWHP. The IMP is not a legal document; however it defines a process which was developed through consensus of the concerned authorities.

Since 2007, the IMP has been implemented. This has been the basis for managing the seven monument zones and ensuring the conservation of the attributes expressing Outstanding Universal Value while controlling development within the monument zones. The management structures, both at the property level as well as at the site level, have been established and are being adapted to the needs of the specific monument zones.

The IMP must be reviewed every five years. The process of reviewing the management system began in 2012, however, due to the Gorkha Earthquake the amendments were never finalized. The initial phase of post-earthquake recovery is coming to a close and with the new Constitution of Nepal being implemented, this amendment of the IMF document has addressed the most updated status of the World Heritage property.

The IMF Document
The IMF is a document adopted by the State Party that defines the framework within which the IMP is to be implemented.

This document is comprised of three parts:
Part 1: Identification and Objectives
This section defines the KVWHP and its seven monument zones. The objectives of the IMP are formulated based on the need to address specifically identified issues.

Part 2: Integrated Management Framework
This section gives the overall strategies and defines in detail the institutional, legal and resources frameworks.

Part 3: Implementation and Coordination
This section gives the outline on the long term process of implementing the IMP, the sector-wise coordination and the Monitoring Framework. This links with the sectoral plans or strategies that deal with the management of conservation, sustainable development, disaster risk and tourism.
1.2 DEFINING THE PROPERTY

Name of the property:
Kathmandu Valley World Heritage

Date of Inscription:
1979 (boundary modified in 2006)

Location:
The World Heritage Site is comprised of seven Monument Zones which are all located within the Kathmandu Valley. The Monument Zones are strewn across the three districts of Kathmandu, Lalitpur and Bhaktapur, within the Bagmati Province of Nepal.

Description of the Site:
The Kathmandu Valley property is inscribed on the UNESCO list of World Heritage as a single site, comprising of seven Monument Zones. The cultural heritage of the Kathmandu Valley is illustrated by seven groups of monuments and buildings which display the full range of historic and artistic achievement for which the Kathmandu Valley is world famous. The seven include the Durbar Squares of Hanuman Dhoka (Kathmandu), Patan and Bhaktapur, the Buddhist stupas of Swayambhu and Baudhanath, and the Hindu temples of Pashupati and Changu Narayan.

Authorities:
The State Party is represented by the Department of Archaeology, Ministry of Culture, Tourism and Civil Aviation as provided for by the Ancient Monument Preservation Act 1956.

The seven Monument Zones come under the jurisdiction of the local authorities as defined by the Local Government Operation Act 2017. There are four Monument Zones within the Kathmandu Metropolitan City: Hanuman Dhoka Durbar Square, Swayambhu, Baudhanath and Pashupati. The Patan Durbar Square lies within Lalitpur Metropolitan City, the Bhaktapur Durbar Square within Bhaktapur Municipality and Changu Narayan within the Changu Narayan Municipality.

The Pashupati Area Development Trust has the authority to manage the Pashupati Area as per the Pashupati Area Development Trust Act 1996. The Federation of Swayambhu Management and Conservation represents the local NGOs of the Swayambhu area. The Baudhanath Area Development Committee was established to manage the Baudhaha area.
1.2.1 RETROSPECTIVE STATEMENT OF OUTSTANDING UNIVERSAL VALUE

During the second cycle of periodic reporting on the implementation of the World Heritage convention in Asia and the Pacific between 2010 and 2012, a retrospective Statement of Outstanding Value was prepared and adopted by the World Heritage Committee.

Brief synthesis
Located in the foothills of the Himalayas, the Kathmandu Valley World Heritage property is inscribed as seven Monument Zones. These monument zones are the Durbar squares or urban centres with their palaces, temples and public spaces of the three cities of Kathmandu (Hanuman Dhoka), Patan and Bhaktapur, and the religious ensembles of Swayambhu, Baudhanath, Pashupati and Changu Narayan. The religious ensemble of Swayambhu includes the oldest Buddhist monument (a stupa) in the Valley; that of Baudhanath includes the largest stupa in Nepal; Pashupati has an extensive Hindu temple precinct, and Changu Narayan comprises traditional Newari settlement, and a Hindu temple complex with one of the earliest inscriptions in the Valley from the fifth century AD. The unique tiered temples are mostly made of fired brick with mud mortar and timber structures. The roofs are covered with small overlapping terracotta tiles, with gilded brass ornamentation. The windows, doorways and roof struts have rich decorative carvings. The stupas have simple but powerful forms with massive, whitewashed hemispheres supporting gilded cubes with the all-seeing eternal Buddha eyes.

As Buddhism and Hinduism developed and changed over the centuries throughout Asia, both religions prospered in Nepal and produced a powerful artistic and architectural fusion beginning at least from the 5th century AD, but truly coming into its own in the three hundred year period between 1500 and 1800 AD. These monuments were defined by the outstanding cultural traditions of the Newars, manifested in their unique urban settlements, buildings and structures with intricate ornamentation displaying outstanding craftsmanship in brick, stone, timber and bronze that are some of the most highly developed in the world.

Criterion (iii):
The seven monument ensembles represent an exceptional testimony to the traditional civilization of the Kathmandu Valley. The cultural traditions of the multi ethnic people who settled in this remote Himalayan valley over the past two millennia, referred to as the Newars, is manifested in the unique urban society which boasts of one of the most highly developed craftsmanship of brick, stone, timber and bronze in the world. The coexistence and amalgamation of Hinduism and Buddhism with animist rituals and Tantrism is considered unique.

Criterion (iv):
The property is comprised of exceptional architectural typologies, ensembles and urban fabric illustrating the highly developed culture of the Valley, which reached an apogee between 1500 and 1800 AD. The exquisite examples of palace complexes, ensembles of temples and stupas are unique to the Kathmandu Valley.

Criterion (vi):
The property is tangibly associated with the unique coexistence and amalgamation of Hinduism and Buddhism with animist rituals and Tantrism. The symbolic and artistic values are manifested in the ornamentation of the buildings, the urban structure and often the surrounding natural environment, which are closely associated with legends, rituals and festivals.
Integrity

All the attributes that express the outstanding universal value of the Kathmandu Valley are represented through the seven monument zones established with the boundary modification accepted by the World Heritage Committee in 2006. These encompass the seven historic ensembles and their distinct contexts. The majority of listed buildings are in good condition and the threat of urban development is being controlled through the Integrated Management Plan. However the property continues to be vulnerable to encroaching development, in particular new infrastructure.

Authenticity

The authenticity of the property is retained through the unique form, design, material and substance of the monuments, displaying a highly developed traditional craftsmanship and situated within a traditional urban or natural setting. Even though the Kathmandu Valley has undergone immense urbanization, the authenticity of the historic ensembles as well as much of the traditional urban fabric within the boundaries has been retained.

Protection and management requirements

The designated property has been declared a protected monument zone under the Ancient Monument Preservation Act, 1956, providing the highest level of national protection. The property has been managed by the coordinative action of tiers of central government, local government and non-governmental organizations within the responsibilities and authorities clearly enumerated in the Integrated Management Plan for the Kathmandu World Heritage Property adopted in 2007.

The implementation of the Integrated Management Plan will be reviewed in five-year cycles allowing necessary amendments and augmentation to address changing circumstances. A critical component that will be addressed is disaster risk management for the property.
1.2.2 AUTHENTICITY OF PROPERTY

Authenticity (How attributes convey their significance)

The authenticity of the Kathmandu Valley World Heritage property is retained through the unique form, design, material and substance of the monuments, displaying a highly developed traditional craftsmanship and situated within a traditional urban or natural setting, which have however throughout history gone through the process of cyclical renewal.

As per the Operational Guidelines for the Implementation of the World Heritage Convention, properties nominated under criteria (i) to (vi) must meet the conditions of authenticity. Authenticity is a measure of the degree to which the values of a property may be understood to have been credible, truthful, and genuinely expressed by the attributes of the property. (Operational Guidelines 2005 Para 79/80)

Discussion on Authenticity

Every component of the World Heritage property, be it the monuments or the surrounding context, has inherent values that encompasses a specific meaning of authenticity within itself. This does not allow a general understanding of authenticity to be formulated for the overall property. However, certain principles must be formulated to establish a basis for the preservation of the value of the property.

The conservation of a heritage property must fulfil two tasks:

1. be a testimony to the achievements of the past which necessitates the preservation of specific tangible elements in its original state; and
2. the continuation of a living cultural heritage which must be based on the appreciation of the past, however taking change into account.

Cyclical Renewal

The principles that have governed the construction and the maintenance of the monument throughout its history, is an inherent aspect defining the character of the monument.

The monuments of the Kathmandu Valley have been exposed to two extreme natural phenomena throughout history, earthquakes and dampness. In response to the effects of these natural phenomena, the monuments have traditionally undergone cyclical renewal. (It must be noted here that Nepal has never been a colony of any western empire, had little contact to the outside world until 1951, and was therefore only recently introduced to the western concept of conservation).

Cyclical renewal in the case of the Kathmandu Valley has clearly meant reconstruction. This is especially obvious after the destruction of monuments due to earthquakes.

Most monument Zones still have testaments of the hasty renewal after the 1934 earthquake. It is clear that at that point in time, many monuments were not renewed as per their original form (e.g. the Chaturmukhalinga Mahadev Temple in Hanuman Dhoka and the Fasi Dega Temple in Bhaktapur). There is also proof of monuments that were destroyed during the 1934 earthquake that were never reconstructed (e.g. the Hari Shankar Temple in Bhaktapur).

Taking into consideration that the authentic character of a monument Zone should not be understood as the original character, the form of these testaments of the 1934 earthquake should remain unaltered. It might, however, be necessary to review this principle for specific cases.

For example, during the restoration of the 55-Window Palace in Bhaktapur, it was found that many wooden elements that were reused after the hasty reconstruction in 1934 were replaced in the wrong position or direction, contrary to traditional construction practice. It was decided to rectify this during the restoration process.

On the other hand, the Chyasilin Mandapa on the Bhaktapur Durbar Square, which was totally destroyed during the 1934 earthquake
was reconstructed five decades later based solely on photographs. The Mandapa itself has very little that could be called authentic, however it does contribute to recreating a part of the original (pre-1934) identity of the Bhaktapur Durbar Square.

The 1934 earthquake also had major impact on the urban fabric surrounding the Monument Zones.

*In and around Hanuman Dhoka, major urban renewal was carried out during the reconstruction procedure. The buildings along Juddha Saddak were reconstructed in the white stucco facades of the Rana style. The Basantapur Square was carved out of the urban fabric. (Even today, one of the listed monuments of Hanuman Dhoka is Banya Bahal in the middle of Basantapur Square – however a Bahal is a courtyard building).*

The most predominant problem facing the urban fabric is the rising dampness. The lack of damp proofing in traditional buildings destroys the brickwork on the ground floor over time. Cyclical renewal through reconstruction has traditionally been the only means of responding to this problem.

**The Attributes**

The process of cyclical renewal should however follow strict guidelines. The cultural value need to be truthfully and credibly expressed through a variety of attributes (Operational Guidelines para 82).

**Form and Design:**

Restoration should be carried out based on detailed documentation of the building. This would mean that the form and design of the building must not change.

The nomination document emphasises the “Newari” style of buildings. However, the Newari style went through transformations and can be roughly categorised into *Malla style* and *Shah style*. The later Shah period was greatly influenced by the white stucco Rana style (a western neo-classical style introduced by the Rana prime ministers towards the end of the 19th century).

It must be noted here that none of the Rana style buildings within the Monument Zone boundaries were considered listed monuments in the nomination document.

Restoration of structures should not discriminate between Malla, Shah and Rana style buildings. However, buildings that were built using reinforced cement concrete and are considered obtrusive need to be rectified – not in pursuit of regaining lost authenticity, but to minimise their impact on their surroundings. Rectification should be done respecting the neighbouring historic buildings.

**Materials and Substance:**

The use of construction materials is very closely linked to the structural system of the monument. Malla, Shah and Rana buildings were load-bearing fired brick or adobe masonry structures with mortar comprising of a combination of earth, lime, surkhi (brick dust) and sand. In most cases this was combined with wooden post structures. There are also some examples of stone structures. The traditional workmanship entailed in the production of the materials or construction elements are an important aspect in retaining authenticity.

A high degree of ornamentation was achieved specific to each of the styles. This is especially the case with ornamental fired bricks, intricate carving of wooden elements and stucco ornamentation of the Rana style buildings. The use of stone and carved stone elements was limited to some temples. The correct interpretation and employment of these elements is an important aspect in respect to authenticity.

There has been a general trend to use the traditional Dacchi Appa bricks for restoration and the construction of new buildings within the monument zones. However pleasing it maybe aesthetically, this clearly goes against the principle of authenticity. Dacchi Appa bricks were only used for buildings commissioned by the Malla kings (with some exceptions), however all other private buildings were constructed of Ma Appa.
The materials used for paving must be verified for their appropriateness in respect to authenticity.

Should materials that are new to the site be employed for technical reasons – especially in respect to dealing with stability and dampness - they need to be either reversible or of a durability that is at least equivalent to traditional materials. This is especially the case with the most intrusive material of our times; cement concrete. However differentiation needs to be made between mass concrete and reinforced concrete. Various forms of mass concrete have been known to have survived for centuries, while the lifespan of reinforced concrete is considered to be between 50 to 70 years.

**Use and Function:**
The traditional use and function of the major monuments must be retained, especially so for the religious monuments. However, the use and function of monuments such as palaces will inevitably be impacted by the changing political scenario. The generally accepted practice of “adapted re-use” should be utilised. However, the degree to which the buildings are altered to cater to a new function must be minimised and should ideally be reversible, to allow for a clear differentiation between old and new.

The adapted re-use of the palaces – or parts thereof – has already been implemented in the palaces at Hanuman Dhoka, Patan and Bhaktapur by using them as museums.

The use and function of public spaces and urban fabric will change based on the continuation of a living heritage. The change should, however, be based on the understanding and appreciation of the heritage values of the site.

The scale of the streets and squares were created for pedestrian use.

The private buildings were used as dwellings and for commercial purposes. The function of these buildings should be regulated to allow for only traditional and compatible activities. Individual historic buildings might be conserved through “adaptive re-use”. This is especially the case with buildings that are functionally obsolete. It can not be expected that historic buildings which are obsolete due to their design, such as ceiling height below 180cm, continue to be used.

**Traditions, Techniques and Management Systems:**

Traditions: refer to “Language and other forms of Intangible Heritage”;

Techniques: refer to “Materials and Substance”;

The traditional management system was comprised of the community based Guthis. After the nationalisation of Guthis in 1964, most Guthis have become non-operational. Consideration could be given to the possible revival of the Guthis, however the concept of community based preservation of monuments should be seen as an authentic management system.

**Location and Setting:**
Most often location and setting is an integral part of a heritage property.

The “Authenticity of Location” would mean that no monument should be moved to a new location.

To be in a position to approach the issue of “Authenticity of Setting” in a practical manner, certain spatial demarcation is required. The setting would generally refer to the context within which the heritage property is situated and the sensual impact it has. This spatial area surrounding the heritage property has been demarcated, where necessary, as a buffer zone. The character of the setting must not change, however the “Authenticity of Setting” restricts itself to ensuring the protection of the values of the heritage property itself.

**Language and other forms of Intangible Heritage:**
The predominant aspects of Newari culture needs to be preserved, which would mean their language, customs and festivals.

This is especially so for such unique customs as those linked to the living goddess Kumari.
The regular activities and the festivals that are carried out by the community at the religious sites must continue. The significance of many of the monuments and surroundings are closely linked to their religious value.

**Spirit and Feeling:**
Authenticity in respect to spirit and feelings would refer to *sensual* impact of the heritage property, which is closely linked to its identity. The visual environment, linked to sound and smells reflects the sentiment of a place. It is clearly not acceptable to preserve the authentic spirit and feeling of a polluted, unhygienic environment of historic cities. However, the spirituality of the religious monument zones needs to be retained by preserving the sensual impact. This means controlling pollution – air, water, noise – and the change of the visual environment.

**Authenticity and the rehabilitation after the Gorkha Earthquake**

With the extensive destruction caused by the Gorkha Earthquake that struck central Nepal on 25 April 2015, the following reconstruction, or the next phase of cyclical renewal that took place, tested the concept of authenticity.

It is particularly important to note that the main causes for damaged or collapsed of most traditional structures were lack of maintenance and previous inappropriate interventions. Further research will show that the structural performance of the traditional monuments are adequate without introducing interventions using new technology and materials. Authenticity is linked to, not only the design and materials, but also to the knowledge and skills of the traditional artisans. This is what needs to be protected.

The concept of authenticity has also required some adaptation to the circumstances and conditions in the Kathmandu Valley. As defined even before the earthquake, the need for cyclical renewal has been stated. Furthermore, the destruction caused by the earthquake has required reconstruction of monuments. Where possible, salvaged materials were to be used to reconstruct, however, the value lies in the correct design and detailing, use of similar materials which have been worked, as far as possible, in the traditional manner. This requires artisans to be supported to ensure that they retain their knowledge and skills and pass it on to the next generation.

A key aspect of post-earthquake rehabilitation has been the involvement of the various stakeholders and the importance shown to cultural heritage in the recovery process. There is a need for mutual understanding and collaboration between the respective stakeholders, whether government authorities or related community members. Access to the monuments, and rehabilitation of traditional functions is critical to maintain the authenticity of the site, monument or cultural objects, since the living heritage provides the monument with its primary significance, and its continuity.
1.2.3 INTEGRITY OF THE PROPERTY

Integrity (How the attributes sustain their significance)

The integrity of the Kathmandu Valley World Heritage property is retained by means of the clearly defined Monument Zone boundaries encompassing the elements that contribute to the outstanding universal value, which are guaranteed maintenance and protected by means of the Integrated Management Plan.

As per the Operational Guidelines for the Implementation of the World Heritage Convention, all properties nominated for inscription on the World Heritage List must satisfy the conditions of integrity. Integrity is a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes. (Operational Guidelines 2005 Para 87/88)

Discussion on Integrity

Integrity refers to the wholeness and intactness of the World Heritage property and its attributes. The quantitative aspect of integrity takes into account whether the boundaries encompass the attributes and linkages that give it its outstanding universal value. The qualitative aspect of integrity takes into account the intactness of each component of the property.

The extent to which the property includes all elements necessary to express its outstanding universal value:

The outstanding universal value of the Kathmandu Valley is expressed through the seven Monument Zones that together comprise the World Heritage property. The boundaries encompass the listed monuments and the context within which they are located. The extent of the boundaries in respect to the inclusion of the surrounding context has been debated due to the differences in interpretation of the nomination document. The value of the urban fabric surrounding the three durbar squares has been considered as the context within which the listed monuments are located and not in respect to being elements that are themselves of outstanding universal value.

The relationships and dynamic functions present in the Monument Zones have been partially included within the boundaries. Six out of the seven Monument Zones have a buffer zone to further safeguard its value.

The extent to which the property suffers from adverse affects of development and/or neglect:

The seven Monument Zones of the Kathmandu Valley were placed on the List of World Heritage in Danger in 2003 due to the loss of traditional vernacular heritage and persisting uncontrolled development. However, the majority of monuments listed in the nomination document are in good condition, many of them in an even better condition than when the site was inscribed. The main problem is the change that the surrounding context has undergone. The ongoing challenge is to bring the impact of the deterioration processes under control.

There are only few cases of listed monuments suffering from neglect, and even these are in the process of being restored. Neglect can only be referred to the lack of strict implementation of the bylaws.

Integrity and rehabilitation after the Gorkha Earthquake

The extensive destruction caused by the 2015 Gorkha Earthquake raised the question whether the integrity of the heritage property was lost. As discussed under authenticity in the previous section, the rehabilitation of the monument zones have been a priority for the State Party, and progress can be noted both in respect to tangible and intangible heritage.
1.2.4 Sustainable Development

Sustainable Development must be pursued within the Kathmandu Valley World Heritage property. This means that conservation of cultural and natural heritage must go hand-in-hand with social and economic development, taking into account the needs of future generations.

Discussions on Sustainable Development

The Brundtland Commission defined Sustainable Development as, “development that meets the needs of the present without compromising the ability of future generations to meet their own need”. Sustainable Development is considered to be based on the following three policy areas or “pillars”: economic development, social development and environmental protection. There have however been further elaborations done to this definition, namely in respect to the inclusion of culture (or cultural diversity) as an integral part of our environment or even as the fourth pillar of Sustainable Development. By inclusion of culture – especially in respect to heritage conservation – the definition of Sustainable Development embraces a whole new dimension; that of our past.

The conservation of “heritage” - be it cultural or natural - reflects the key principle of Sustainable Development; it is the conservation of that which we inherit from the past, which is of value and is worth preserving for future generations. “Value” as utilized here, is the qualitative aspect of “need”, the term referred to in defining Sustainable Development.

The four components of Sustainable Development are interdependent and must therefore be understood within their integral framework.

Economic Sustainability
Economic Sustainability is achieved when all people have access to an improved standard of living without impairing future economic development.

Social Sustainability
Social Sustainability is achieved when transformations of social structures improve capacity of societies to achieve their aspirations while retaining their positive features.

Environmental Sustainability
Environmental Sustainability is achieved when the consumption of nature’s resources does not exceed their replenishment.

Cultural Sustainability
Cultural Sustainability is achieved when heritage (as defined in the second paragraph) is conserved without inhibiting the achievement of society’s basic needs.

Relevance to the Kathmandu Valley World Heritage Site

The Kathmandu Valley World Heritage property encompasses seven monument zones that are under great pressure to “change”. This change needs to be directed along the principles of Sustainable Development. This means that conservation of cultural and natural heritage must go hand-in-hand with social and economic development, taking into account the needs of future generations.

Sustainable Development Goals (SDGs) and management of World Heritage

Para 36 of the 2030 Agenda for Sustainable Development Declaration states; ‘We pledge to foster intercultural understanding, tolerance, mutual respect and an ethic of global citizenship and shared responsibility. We acknowledge the natural and cultural diversity of the world and recognize that all cultures and civilizations can contribute to, and are crucial enablers of, sustainable development’. The SDG goals and targets are relevant to the management of Kathmandu Valley World Heritage property, allowing resources to achieve the SDGs to be utilized.
1.2.5 BOUNDARY and BUFFER ZONES

The modifications to the boundaries and buffer zones of the seven Monument Zones of the Kathmandu Valley were approved by the World Heritage Committee during their 30th session in July, 2006.

As per the Operational Guidelines for the Implementation of the World Heritage Convention, the delineation of boundaries is an essential requirement in the establishment of effective protection of nominated properties and should be drawn to ensure the full expression of the outstanding universal value and the integrity and/or authenticity of the property. Wherever necessary for the proper conservation of the property, an adequate buffer zone surrounding the nominated property should be provided for, which has complementary legal and/or customary restrictions placed on its use and development. (Operational Guidelines 2005 Para 99/103/104)

Boundaries

The seven monument zones of the Kathmandu Valley were inscribed on the List of World Heritage in 1979 based on the nomination document, which included maps specifying boundaries. However, the boundaries that the State Party gazetted were modifications which were not officially approved by the World Heritage Committee. The boundaries of the monument zones were gazetting as Protected Monument Zones (PMZ) out over a period of 20 years:

1978 (2035) SWAYAMBHU STUPA
1984 (2041) BAUDDHANATH
         HANUMAN DHOKA DURBAR SQ.
         BHAKTAPUR DURBAR SQ.
         LALITPUR DURBAR SQ.
1987 (2044) CHANGU NARAYAN
         increased HANUMAN DHOKA
         DURBAR SQUARE
1994 (2051) increased SWAYAMBHUNATH
1996 (2053) increased BHAKTAPUR DURBAR SQ.
         increased LALITPUR DURBAR SQ.
1998 (2055) PASHUPATINATH
         decreased BAUDDHANATH

After the Kathmandu Valley was inscribed on the List of World Heritage in Danger in 2003, the World Heritage Committee requested the State Party to redefine the boundaries.

The redefinition of the boundaries was prepared by the Department of Archaeology in close consultation with the local authorities and taking into account the recommendations made by the International Technical Workshop held in Kathmandu in May, 2004 (WHC / DoA / UNESCO Kathmandu) and the ICOMOS / WHC Missions to Kathmandu Valley in March, 2005 and June, 2006.

Buffer Zones

On inscribing the Kathmandu Valley on the List of World Heritage in Danger in 2003, the World Heritage Committee also requested the State Party to establish adequate buffer zones for the Monument Zones.

The buffer zone proposals were prepared by the Department of Archaeology in close consultation with the local authorities and taking into account the recommendations made by the International Technical Workshop held in Kathmandu in May, 2004 (WHC / DoA / UNESCO Kathmandu) and the ICOMOS / WHC Missions to Kathmandu Valley in March, 2005 and June, 2006.

The buffer zones for Patan Durbar Square and Bhaktapur Durbar Square encompass the whole historic city areas. It was not found necessary for Changu Narayan Monument Zone to have a buffer zone. The buffer zones of the remaining four Monument Zones (Hanuman Dhoka Durbar Square, Swayambhu, Bauddhanath and Pashupati), were defined as the area between the newly redefined monument zone boundaries and the latest gazetted PMZ boundaries.

The buffer zones were approved by the World Heritage Committee during their 30th session in July, 2006.
The following boundaries and buffer zones have been approved by the World Heritage Committee during their 30th session in July, 2006:

**HANUMAN DHOKA DURBAR SQUARE MZ**

The boundary encompasses the main monuments and the surrounding context of squares and open spaces, thereby ensuring the identity of the monument zone is retained. (Area 5.09 ha approx.)

The buffer zone includes a strip of urban fabric surrounding the monument zone and corresponds to the area gazetted in 1989. (Area 6.47 ha approx.)

**SWAYAMBUH MZ**

The boundary encompasses the entire hillock which is an integral part of the identity of the Swayambhu stupa, and contributes to the outstanding universal value of the property. (Area 32.63 ha approx.)

The buffer zone encompasses a strip around the foot of the hillock and corresponds to the area gazetted in 1994. (Area 25.18 ha approx.)

**PASHUPATI MZ**

The boundary encompasses the areas that have important religious and historic links to the main Pashupatinath temple that as a whole contributes to the outstanding universal value of the property. (Area 83.55 ha approx.)

The buffer zone encompasses a strip of land of varying depth around the monument zone and corresponds to the area gazetted in 1998. (Area 11.55 ha approx.)

**BAUDDHANATH MZ**

The boundary encompasses the open space and circumambulatory path around the main stupa. The monument itself clearly retains outstanding universal value. (Area 1.27 ha approx.)

The buffer zone encompasses the buildings surrounding the circumambulatory path, as well as certain open spaces beyond the circle of buildings and corresponds to the area gazetted in 1998. (Area 2.83 ha approx.)
The boundaries and buffer zones of the monument zones have legally defined based on demarcations made on cadastre plans. The monument zones are protected under the provisions of the Ancient Monument Preservation Act 1956, gazetted as Protected Monument Zones (PMZ), which only exclude the buffer zones of Patan Durbar Square and Bhaktapur Durbar Square.

PATAN DURBAR SQUARE MZ

The boundary encompasses the Durbar Square and extends toward the north including Kwa Bahal and the Kumbeshwor temple. The boundary corresponds to the area gazetted in 1996. (Area 15.89 ha approx.)

The buffer zone encompasses the whole historic city of Lalitpur comprising of the municipal the ‘Conservation Sub-Zone’ and the ‘Mixed Old Settlement Sub-Zone’. (Area 103.17 ha approx.)

BHAKTAPUR DURBAR SQUARE MZ

The boundary encompasses the Durbar Square and Taumadi Square and the trade route up to Dattatraya Square. The boundary corresponds to the area gazetted in 1996. (Area 14.60 ha approx.)

The buffer zone encompasses the whole historic city of Bhaktapur comprising of the municipal ‘World Heritage Zone’ and the ‘Old City Zone’. (Area 121.43 ha approx.)

CHANGU NARAYAN MZ

The boundary encompasses a large part of the Changu Narayan hillock based on ownership patterns and access paths. The boundary corresponds to the area gazetted in 1984. (Area 35.92 ha approx.)

No Buffer Zone has been proposed for Changu Narayan Monument Zone. The Monument Zone comprises of large areas of natural setting, which itself functions as a buffer.
1.3 OBJECTIVES OF THE IMP

1.3.1 OBJECTIVE STATEMENT

The primary objective of the Integrated Management of the seven monument zones of the Kathmandu Valley is to protect the Outstanding Universal Value of the World Heritage property as well as the locally recognised heritage values, while taking into account the standard of living, safety and economic viability of the community living within the World Heritage property.

A Management plan can be understood as an operational instrument to utilise available resources to protect defined OUV, while responding to circumstances in the given context.

The principles that are to be observed in achieving the management goals are:

Significance-driven
The concern for the conservation of the significance of the site is at the core of decision-making and must be balanced against the interests of other sectors;

Promotes local empowerment
Devolution of powers to the local site managers must be accomplished to whatever degree possible, however without losing the integration and coordination between the components of the overall World Heritage property;

Social and economic sustainability
The integrated management will be prepared on an understanding of sustainability, both in respect to social as well as economic operations of the site;

Local communities to profit
Local communities will profit from developments that take place and all management and planning decisions will take into account the needs of the communities;

Bottom-up approach
The integrated management will take into account the realities at the site level when developing conservation strategies. This is particularly so in respect to the living cultural heritage of the site;

Integrated approach
The integrated management will follow a systemic and holistic approach to conservation, taking into account the significance of the monuments, the cultural and natural context within which they are found and the living heritage that lends them their local value;

Process oriented
The integrated management will focus on the processes and linkages between the components of the site and the various actors to allow for realistic long-term implementation;

Beyond heritage boundaries
The planning of Kathmandu Valley will go beyond the boundaries of the cultural heritage site and buffer zone and will find means of addressing issues in the surrounding areas.
1.3.2 Key Objectives

A. Planning and Policy

A1: To have Master Plans for all seven Monument Zones which are coordinated with overall municipal planning and provide linkages to the involvement of affiliated government authorities and line agencies.

A2: To develop a clear strategy for the conservation of privately owned historic buildings. This would include clearly defined controls and incentives.

A3: To prepare rectification plans for inappropriate buildings within the WH area.

B. Legislation

B1: To have the sixth amendment to the Ancient Monument Preservation Act prepared and gazetted with relevant provisions to ensure better procedures, Heritage Impact Assessment, highest protection for World Heritage, preparation of inventories and provisions for protective zones around listed monuments and archaeological sites.

C. Operationalising Site Management

C1: To give the site managers the lead role in managing the WH property in close collaboration with the site offices of the DOA, while coordinating with relevant communities.

C2: To train and build capacity of the Site Managers for them to fulfil their tasks.

C3: To ensure that CWC meetings take place possibly monthly to review reporting from weekly monitoring and to coordinate.

C4: To simplify official procedures and processes and make them more effective in respect to heritage conservation, particularly in respect to employing traditional artisans.

C5: To have gazetted inventories of classified monuments for all WH areas and buffer zones and utilise the inventories as a planning tool in conjunction to the bylaws.

D. Establish Sectoral Plans

D1: Ensure conservations strategies are carried out in close collaboration with the site managers and local community, ensuring that proper procedures are followed.

D2: To develop strategies to maximise the profitability for the local community. To develop strategies for the sustainable economy of the community within the WH areas without impacting the heritage value.

D3: To develop a sustainable strategy for visitor management and develop quality facilities and site interpretations.

D4: To establish a strategy for Disaster Risk Reduction along with an emergency reporting system and an authority to deal with crisis situations.

E. Information and Research

E1: To establish a documentation and research centre for the WH property.

E2: To coordinate research on the WH property and related topics in close collaboration with national and international educational institutions.

E3: To create awareness amongst the community, the general public and students on the value of the World Heritage property.

E4: To ensure site museums are established in the monument zones linked to the history and culture, to allow for awareness buildings and community participation.

F. Sustainability

F1: To support and promote traditional artisans in maintenance and restoration works.

F2: To carry out activities to assist in the achieving the SDGs, particularly those linked to cultural heritage and communities.

F3: To ensure the implementation and regular review of the integrated management plan.
1.3.3 Conservation Approach

This section provides an overview of mutual agreed approach to conserving the major attributes of the heritage property. This is the basis for working on detailed legal instruments and procedures.

General Conservation Approach

The general approach to conservation is to ensure that all significant attributes are safeguarded through regular monitoring, maintenance and control of activities that might impact the attributes. While ensuring that the attributers are safeguarded, activities linked to the local intangible heritage shall be promoted. A balance shall be achieved to ensure sustainable development taking into account the livelihood of the local community, their cultural identity as well as their spiritual sentiments. This will be the basis for the establishment of the Integrated Management System.

Approach for Built Heritage

The built heritage includes the architectural monuments, as well as the ensembles and historical civic infrastructure. These wold be subjected to structural threats, or deterioration caused by plant growth, misuse and vandalism. The built heritage is also subject to the impact of new developmental works, as well as motorized traffic and pollution. The approach to protecting built heritage is first to identify and prepare inventories with detailed documentation. Regular monitoring and maintenance is required. Any threats to the built heritage, which is not compatible with the overall significance of the property, will be eliminated.

Approach for Cultural Artefacts

Cultural objects, include those that are displaced and in museums or cultural artefacts that are in situ such as statues, inscriptions, ancient stone elements, and various forms of building ornamentation. The cultural artefacts are threatened by physical destruction due to lack of protection, or theft. The approach to protecting cultural artefacts is first to prepare inventories with detailed documentation. The artefacts will be provided appropriate protection. Protocols for providing physical protection, including removal, replacement with replicas, as well as detailed studies will be prepared and action taken accordingly.

Approach for Intangible Heritage

Festivals, celebrations, processions, religious practices as well as the overall customs, belief system and way of life of the local communities are important attributes to the cultural heritage site. This will also include traditional crafts and skills. Intangible heritage can be threatened by magnified trends of change often caused by external influences that endanger the basic identity of the local communities. Intangible heritage will be documented, where possible. Required support and protection will be provided to the relevant communities to ensure continued practice, study, training and safeguarding of intangible heritage.

Approach for Landscape

The urban and natural landscape creates the context of the monument zones. These attributes are not only within the World Heritage property, but also in the surrounding buffer zone and beyond. For each of the monument zones, a master plan will be prepared which clearly defines the means of conserving the urban and natural setting, closely linked to the municipal planning.

Approach for Archaeology

Sub-surface Archaeology in the Kathmandu Valley includes the remains of earlier settlements, built heritage and early habitation. This includes the foundations of existing built structures. Potential sub-surface archaeology will be surveyed and risk map will be prepared, ensuring that all activities within the areas of potential sub-surface archaeology is regulated. Protocols for archaeological research and protection will be prepared.
2. INTEGRATED MANAGEMENT FRAMEWORK

2.1 OVERARCHING STRATEGIES

The overarching strategies required for achieving the management objectives must lay down the parameters for carrying out the specific actions detailed in the Plan of Action. The strategies would need to address the institutional, legislative and economic frameworks.

Institutional Framework

The Department of Archaeology is to remain the principle authority for the coordination of conservation activities of the World Heritage areas. However, powers in respect to enforcing bylaws and monitoring are to be handed down to the local authorities, and clearly defined site managers for each of the seven Monument Zones are to be established.

Identification and improvement of processes and linkages within the management structure are to be carried out to have a clear communication system for flow of information and decisions and separation of reporting and decision making processes for regular cases and irregular and emergency cases.

For the conservation of historic buildings, community involvement and participation is to be encouraged, incorporating risk management. Capacity building is to be considered critical for the successful implementation of the Management Plan.

Legislative Framework

Clarifications are to be sought for overall legislation dealing directly or indirectly with heritage conservation to reduce duplication and contradictions.

Each Monument Zone will have four sets of regulations:
I. The conservation of classified monuments identified in the inventories prepared for each of the Monument Zones;
II. The bylaws and regulations for the construction of new buildings within the boundaries and buffer zones of each Monument Zone;
III. The guidelines for the rectification of inappropriate buildings within the boundaries and buffer zones of each Monument Zone;
IV. The development guidelines for public spaces, circulation, services and the conservation of the natural environment.

Each set of regulations will be accompanied by detailed implementation processes.

Awareness to be raised on heritage values and the objectives of the Guiding Conservation Principles and bylaws for practical implementation.

Resources Framework

The resources framework consists of sections dealing with human resources, financial resources and material and equipment resources. These resources will be considered not as separate entities, but as part of a comprehensive package. For each of these resources the typology, source and general scale will be defined.

The planning of required resources will be given high priority, directly related to all management issues that need to be addressed and the related actions that need to be carried out. The resources are to be identified specifically for implementing required actions: routine, time-bound projects and emergency response.
2.2 INSTITUTIONAL FRAMEWORK

2.2.1 THE AUTHORITIES

The “State Party” is represented by the Department of Archaeology, under the Ministry of Culture, Tourism and Civil Aviation. Management, however, needs to be carried out by Site Managers specific to each of the Monument Zones, leaving the Department of Archaeology with the task of coordination and monitoring and retaining responsibility for the classified monuments.

Central Government
The authority within the central government that is responsible for heritage conservation (and the World Heritage Site) is the Department of Archaeology (DoA), under the Ministry of Culture, Tourism and Civil Aviation. The World Heritage Conservation Section of the DoA deals exclusively with World Heritage (Kathmandu Valley and Lumbini). The DoA also has site offices in Kathmandu (Hanuman Dhoka Palace Maintenance Office) Lalitpur (Lalitpur Monument Conservation and Palace Maintenance Office) and Bhaktapur (Bhaktapur Monument Conservation and Palace Maintenance Office) that are responsible for restoration and conservation works, as well as coordination with processes dealing with the respective municipalities.

Local Government
Each of the seven Monument Zones is managed by a particular Local Government. The Local Government Operation Act 2017, gives the Local Government certain responsibilities in respect to heritage conservation. This is especially the case with the Municipalities, which have both the capacity and the resources. There are four Monument Zones within the Kathmandu Metropolitan City (Hanuman Dhoka Durbar Square, Swayambhunath, Bauddhanath and Pashupati), and one each within Lalitpur Metropolitan City (Patan Durbar Square) and Bhaktapur Municipality (Bhaktapur Durbar Square). In the case of Changu Narayan Municipality, which was recently established, the Local Government still requires capacity building to manage heritage conservation.

Based on the Constitution of Nepal 2015, a new level of government has been established at provincial level. The Kathmandu Valley World Heritage property falls within Bagmati Province. Once fully established various function would be taken over by the provincial government.

Site Managers
Within the institutional framework of the central government and the local government, each Monument Zone has clearly defined Site Managers. The Culture Heritage and Tourism Department of Kathmandu Metropolitan City is responsible for managing the four Monument Zones within their area. However, only in Hanuman Dhoka Durbar Square have they established a Hanuman Dhoka Palace Area Conservation Programme Site Office. In Swayambhunath, the Federation of Swayambhu Management and Conservation (a federation of local NGOs) semi-officially carry out various maintenance and cleaning activities. A similar situation can be found in Bauddhanath, with the Baudha Area Development Committee. Pashupati, on the other hand, is managed by the Pashupati Area Development Trust that was created based on an Act passed by parliament in 1997. The Heritage, Culture and Archaeology Conservation Centre, World Heritage Section of the Lalitpur Sub-metropolitan City and the Heritage Section of the Bhaktapur Municipality are responsible for the Monument Zones within their respective areas. In Changu Narayan, the newly established Changu Narayan Municipality has taken on the role of site manager, supported by the Bhaktapur Monument Conservation and Palace Maintenance Office.
2.2.2 THE SITE MANAGERS

The Site Managers will be the most local level appropriate for the task and in the case of municipalities, an appropriate department / division or section will be specified.

Site Managers:
The Site Managers for the Monument Zones:

Hanuman Dhoka Durbar Square:
- Culture Heritage and Tourism Department, Kathmandu Metropolitan City, Hanuman Dhoka Palace Area Conservation Program
- Hanuman Dhoka Palace Maintenance Office

Swayambhu:
- Culture Heritage and Tourism Department, Kathmandu Metropolitan City
- Federation of Swayambhu Management and Conservation

Bauddhanath:
- Culture Heritage and Tourism Department, Kathmandu Metropolitan City
- Bauddhanath Area Development Committee

Pashupati:
- Culture Heritage and Tourism Department, Kathmandu Metropolitan City
- Pashupati Area Development Trust

Patan Durbar Square:
- Culture, Heritage and Archaeology Conservation Centre, World Heritage Section
- Lalitpur Monument Conservation and Palace Maintenance Office, Department of Archaeology

Bhaktapur Durbar Square:
- Heritage Section, Bhaktapur Municipality
- Bhaktapur Monument Conservation and Palace Maintenance Office, Department of Archaeology

Changu Narayan:
- Changu Narayan Municipality
- Bhaktapur Monument Conservation and Palace Maintenance Office, Department of Archaeology

Responsibilities of the Site Manager:
- to coordinate the implementation of the applicable legislation;
- to coordinate with all relevant “actors” within the WH area;
- to carry out weekly monitoring and prepare weekly monitoring reports;
- to send a representative to participate in the monthly Coordinative Working Committee meetings and report on the state of conservation;
- to review and revise the Plan of Action and prepare Annual Action Plans;
- to participate in awareness building on conservation of the Monument Zone;
- to carry out risk management and emergency response to disasters;

The Site Managers need to be given adequate capacity and training to be in a position to fulfil their tasks. The Department of Archaeology will, however, remain the primary authority and provide support to the local level Site Managers, particularly until they have the capacity and expertise to fulfil their duties.
2.2.3 COORDINATIVE WORKING COMMITTEE

The integrated management of the seven Monument Zones will be carried out by the Coordinative Working Committee (CWC), which is chaired by the Department of Archaeology and comprised of members from each Monument Zone. The Coordinative Working Committee will have its secretariat located within the office of the World Heritage Section of the Department of Archaeology.

Coordinative Working Committee (CWC):

The Coordinative Working Committee (CWC) is the key institution for the integrated management of the Kathmandu Valley World Heritage Site. The CWC is chaired by the Head of the World Heritage Section of the Department of Archaeology with members representing each of the Monument Zones. Representatives of each of the Monument Zones will be members of the CWC.

The CWC shall meet at regular intervals not exceeding two months and may call upon emergency meetings when necessary. When found necessary, the CWC may invite representatives from related government authorities, line agencies and experts to their regular or emergency meetings.

Responsibilities of the Coordinative Working Committee:

- to hold meetings at regular intervals not exceeding two months,
- to coordinate and monitor the progress of implementing IMP;
- to coordinate the implementation of the applicable legislation;
- to coordinate the activities of the Site Managers and the DoA;
- to coordinate with related government authorities, line agencies and experts;
- to supervise site monitoring, receive reports from the Site Managers and give necessary instructions for site implementation;
- to coordinate response to emergency situations after disasters;

CWC Secretariat:

The Coordinative Working Committee Secretariat will be the focal point for the integrated management of the Kathmandu Valley World Heritage Site. The CWC Secretariat will look after the administration of the CWC and call regular and emergency meetings.

The World Heritage Conservation Section of the Department of Archaeology is responsible for running the CWC Secretariat within their premises. The CWC Secretariat will have a designated office, which will also serve as a documentation centre for the KVWHS.

Responsibilities of the CWC Secretariat:

- to work as a focal point for all aspects of integrated management of the WHS;
- to coordinate and implement all administrative activities of the CWC;
- to call regular and emergency CWC meetings;
- to prepare and distribute minutes of all CWC meetings;
- to record and document the progress of implementing the IMP;
- to run a documentation centre for the KVWHS;
2.2.4 ASSOCIATED AUTHORITIES

There are government authorities from other sectors that carry out work within the Monument Zones. Through the adoption of the Integrated Management Framework by the State Party at cabinet level, associated authorities (ministries, departments and line agencies) are made party to the implementation of the Integrated Management Plan. The State Party will notify all associated authorities, simultaneously establishing a consultation and conflict resolution process.

Beyond the basic management structure established around the Coordinative Working Committee, there are numerous government authorities that have important roles to play within the World Heritage property. These authorities shall coordinate their activities with the World Heritage management through the Coordinative Working Committee. (The ministries, departments, authorities and line agencies listed below are indicative, since there are regular rearrangements made, particularly in respect to aligning the government to the new Constitution. This is particularly the case in respect to the Provincial Government which is still in the initial stages of establishment).

**Associated Provincial Level Authorities and related activities:**

<table>
<thead>
<tr>
<th>Sn</th>
<th>Authorities</th>
<th>Related departments</th>
<th>Related activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Minister for Social Development</td>
<td></td>
<td>Sustainable Income generation for communities living within the monument zones</td>
</tr>
<tr>
<td>2.</td>
<td>Minister for Industry, Tourism, Forest and Environment</td>
<td></td>
<td>Provincial level tourism development and environmental protection</td>
</tr>
<tr>
<td>3.</td>
<td>Minister for Physical Infrastructure and Development</td>
<td></td>
<td>Deal with appropriate activities within the monument zone in respect to infrastructure and rehabilitation</td>
</tr>
<tr>
<td>4.</td>
<td>Minister for Economic Affairs and Planning</td>
<td></td>
<td>Coordination of planning at local, provincial and central level considering conservation and protection of monument zones</td>
</tr>
<tr>
<td>5.</td>
<td>Minister for Land Management, Agriculture and Co-operatives</td>
<td></td>
<td>To deal with land issues, related to communities, and guthis, and provide support to traditional community activities.</td>
</tr>
<tr>
<td>6.</td>
<td>Minister for Internal Affairs and Law</td>
<td></td>
<td>Align provincial laws on heritage conservation with central and local laws, and requirements.</td>
</tr>
</tbody>
</table>

**Associated Central Level Authorities and related activities:**

<table>
<thead>
<tr>
<th>Sn</th>
<th>Authorities</th>
<th>Related departments</th>
<th>Related activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ministry of Culture, Tourism and Civil Aviation</td>
<td>Department of Archaeology, Department of Tourism, Nepal Tourism Board</td>
<td>Implementation of the provisions mentioned in the Ancient Monument Preservation Act and Rules, formulation of bylaws for the private buildings within Protected Monument Zones,</td>
</tr>
<tr>
<td>Ministry/Mission</td>
<td>Responsibility</td>
<td></td>
<td></td>
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<tr>
<td>-----------------</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
| Ministry of Federal Affairs and General Administration | • Local Authorities: Urban and Rural Municipalities  
• Department of Local Infrastructure Development and Agricultural road  
Permission for Drawing Design of Private Houses within the Protected Monument Zone, monitoring on it and implementation of bylaws in this regard and proceed for legal actions to the illegal activities |
| Ministry of Urban Development | • Department of Urban Development and Building Construction  
• Department of Drinking Water, and Sanitation  
• Kathmandu Valley Development Authority  
• Directorate of Project Implementation  
• Town Development Fund  
formulation and implementation of bylaws for the construction, renovation and reconstruction of government buildings within Protected Monument Zones, management of drinking water supplies through the PMZs, implementation of town planning, arrangement of town development fund |
| Ministry of Physical Infrastructure and Transportation | • Department of Road  
• Department of Transportation Management  
Project implementation and other developmental activities in religious, cultural and touristic important places and monuments  
Physical planning and infrastructure development on privately owned land and its use |
| Ministry of Land Management, Cooperatives and Poverty Alleviation | • Department of Land Management and Archive  
• Department of Survey  
• Department of Co-Operatives  
• Guthi Corporation  
Illegal registration of public land / division of public monument illegally and boundaries of such land and/or monuments  
Management of religious festivals (related part of ICH), Conservation and Management of tangible monuments and their ownership |
| Ministry of Forest and Environment | • Department of National Parks and Wild Animals Conservation  
• Department of Forests and Soil Conservation  
• Department of Environment  
Preservation of surrounding natural environment of Protected Monument Zone, environmental management, implementation of policies and monitoring on it |
| Ministry of Communication and Information Technology | • Nepal Telecommunication Authority  
implementation of instalment of complex and advanced technologies/equipments within PMZs without any negative impact to the monuments and cultural environment as per the bylaws and other Nepalese legislative provisions, protect from the visual pollution of the PMZs |
| Ministry of Energy, Water Resources and Irrigation | • Nepal Electricity Authority  
Extend the electricity poles and cables without any negative impact to the monuments and environment of PMZs, conduct its activities as per the bylaws and other legislations, implement them, monitoring and protect from the visual pollution of the PMZs |
| Ministry of Home Affairs | • District Administration Office  
• Police Force  
manage the local monuments and heritage sites as a representative of DOA’s provisions in the AMPA, execution of legislative provision with the help of police as well |
| Ministry of Defence | • Armed Forces  
To manage army presence within the World Heritage, involvement in rituals and celebrations and provide protection. |
| Ministry of Law, Justice and Parliamentary Affairs | To assist at the time of amendment and/or formulation of bylaws, rules and acts for the protected monument zones as well as for the WORLD HERITAGE properties of Nepal |
2.3 LEGAL FRAMEWORK

2.3.1 LEGISLATION and LEGAL PROVISIONS

The principle Act relevant to the conservation of heritage is the Ancient Monument Preservation Act (1956). There are various other Acts that directly or indirectly address heritage conservation issues, which should augment the principle Act. With the adoption of the new Constitution of Nepal 2015, there is major reforms taking place in the government, bringing about numerous amendments to legislation. The impact on heritage will need to be carefully monitored.

**Ancient Monument Preservation Act 1956 - Fifth Amendment 1996**

The legislation for the conservation, protection and management of cultural property is based on the Ancient Monument Preservation Act (AMPA) 1956, its subsequent amendments (the latest having been the fifth amendment in 1996) and the Ancient Monument Preservation Rules 1988. The Ancient Monument Preservation Act gives the Department of Archaeology the legal provisions to declare a monument or area to be a Protected Monument Zone (PMZ). The Department of Archaeology is subsequently responsible for the protection of the site, including the prescription of building bylaws, approving requests for building permits and for any other construction activities within the zone. The Department of Archaeology is given the authority to stop inappropriate and/or illegal building activities and to request for the demolition of unauthorised constructions.

The seven Monument Zones of the Kathmandu Valley World Heritage property have been declared PMZs and the boundaries have been gazetted under the provisions of the AMPA. The Department of Archaeology is therefore responsible for the preservation of the areas comprising the property inscribed on the World Heritage List.

A further amendment of the act (sixth amendment) will consider for example the full and mandatory protection of World Heritage sites, the establishment of Heritage Impact Assessments as a standardized procedure, the preparation of inventories, as well as provisions for protective zones around all ancient monuments and archaeological sites.

**Pashupati Area Development Trust Act (1987)**

The Pashupati Area Development Trust Act (PADTA) 1987 is a specific act for the conservation of the Pashupati Area. It provides for the establishment of a Pashupati Area Development Fund to manage, maintain and preserve the natural and cultural heritage in the Pashupati area. The Pashupati area has, however, also been declared a PMZ under the AMPA.

The PADTA established the Pashupati Area Development Trust (PADT) as the authority for the development, protection and maintenance of the Pashupati area. The main objective of PADT is the implementation of their Master Plan to develop and conserve Pashupati as a religious centre for the Hindus.

**Guthi Corporation Act (1964/1976)**

The Guthi Corporation Act (GCA) 1964 was established in 1964, nationalising Guthis (traditional community based trusts with legal ownership of most religious monuments) to a centrally organised unit, the Guthi Sansthan. The amendment of 1976 classifies Guthis into three categories: Raj Guthi (state), Niji Guthi (private) and Chhut Guthi (exempted). The Guthi Sansthan is to perform religious rites and festivals, preserve cultural heritage, monuments and other religious buildings, preserve ancient ornaments and article of religious and cultural importance.

The Guthi Sansthan is still the legal owner of many monuments and historic buildings within the PMZs. However, due to diminished community support and lack of funds, the Guthi Sansthan’s role has been reduced to basically performing religious rights and festivals.
Building Bylaws

There are legal provisions for the preparation of Building Bylaws by the Department of Archaeology (in the AMPA), by the Municipalities (in the LGOA). The Department of Archaeology has prepared “Bylaws for conservation and construction in protected monument zones 2064 (2007)”. Each of the seven monument zones has its own set of bylaws.

National Building Code

The National Building Code, which was initially prepared in 1994, has recently come into effect and the municipalities have started enforcing the code. Clarification is required on the relevance of the National Building Code for historical buildings. Though load bearing structures are considered in the code, there are no clear references for existing historical structures. National Building Code is required for buildings built using traditional technology and materials.

Other Legal Issues

One of the main difficulties faced in trying to preserve privately owned historic buildings has been the practice of hereditary division of property. The historic buildings are divided up vertically to allow all parties to own part of the land. There are no legal provisions to stop hereditary division of historic buildings. Legal provision for ownership of individual floors of a building is still under formulation. Retrofitting guidelines for engineered buildings are being adopted but these do not include specific provisions for historical buildings. Specific regulations that are compatible to conservation norms are required to carry out retrofitting interventions in historical monuments.

Selected list of Legislation

For each of these, the latest amendment will need to be referred to.

- The Lands Act 2021(1964)
- Guthi Corporation Act, 2033 (1976)
- Local Governance Operation Act 2074 (2017)
- Environment Protection Act 2053 (1997)
- Environment Protection Regulation 2054 (1998)
- Soil and Watershed Conservations Act 2039 (1982)
- Building Act 2055 (2008)
- Kathmandu Valley Development Authority Act 2045 (1988)
- Kathmandu Valley Development Authority Regulation 2068 (2011)
- Town Development Act 2045 (1998)
- Forest Act 2049 (1993)
- Aquatic Animal Protection Act 2017 (1960)
- National Parks and Wild Life Conservation Act 2029 (1973)
- Ancient Monument Preservation Act 2013 (1956)
- Tele Communication Act 2053 (1997)
- Tele Communication Regulation, 2054 (1997)
- Nepal Electricity Authority Act 2041 (1984)
- Electricity Act 2049 (1992)
- Electricity Rules 2050 (1993)
- Local Administration Act 2028 (1971)
The Constitution of Nepal 2015 has introduced a three-tiered governance system: Federal, Provincial and Local Government. The rights and responsibilities of each tier has been defined, although this is still in the process of being established.

The Constitution of Nepal 2015 states under Article 3 that the nation is constituted of the people of Nepal who have “multi-ethnic, multi-lingual, multi-religious, multi-cultural characteristics”. Article 4 also defines Nepal as a secular state, with a footnote explaining that the term “secular” is to be understood as encompassing “protection of religion and culture being practiced since ancient times, and religious and cultural freedom”.

These principles are anchored into the Constitution through Article 32: Right to language and culture. Para 1 provides the right to language, Para 2 provides right to participate in cultural life and Para 3 provides the right to communities to “preserve and promote its language, script, culture, cultural civilization and heritage”.

It is also the objective of the State, as per Article 50 Para 2, “to build a civilized and egalitarian society by ending all forms of discrimination, oppression and injustice based on religion, culture, cultural practices, customs, traditional practices, or on any other grounds”. The objective is also to develop socio-cultural values through means including “respecting cultural diversity and maintaining communal harmony, solidarity and amity”.

Article 51 Section (c) states the policies regarding social and cultural transformation that the State shall pursue. This is defined under seven paras which include (1) harmonious social relations, (3) local participation, (4) developing art, literature and music, (5) ending discrimination and injustice, and (7) adopting a multi-language policy. Section 2 declares that the State shall follow the policy of “conducting studies, research and archaeological excavations and dissemination of information about them for the protection, maintenance and development of historical, archaeological and cultural heritage”. Furthermore, Section 6 declares that the State shall follow the policy “to preserve and develop language, texts, culture, literature, arts, motion pictures and property of different castes and communities, on the basis of equity, while also maintaining the country’s cultural diversity”. It is also important to note that under Section (l) policies regarding tourism, that the State is to pursue the policy of “developing an environmentally friendly tourism industry as an important basis of national economy by identifying, protecting, promoting and publicizing the historical, cultural, religious, archaeological and natural heritage sites of the country, and prioritizing local people in the distribution of benefits of the tourism industry”.

Schedules 5 to 9 of the Constitution of Nepal 2015 explain the division of powers between the federal, provincial and local levels of governments. The management of cultural heritage sites will require collaboration between all levels of government, particularly when multi-sectoral approaches are required. Specific to the culture sector, according to Schedule 8, Serial Number 22, the “preservation and development of language, culture and fine arts” comes under the jurisdiction of the local government. According to Schedule 6, Serial Number 18, the “protection and use of language, culture, script, fine arts and religion” comes under the jurisdiction of the provincial government. Furthermore, Serial Number 21, “Guthi (community trust/endowment) management” also comes under the jurisdiction of the provincial government. It must be noted that Schedule 5, Serial Number 34, declares that “Ancient monuments and places of archaeological importance” comes under Federal Jurisdiction. Schedule 9, the list of concurrent jurisdictions between Federal, Provincial, and Local Level, under Serial Number 12 list archaeology, ancient monuments and museums, which will require clarification. Furthermore, as per Serial Number 17, international treaties and agreements are under Federal Jurisdiction, which in the case of culture sector, would include: the 1970 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property, the 1972 World Heritage Convention and the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage.
2.3.3 Guiding Conservation Principles

This section deals with the legal framework for the conservation and maintenance of classified monuments. Classified Monuments are all buildings and structures that have been listed and categorised in the most recent inventories prepared by the Department of Archaeology. The Guiding Conservation Principles are to be enforced for all classified monuments.

The Guiding Conservation Principles are:

- to preserve and maintain all those elements and attributes that contribute to the value of the historic building / structure for which the monument has been listed and classified in the inventory and
- to ascertain that all other elements and attributes are compatible and appropriate to the building / structure and its context

The conservation of classified monuments shall be carried out as per the value, condition and character of the specific monument. It is therefore not possible to formulate bylaws for conservation of historic buildings. Conservation shall be carried out based on the classified inventory, which is the only legal document that defines each monument individually.

The classified inventory shall contain specific information on the monuments, to allow it to be used as the basis for conservation. This means that the “elements and attributes that contribute to the value of the historic building or structure for which it has been listed and classified in the inventory” shall be clearly stated.

These “elements and attributes” may include the overall structure, various individual elements (such as carved windows) or a specific attribute which bears witness to an important historic event or process. These elements and attributes shall be conserved as stringently as possible. “All other elements and attributes” shall be "compatible and appropriate to the building / structure and its context”. Once the primary elements and attributes have been preserved, the remaining elements and attributes can only be modified if these are compatible and appropriate in respect to mass (height, coverage and form) and exterior (material, colour, texture, order, scale and proportions) to the overall monument and surrounding historic buildings.

Implementation Process

The Guiding Conservation Principles will be accompanied by a detailed implementation process clearly defining the authorities, the flow of information and the decision making and monitoring provisions. The principal authority for classified monuments and archaeological sites is the DOA.

Special provisions and procedures must be ascertained for all classified monuments and archaeological sites. This means that a separate set of parameters will be used to assess the structural stability of historical buildings. Retrofitting guidelines specific to historical buildings will be prepared and adopted.

Preparation of the inventory

An inventory shall be prepared with the cooperation of the DOA, the local authorities and the site managers. The inventory shall list all monuments, cultural objects and intangible heritage, which contribute to expressing the overall value of the heritage property. The inventory shall be regularly updated and gazetted, at least once a year. The basic inventory listing will determine the importance of the element as well as the ownership. This information shall be disseminated to all relevant authorities, organizations and individuals.

Once the individual classified elements have been indentified for the inventory, each element shall be provided with a folder containing relevant information required for its safeguarding, care and management. A standardized format shall be developed which is used by all authorities and parties involved in safeguarding the classified elements. The folder shall also contain all information on conservation measures, threats, changes in its condition, as well as the information collected during monitory.
2.3.4 BUILDING BYLAWS

This section deals with the legal framework for non-historic buildings and the construction of appropriate buildings on empty plots. Two distinct sets of bylaws are provided, differentiating between the area within the Monument Zone boundary and the buffer zone. These have been adopted by the local authorities.

Within Monument Zone boundaries

These Building Bylaws have been specifically prepared for each Monument Zone and are an integral part of the Municipal Building Bylaws.

The responsibility for the enforcement of these bylaws lies with the respective Site Managers, supported by the Department of Archaeology.

Within the Buffer Zones

The buffer zones have similar bylaws, however focusing more on the impact these buildings would have, rather than the value of the buildings themselves.

However, it is of paramount importance to keep in mind that no activities should be allowed within the buffer zone that might negatively impact the outstanding universal value of the Monument Zone. These might be activities or construction that affects the elements and attributes of the Monument Zone; visually, by means of pollutants, noise or smell, or changes the traditional character of the place.

Implementation Process

The Building Bylaws will be accompanied by a detailed implementation process clearly defining the authorities, the flow of information and the decision making and monitoring provisions.

The implementation of the Building Bylaws will be enforced by the site managers and local authorities. The Department of Archaeology will deal with special cases, especially when dealing with classified monuments and issues that impact the value of the property.

Provisions of black-listing buildings that have been constructed without following the provisions of the bylaws will be introduced. A building that is inappropriate, as defined by the bylaws, or impacts the heritage will not be legalized until rectification are carried out.

Content of Building Bylaws

The Building Bylaws will address the following issues:

- the positioning of the building on the plot;
- the response to neighbouring buildings and public spaces;
- the volume and size of the building;
- the overall building form including projections and roof;
- the scale of the building and the floors, including cornices;
- the materials;
- the colour and texture;
- the essential construction details;
- the openings;
- the plinth;
- the services, including water, sewage, waste, electricity, telecommunication, drainage, their connections and visual impact;
- the usage and functions;
- building styles if relevant;

The Building Bylaws will also address the following circumstances:

- demolition of existing buildings;
- division of existing buildings;
- reconstruction and the reuse of materials;
- extensions, both vertical and horizontal;
2.3.5 Procedures for the Protection of Heritage Sites and Landscapes

Introduction
The ‘Procedures for the Protection of Heritage Sites and Landscapes’ addresses the need for an appropriate approach to conserve the identity of the public and semi-public realm within the heritage site, both within the Protected Monument Zone, as well as the Continuum Zone. The public and semi-public realm encompasses the physical spaces, (such as within the settlement areas the squares, streets, tanks, etc. and natural environment such as the forest, agricultural fields, ponds, rivers, streams, etc.), the intangible heritage linked to these physical spaces and the public services and infrastructure that support the heritage site. These guidelines are to be read in conjunction with all the legal provisions as defined in Chapter 6. Close cooperation of numerous authorities is needed for the implementation of the ‘Procedures for the Protection of Heritage Sites and Landscapes’. There is an addendum to these procedures: (A1+) Protection of Subsurface Archaeology.

1. Scope
The ‘Procedures for the Protection of Heritage Sites and Landscapes’ will be adhered to for any construction or development work being carried out within the property by government authorities, line agencies, communities or private entities.

GENERAL

2. Community needs and safeguarding cultural heritage
The basic needs of the community living within the Protected Monument Zone will be given high priority, however, all activities carried out within the heritage property will follow the legal provisions provided in this chapter and be carried out keeping in mind that cultural heritage must be safeguarded;

3. Traditional function and land-use
The traditional functions and land-use will be maintained within the Protected Monument Zone. The subzones and the related regulations will be strictly adhered to by all authorities, line agencies, communities and individuals. In the Continuum Zone compatible functions can be introduced however follow all legal provisions.

4. Encroachment
Encroachment of public and semi-public spaces is not allowed - at ground level, below ground level and above ground level – which includes the construction of aprons, plinths steps etc.: spaces that have traditionally been used for public and semi-public functions may not be encroached upon;

5. Disaster Risk Management
Disaster preparedness, especially in respect to earthquakes, floods and fires, will be integrated into the overall planning of the heritage property; Risk management and disaster preparedness will be done keeping in mind the authenticity and integrity of the historic area, following a Disaster Risk Management Strategy.

6. Monitoring, Research and Heritage Impact Assessment (HIA)
The design and implementation of development works will take into consideration the need to safeguard heritage; priority will be given to carry out research on any aspect of the heritage site to better assess the impact of development; any major works, particularly in the form of time bound projects that could have an impact on heritage will require a Heritage Impact Assessment (HIA) to be carried out through the Department of Archaeology.

GENERAL PROVISIONS FOR LANDSCAPE AREAS

7. Protection of landscape
The natural landscape and the landscape created out of centuries of human activities, which include the natural features and topography, flora and fauna, as well as monuments and subsurface archaeology, will be protected and maintained, only allowing change that is consistent to the intrinsic character of the landscape over time. The natural setting within the property will take into account the spiritual context include other myths and legends.

8. Activities within the landscape
All activities that take place within the landscape will take into account the need to protect the landscape, respect the heritage and any impact that these activities have on the landscape will be non-intrusive, temporary and removable.

GENERAL PROVISIONS FOR SETTLEMENT AREAS

9. Layout and extent of settlements
The settlement structure, layout and extent of the settlements within the Protected Monument Zone will be maintained, while developments in the Continuum Zone will strictly adhere to the relevant legal provisions.

10. Identity
The traditional identity of the public and semi-public spaces (squares, streets, ponds, etc.) must be preserved; the form, shape, boundaries and character of the public and semi-public spaces must not be altered.

INFRASTRUCTURE / SERVICES within Heritage Property

11. Vehicular traffic planning
Traffic within the heritage property will be planned systematically to ensure minimum impact on the heritage attributes, the environment and the ambience. Where possible, vehicular traffic will be restricted fully within the heritage property, with vehicular parking provided along the periphery, without being intrusive to the heritage property. Through traffic must also be restricted, providing alternative routes. Emergency access for ambulance and fire brigade must be provided.

12. Public transportation
Appropriate, non-polluting means of public transportation can be provided throughout the heritage property, particularly for the disabled and aged, however, these must also be restricted to ensure minimum impact on the heritage attributes, the environment and the ambience.

13. Transportation infrastructure and paving
Transportation infrastructure within the heritage site will be kept to a minimum. Any extensions, widening, construction or changes to roads within the heritage site will be carried out only after detailed planning and a heritage impact assessment. Roads will be paved in an appropriate manner, either in stone or brick, while ensuring a certain level permeability. Where other materials have been previously used, these will be rectified. The level of the road will be fixed to ensure that it doesn’t impact and it doesn’t rise above the plinth of historical buildings.

14. Surface rain water drains
Historic and natural drainage systems will be safeguarded and maintained. The historic and natural drainage systems can be augmented where necessary to ensure proper surface drainage throughout the heritage property. The surface drainage will ensure safety of monuments, subsurface archaeology, and within settlement areas buildings are safeguarded. The roads and paths will be kept from water logging.

15. Subsurface drainage, sewerage and water supply lines
In principle digging within the heritage property is not allowed. Permission for any form of digging will be obtained from the Department of Archaeology. Digging up to 30 cm deep will be allowed by notifying the Department of Archaeology and ensuring that subsurface archaeology is not affected. Digging for the construction of septic tanks, soak pits, sewer and
subsurface drainage and water supply lines within the heritage site is only allowed within the settlement areas, with permission, after detailed planning, archaeological investigations based on archaeological risk maps and where necessary watching brief. Subsurface piping will not be allowed where there is a possibility of archaeological remains. The impact on the environment will follow national norms and will be closely monitored.

16. Electrical and telecommunication cables
Within the cultural heritage property electrical supply and telecommunication cables will follow the alignment of roads and paths and will not be positioned crossing the landscape. Within the heritage site armoured, electrical cables will be installed underground, at a depth of maximum 30 cm, along the roads and paths. Digging up to 30 cm deep will be allowed by notifying the Department of Archaeology and ensuring that subsurface archaeology is not affected. High tension lines should not cross the heritage property. Electricity and telecommunication connections, particular to monuments and historic buildings will be done in an unobtrusive manner.

17. Electrical supply system
Transformers will be placed in such a manner that they do not affect the visual integrity of the site. Generators will not be placed in the public and semi-public areas, while also ensuring that the noise from generators does not affect the ambience of the heritage property.

18. Lighting of public and semi-public spaces
Functional lighting for public and semi-public spaces will be planned and installed in a manner that does not disturb the character of the place. The lamp posts, lamps and lighting brightness and colour, will all be carefully planned to be neutral to the heritage ambience. Cables must be concealed. Lighting with solar panels integrated on the post will not be used. Where possible exposed elements will not be bright and shiny. Lighting for special occasions and festivals may be developed in a manner that enhances the traditional quality of the place, however, must not be intrusive, and must be removable.

19. Telecommunication and multimedia facilities
No communication or multimedia cables, equipment and installations should be placed in a location that affects the visual integrity of the historic site. Any towers that need to be constructed must ensure they are not visually intrusive, and ensure monuments and subsurface archaeology are safeguarded.

20. Mechanical Installations
The installation of utility and mechanical systems such as water or gas meters, antennas, air condition units should be inconspicuously placed.

21. Solid Waste Management
Provisions will be made for disposal of solid waste with allocated collection points (preferably with separation of biodegradable, glass, metal, plastics, etc.). Recycling will be promoted; composting biodegradable materials will be promoted. Aesthetically designed rubbish bins will be provided and strategically located for public and semi-public spaces. Provisions for regular solid waste collection should be made.

22. Public access and fencing
Public access to the landscape, including the forests and the river, other than when areas are cordoned off for security purposes. No area of the landscape will be enclosed within compound walls. Fencing will only be used where it is essential for the security of the heritage property. All other fencing will be removed. Fencing, where essential will be designed in a manner that befits a heritage site, without being flashy and obtrusive.

23. Protection of natural features and topography

NATURAL FEATURES, FLORA AND FAUNA
The natural environment of the hills will be protected. Care will be given to ensure proper protection is provided from erosion. There will be no digging, levelling, changing the topography or slopes within the landscape.

24. Protection of ancient and natural water bodies
All water bodies such as ancient reservoirs and tanks, as well as natural streams and ponds will be protected. The ancient and natural hydrology systems will be maintained and where required rehabilitated to manage water resources and help mitigate flooding. No lake, pond, tank, water reservoir, rivers, rivulets, streams, natural drain, spring or water source or any other water course will be permitted to be filled up.

25. River protection
Rivers will be protected from pollution and inappropriate use. The river ecosystems of the rivers that flow through the property will be protected in respect to water management and pollution right from its sources. The erosion along the banks will be monitored and protective measures will be taken were required. Other than protective works, no construction will be allowed along the banks of the rivers within the heritage site, other than temporary structures. Historical structures, particularly the ghats, will be maintained and restored.

26. Forest areas protection and tree plantation
Forest areas will be protected. Within the heritage site, the plantation of trees and shrubs will only be allowed in traditional forest areas and after detailed assessment ensuring there is no negative impact on monuments and subsurface archaeology. Plantation will be done using indigenous species of trees in appropriate locations, ensuring that it is not a mono-culture.

27. Care for animals
Wildlife and their natural habitat will be strictly protected and cared for in the property, as well as the surrounding region. Where necessary, they will be provided with medical care.

FUNCTION

28. Traditional Use and Intangible Heritage
Traditional functions and usage of public and semi-public spaces will be supported. Traditional rituals, processions and festivals that have been performed over centuries in the public and semi-public spaces must in no way be hindered;

29. Signage for orientation and information
Signage for orientation and information on the heritage site will be provided in a manner that does not have visual impact on the heritage property. No hoarding boards or electrical screens will be allowed. Signage will be planned in a uniform manner, reflecting the identity of the heritage property, without being obtrusive.

30. Commercial Use
Use of public and semi-public spaces for private commercial use is not allowed unless specifically managed within allotted areas and designated sub-zones and without disturbing the identity of the place. This also includes the public space in front of commercial buildings such as shops.

31. Commercial Signage
Commercial signage, hoarding boards, posters, banners etc. are not allowed within the heritage site. Commercial enterprises within the settlement areas may have signboards that follow strict norms of size and aesthetic quality.

32. Controlling Pollution
Strong measures will be put into place to make the property a minimum pollution zone and all polluting activities must be controlled within the property as well as the surrounding areas.

ASSESSMENT AND PROTECTION OF THE LANDSCAPE

33. Assessment of natural factors
The impact over time of natural factors that are affecting the landscape will be assessed. These can be natural factors
slowly changing the landscape such as weathering and erosion, particularly considering the effects of climate change. The landscape is also affected by natural hazards such as earthquakes, heavy rains and storms, as well as flooding.

34. Assessment of human factors

The impact over time of human factors that are affecting the landscape will be assessed. Human activity within the landscape can often have detrimental effects, particularly through construction activities, excavations, deforestation or change in plantation.

35. Controlling adverse effects

To ensure that the landscape is maintained to an acceptable degree, it will be necessary to control the factors adversely affecting the landscape, both natural and human, while allowing for social and cultural activities to continue.

A D D E N D I U M  T O  2 . 3 . 5 :  P R O T E C T I O N  O F  S U B S U R F A C E  A R C H A E O L O G Y

Introduction

The heritage attributes that are under the surface are generally better preserved and are a repository of a huge amount of information on the heritage site. This repository of information must be protected. This repository must only be disturbed when accessed through careful documentation and investigations. The most advance possible technology must be used to ensure that all the evidence is interpreted, and a maximum amount of information is obtained. The following regulations have been adopted to ensure the protection of subsurface archaeology.

1. The protection of the archaeological vestiges, visible or below the current land surface that are testimony to the history of the property is non-negotiable. This includes archaeology below open areas, streets, lanes and courtyards and foundations of buildings, which is critical also in respect to new plantations and existing plantations.

2. The subsurface archaeological heritage areas of the property are to be mapped for risk and assessed for safeguarding the phases of development and linked historic periods are to be standardized to ensure a coherent understanding of the property for purposes of research, interpretation and presentation.

3. All activities and interventions within the Protective Monument Zones are to be non-intrusive to the archaeological vestiges and be reversible without causing any damage to the archaeological vestiges and integrity of the site.

4. Shelters, whether permanent or temporary, will only be provided for the most significant archaeological vestiges and only if found to be essential for their long-term conservation and if developed in an appropriate manner.

5. The exposed archaeological vestiges are to remain visible to visitors and provisions are to be made for any future archaeological structures to be kept exposed and visible for visitors as long as it does not compromise their long-term conservation.

6. The archaeological vestiges are to be presented to the visitors in a clear and truthful manner. Access onto all monuments will be restricted and clearly defined paths and areas will be provided for the visitors and pilgrims.

7. Provisions are to be made for worship and mediation which fulfils the requirements of the pilgrims, however, ensuring the protection of the archaeological vestiges.

8. Archaeological research, surveys and investigations will be carried out using the latest technology and methods.
5.3.6 PROCEEDURES FOR THE PROTECTION OF BUILT HERITAGE

Introduction
The ‘Procedures for the Protection of Built Heritage’ addresses the need for an appropriate approach to conserve the identity of all forms of built heritage within the heritage site, both within the Protected Monument Zone, as well as the Continuum Zone. Built heritage is comprised of the main monuments, such as temples, stupas, shrines and palaces, as well as historical buildings, which might be privately owned. Built heritage also encompasses public structures such as sattals, patis, ritual platforms, ghats, as well as historical steps, bridges, retaining walls, etc. These guidelines are to be read in conjunction with all the legal provisions as defined in Chapter 6. Close cooperation of numerous authorities is needed for the implementation of the ‘Procedures for the Protection of Built Heritage’. There is an addendum to these procedures: Adaptive Reuse of Historical Buildings.

1. Scope
The ‘Procedures for the Protection of Heritage Sites and Landscapes’ will be adhered to for any conservation, construction or development work being carried out within the Pashupatiksetra by government authorities, line agencies, communities or private entities.

GENERAL
2. Categorization of built heritage
The categories of monuments are to be standardized to ensure a coherent understanding of the property for purposes of research, interpretation and presentation. The phases of development and linked historic periods are to be standardized to ensure a coherent understanding of the property for purposes of research, interpretation and presentation.

3. Documentation and recording
An inventory will be prepared of standing monuments and cultural objects, including detailed documentation so there is record for any potential post-disaster reconstruction.

4. Original form and material
All monuments will be safeguarded in their original form and material. Damaged monuments will be restored to their original form based on documentation, reuse of original material and where necessary replaced with similar materials.

5. Use of new technology and materials
New technology or materials will not be allowed in work carried out on built heritage. Such materials and technology will only be acceptable for providing support to damaged structures to retain original fabric, with permission from the DOA.

ASSESSMENT OF BUILT HERITAGE
6. Category of vulnerability
Built heritage will be assessed as per their vulnerability and will be categorized under the 3 levels of (1) critically vulnerable (2) vulnerable (3) minimally vulnerable.

7. Prioritization for intervention
Built heritage will be prioritized for conservation, based on the immediate risks, urgency for intervention, potential loss of significance, level of damage, significance, religious sentiments, liturgical requirements, as well as availability of resources for the particular monument.

TRADITIONAL TECHNOLOGY, MATERIALS AND SKILLS
8. Traditional procedures and rituals
Traditionally specific procedures and rituals will be carried out considering that these procedures and rituals are part of the living heritage significance ensuring cultural continuity of the monument. It will be ensured that traditional procedures and rituals are respected and performed while carrying out any work.

9. Material availability and specification
The availability of materials and their specifications will be considered in the design of conservation works. The procurement of appropriate necessary materials will be facilitated by the government. The replacement with alternate materials where strongly justified will follow strict rules in respect to compatibility, proven performance, demonstrable beneficial effect, no negative impacts, removability and possible future corrective measures.

10. Crafts-persons availability and training
The master crafts-persons with the required traditional crafts will be given high recognition and high priority will be given to the training of new craftsperson. It will be ensured that work is carried out by crafts-persons with an acceptable level of expertise and experience or under the guidance of an experienced master. As many of the conservation treatments will require intervention by trained masons and crafts-persons, they should be given training to document their work in a format prescribed by DOA.

11. Capacity building and awareness
Capacity building for undertaking conservation works of cultural heritage will become an integral part of site management. Skills and knowledge will be imparted to various target audiences including community volunteers, site staff and decision makers to ensure their regular and appropriate involvement. Regular activities and interactions will be carried out to inform and create awareness within the community as well as to a wider audience within the country, but also at international level.

CONSERVATION OF BUILT HERITAGE

12. Stabilizing damaged structures
Built heritage with critical structural damage will be stabilized using the most appropriate methods and technology to ensure minimum intrusiveness, removability, renewability and with least visual impact. When in doubt, interventions should be of temporary nature and adopting an observational approach.

13. Consolidation of non-structural elements
Built heritage with damage that does not have structural implications will be consolidated using traditional methods and materials. The sealing of cracks will be carried out with appropriate and compatible materials to ensure that there is no adverse impact caused by the material, blends in with the existing structure and ensures that water penetration into the structures is hindered. The use of modern technology and materials can only be used to provide critical protection to the monument which is justified and agreed upon by the DOA, is removable without any major damage to the original structure.

14. Conservation of ornamentation
The ornamentation of the built heritage such as mural paintings, decorative stucco work and glazed stone and terracotta will be conserved and protected.

15. Subsurface repairs
The foundations of built heritage will be retained as far as possible and will only be strengthened if there is clearly visible damage. Any interventions in the foundations will require a Heritage Impact Assessment. Any intrusive subsurface repairs or assessments should be preceded by a watching brief and, if necessary, rescue excavations by an archaeologist, under the supervision of DOA. Further regulations are provided under ‘(A1+) Protection of Subsurface Archaeology’.

16. Consideration for living monuments
Living monuments will be conserved to the maximum extent possible while seeking to accommodate changes necessary for their use as active monuments, while having no negative impact on significance.

17. Non-conjectural restoration
Restoration should be based on complete documentation and to no extent on conjecture. Only if sufficient documentation is available, and later alterations are considered inconsistent to the structure’s integrity, will built heritage
be restored or reconstructed back to an earlier style.

18. Reuse of original material
The built heritage will be restored by reusing as much materials as possible in their previous location and function. When certain parts or elements of the monument need to be replaced, these will be done by using materials that are as similar to the historic as possible in quality, chemical and physical composition and workmanship.

CONSERVATION OF MONUMENTS WITH LATER INTERVENTIONS

19. Phases of buildings
All phases of buildings will be considered to be of equal importance and will, as far as possible be protected.

20. Assessment of past structural interventions
Previous stabilizing interventions will be assessed for their performance. These could be internal metal frames, external metal supports or ties, brick piers or concrete tie beams. Depending on the condition and effectiveness of the stabilizing interventions, they might need to be removed, retained, replaced, repaired or new stabilizing methods introduced.

21. Removal of inappropriate interventions
Past inappropriate interventions in incompatible materials are to be assessed on whether they might be a threat to the monument. If assessments and comparisons to other similar circumstances show that these additions could pose a threat to the monument, then these components will be removed as long as the removal does not cause excessive damage to the structure. If necessary, traditional materials or techniques will be used in any replacement.

MONITORING, MAINTENANCE AND SECURITY

22. Monitoring and maintenance system
All built heritage attributes will be provided with a framework for monitoring and maintenance and responsibilities will be clarified among associated communities, other stakeholders and authorities. Where possible the resources for maintenance will be ensured. The means and procedures for maintenance of, as well as the responsible bodies, will be determined.

23. Continuity
To ensure the continuity of the built heritage, only appropriate functions will be allowed. The monuments should survive in good condition over time which will require consideration of renewal and maintenance. All interventions will take into account how they contribute to the performance of the structure over time.

24. Traditional maintenance procedures
All interventions and restoration methods will ensure that procedures are put into place for regular maintenance and repair of decayed fabric. Maintenance and repair will take into account traditional construction approaches and materials.

25. Structural health monitoring
Provisions for periodic structural health monitoring for structural performance will be established. Material testing will be carried out regularly, along with, where possible, the installation of sensors, to monitor the structural

26. Emergency and safety measures
Safety measures will be required for built heritage, and where relevant evacuation routes for visitors and other safety and security measures will be established in consultation with all stakeholders as well site managers.

27. Modern installations and services
Built heritage will in principle not be provided with modern installations and services. However, where necessary for functional or security reasons, certain provisions will be allowed, ensuring that the installation does not damage the structure while fixing, and that installations are not visibly obtrusive. Refer to ‘(A2+) Adaptive Reuse of Historical Buildings’ Article 7 for mandatory considerations on installations and services for built heritage.
ADDITION TO 2.3.6: ADAPTIVE REUSE OF HISTORICAL BUILDINGS

Introduction
There are many historical buildings that have become obsolete in respect to their original function. For the continued monitoring and maintenance of such buildings, it is essential that they are given an appropriate new function. Any newly introduced function must be compatible with the character of the heritage site, the specific location, as well as the historical building. To ensure that the new function is compatible, a Heritage Impact Assessment will be carried out before finalizing the adaptive reuse.

1. For historical buildings with adaptive reuse, all provisions and regulations provided in ‘(A2) Procedures for the Protection of Built Heritage’ will be valid.
2. For the conservation of historic buildings, either the historic function will be maintained or adaptive reuse will be assigned to ensure the regular upkeep and the continued value of the structure.
3. In the case of structures that already have communities involved in using and maintain them, such as for social service, religious activities or residential purposes for related communities, these activities will be supported.
4. Historic buildings will be conserved taking into account their structural system, main architectural components as well as decorative elements. Any required restoration works will be carried out ensuring that interventions ensure that materials, techniques and craftsmanship are as per the historic records.
5. Any alterations that might be required must ensure that the building does not lose its historic identity and the alterations are sympathetic, non-intrusive, reversible and visually compatible.
6. The foundations of historic buildings will be retained as far as possible and will only be strengthened if there is clearly visible damage. Any interventions in the foundations will require a Heritage Impact Assessment. Any intrusive subsurface repairs or assessments should be preceded by a watching brief and, if necessary, rescue excavations by an archaeologist, under the supervision of DOA. Further regulations are provided under ‘(A1+) Protection of Subsurface Archaeology’.
7. The historic buildings that are still being used or are given new functions might require modern installations and services such as electrical and plumbing, as well as for safety and security. However, the installation will not damage the structure while fixing, and the installations will not be visibly obtrusive. The following installations might be considered, and will only be installed with permission from the DOA.
   a) Water supply and drainage, where it is ascertained that it will not affect the historical building. The water supply and drainage system will follow the ‘(A1) Procedures for the Protection of Heritage Sites and Landscapes’.
   b) Toilet facilities and sewerage, will where possible not be installed within the historical buildings. Should it be essential for the adaptive reuse, then it should be done in a manner that it has minimum impact on the historical building. The sewage disposal system will follow the ‘(A1) Procedures for the Protection of Heritage Sites and Landscapes’.
   c) Lighting system can be installed for security, safety and as per functional requirement, however, it will be carried out using the highest of safety precautions, ensuring the mitigation of electrical fire hazards.
   d) Decorative lighting will not be allowed. Festive lighting will only be installed for special occasions.
e) Installations for fire safety equipment will be considered as per vulnerability assessments.

f) Sensors to monitoring health of buildings should be considered wherever possible, linking this to a technical support system and regular maintenance.

g) Essential installations for security, which might include modern locking systems, will be integrated into the historical building, in a non-destructive manner, and without being visually obtrusive. Rolling shutters will not be allowed.

5.3.7 PROCEDURES FOR THE PROTECTION OF CULTURAL ARTEFACTS (IN STONE, CLAY, METAL AND TIMBER)

Introduction
For the purpose of these procedures, cultural artefacts will be defined as objects created by humans, which provide information about the culture or civilization that created, maintained and used them, are of importance and are worthy of preservation. These procedures will focus on cultural artefacts that were produced from stone, clay, metal and timber, but might be valid for artefacts of other similar materials. These procedures do not encompass sites and built heritage, nor easily movable artefacts that are not bound to a specific location.

Provisions are to be made for worship and mediation which fulfils the requirements of the pilgrims and devotees, however ensuring the protection of the cultural objects.

The cultural artefacts will be defined under the following categories:

1) **Statues** – This category includes idols within and outside of temples and other worshipping complexes, free standing statues, including lingams, and other objects of veneration.

2) **Inscriptions** – these particularly focus on the stone inscriptions, but there are also inscriptions on copper and timber, and even on burned clay elements.

3) **Elements of monuments** – these are elements such as carved timber struts, doors and windows, plinth stones, metal gajurs, and also bricks, tiles and plain timber elements, that have been displaced from the built structure.

4) **Miscellaneous** – this category includes such artefacts as stone spouts, steles, stone pillars, jarun (stone water tanks), small stone chaityas, etc.

The significance of the cultural artefacts can be for the following reasons:

1) **Historical** – this refers particularly to the inscriptions, but can also be for the age of cultural artefacts.

2) **Sacred** – this refers particularly to idols, as well as to ritual and devotional objects,

3) **Artistic** – this refers mainly to works of exquisite craftsmanship, which even when possibly losing its religious or sacred significance, is still of great value.

4) **Structural** – this refers to elements of buildings, particularly when they have been displaced.

All cultural artefacts, as defined in these procedures, have an original location. This location might be within the city square, along the river bank, within a particular building or as part of a built structure. The original location might have been changed in the past, however,
it is important to determine, if possible, the earliest known location of any cultural artefact. Many artefact will have been displaced in the past. There would have been various reasons for such displacements to have occurred.

i. Due to past disasters, e.g. because of the destruction of the original location.
ii. For protection or reuse through official procedures.
iii. Due to theft or other illicit means.
iv. Caused by unknown events in the past.

**Basic guiding principles**

1. Cultural artefacts will remain in their original locations.
   *This principle ensures that cultural objects are not moved unless the cultural object cannot be protected or has become functionally obsolete and must be replaced.*

2. Displaced cultural artefacts will be restituted in their original locations.
   *This principle ensures that cultural objects that are displaced due to natural or human causes, will be returned to their original location, if they can be provided adequate protection and if they can perform their required function.*

3. Cultural artefacts will not be threatened by or subjected to hazards of natural or human causes.
   *This principle ensures that cultural objects are protected from damage, destruction, erosion, theft, or any other negative impact.*

4. Cultural artefacts that are threatened, will be provided adequate and appropriate protection in their original location.
   *This principle ensures that, where possible, the cultural artefacts are provided adequate and appropriate protection from all possible hazards.*

5. If appropriate protection is not possible in their original location, the cultural artefacts will be moved to an appropriate location.
   *This principle ensures that cultural artefacts that are threatened or are being impacted, and cannot be protected in their original location, will be moved to a location where appropriate protection can be provided.*

6. Should a cultural artefact become obsolete, in respect to their function, these artefacts will need to be replaced, following traditional procedures.
   *This principle ensures that cultural artefacts that have become functionally obsolete, whether as a structural element in a monument or as an object of worship, can be removed and replaced, however, ensuring that the replica is similar in design and material, and fabricated through traditional techniques, and reinstalled as per traditional practices.*

7. Cultural artefacts are to be accessible to the public.
   *This principle ensures that cultural objects are made accessible to the public. There might be restrictions to cultural artefacts that are used for rituals or due to beliefs, can only be viewed by certain initiated individuals, however, this must be justified accordingly.*

**Standard procedure to ensure protection**

Rapid assessments will be carried out using the ‘traffic light’ approach: green for low, amber for medium and red for high. When several factors are considered, the final assessment would be the combined overlap of the results.

**Basic identification and assessments**

- **Listing** – identification of objects along with value assessment
  *Cultural objects will be identified, mapped with GPR coordinates, and provided with an initial assessed value. In certain cases, this might require further research.*

- **Inventory** – including documentation and assessment of condition
  *The listed cultural objects will be documented in detail, including photographic and possibly 3D scanning, which will include a detailed condition assessment.*

- **Threats** – assessment of threats
  *An assessment of threats to the cultural object in its present location will be done. The possible hazards might be natural or human, with sudden impact*
or slow effect. The possible need for mitigation measures will be highlight.

- Prioritization – based on level of value, condition and threats
  
  Based on the assessment of value, condition and existing threats, the cultural objects will be prioritized for planning response and mitigation measures. In certain cases, emergency responses might be needed and immediate protective action will be carried out.

**Protection of cultural artefacts in situ**

- Planning of approach to ensure protection in situ.
  
  Wherever possible, the cultural object will remain in situ and will be provided adequate protection in this location. The protective measures will need to be effective for all forms of hazards, without diminishing the functional and aesthetic values of the cultural artefact.

- Implementation of protective measures or removal.
  
  Should an acceptable means of providing protection for the cultural artefact be found, this will be implemented as soon as possible. If it is not possible to protect the cultural artefact in its original location, it will need to be removed and provided appropriate protection in a new location.

**Protection of displaced cultural artefacts**

- To assess original location for threats
  
  A displaced cultural object, whenever possible, will be returned to its original location, however, the original location will first need to be assessed for threats. The possible hazards might be natural or human, with sudden impact or slow effect. The possible need for mitigation measures will be highlight. As with cultural artefacts in situ, appropriate mitigation measures will be planned. If there are threats and appropriate mitigation measures are not possible, then the displaced object will not be returned to its original location, and will be stored in an appropriately protected and secured location nearby.

**Removal and replacement of cultural artefacts**

- Clarify justification for removal, whether obsolete or lack of protection.
  
  If the cultural object is damaged and cannot carry out its required function, or is not acceptable for ritual purposes, or if the cultural object cannot be provided with adequate protection, the cultural object must be removed from its original location.

- Requirement for replacement for functional reasons and type of replacement.
  
  Should a cultural object be removed from its original location, depending on its function, whether structural or religious, in certain cases aesthetic, it will need to be replaced. The replica must be similar in design and material.

- Storage, protection and display of removed cultural object.
  
  The cultural object that is removed will be stored in an appropriate location, ideally close to its original location, will be provided adequate protection and security, and were possible and of sufficient interest, will be displayed for viewing by the public.
5.3.8 PROCEDURES FOR THE SAFEGUARDING INTANGIBLE HERITAGE

Introduction
Intangible heritage must remain alive, relevant and flexible to changing circumstance. The knowledge and skills must be transmitted to future generation. Intangible heritage is often associated with specific sites, built heritage, cultural artefacts, or might be manifested in the production of cultural objects. Intangible heritage will change and adapt, as required by the community, and only those aspects that are recognized and continue to be relevant to the community need to be safeguarded. Safeguarding intangible heritage ensures that the circumstances required for its continuity is provided. Safeguarding measures must always involve the relevant community, and be carried out with their consent.

These procedures have been established to guide the authorities and site managers of cultural heritage properties on safeguarding intangible heritage. The following provisions are to be considered strictly within the parameters of managing cultural heritage properties and does not profess to address all forms of intangible heritage.

Categories of intangible heritage

For the purpose of these procedures, intangible heritage will be identified under the following categories:

1. Activities and events related to social practices and religious beliefs
   This category includes all forms of festivals, processions, celebrations and rituals that take place within the cultural heritage property. These activities might take place at a specific location, or numerous locations, in the open spaces or within the monument, or along a certain linear route.

2. Traditional craftsmanship including knowledge and skills
   This category includes all forms of craftsmanship required to create monuments, cultural artefacts or objects required for the activities under Category 1. The creation of such structures or objects requires knowledge and skills, and is often linked to a set of intrinsic rituals and procedures.

3. Significance and meaning given to particular locations and their physical manifestation
   This category includes the relationship to the landscape, the natural and built environment, in respect to myths, legends or history. These would include significance given to natural features such as forests, rivers, gorges, as well as the related flora and fauna.

4. Other forms of intangible heritage
   This category encompasses particularly those forms of intangible heritage that might not be directly related to the cultural heritage property, but might be identified within the area. These might be various forms of performing and visual arts, music, oral traditions and other forms of cultural expression.

Basic guiding principles

For the purpose of these procedures, UNESCO’s ‘Twelve ethical principles for safeguarding intangible cultural heritage’ have been adapted to the requirements of specific cultural heritage properties.

1. The relevant communities and individuals will have the primary role in safeguarding intangible heritage.
   All safeguarding measures will involve the relevant community, and be carried out with their consent. The communities will decide on the value of their intangible heritage, the degree of
threats they are facing, and the necessity for preventive and mitigation measures. Community consultations will ensure honest and transparent dialogue, leading to free, prior, sustained and informed consent. The impact of any actions on intangible heritage will be carefully assessed before being carried out.

2. Equal priority will be given for safeguarding the intangible heritage of all communities.
   Considering cultural diversity, the intangible heritage of all communities will be respected. This will require a mutual respect to be developed between communities, as well as the State authorities. Particular attention will be provided to respecting the elders, involving the youth, ensuring gender equality and assuring human dignity. Under certain circumstances, means of conflict resolution will be required.

3. Safeguarding ensures the circumstances required for the viability of intangible heritage and its continuity through practices, representations, expressions, knowledge and skills, and where required adaptation to changing circumstances.
   Communities and community members have the right to their intangible heritage, which must remain viable, by providing the conditions required for its continuity. Communities can determine how to adapt their intangible heritage to ensure viability and continuity.

4. The locations of significance for communities, particularly in respect to carrying out activities related to their intangible heritage, will be protected and made accessible.
   The locations and places of significance, particularly to practice activities related to intangible heritage will be made accessible to the related communities and community members.

Customary practice of accessibility will be respected.

5. The safeguarding of the intangible heritage and associated activities will benefit the related communities and community members.
   The safeguarding of intangible heritage will allow for continued practice, belief, as well as documentation, research, adaptation, use and promotion for the benefit of the related communities and community members.

6. Special provisions will be made to carry out documentation, research, promotion, and recognition of traditional knowledge and skills.
   To develop general awareness and acceptance beyond the respective communities, and to understand the continuously changing condition of intangible heritage, the mechanisms and means of documentation and research will be established, along with promotion and recognition of traditional knowledge and skills.

**Standard procedure for safeguarding intangible heritage**

These standard procedures are based on the requirement for safeguarding intangible heritage in specific heritage sites. The intangible heritage might be directly linked to the location, site, monument or objects within the specific area based on history, customary practice or beliefs, or be related to the use, management and maintenance of the place.

**Identification and empowerment of associated communities**

- The communities and community members who created, and have been maintaining and using the heritage property, whether site, monument or object, will be identified.

All communities and community members who are related to the heritage property will be identified, defining their specific relationship and related intangible heritage.

- The identified communities and community members will be
empowered as per their specific relationship with the heritage property. The communities and community members will be empowered to participate in safeguarding the intangible heritage related to their specific activities, which might be associated with the maintenance, restoration or use of the heritage property.

**Inventory of activities, expressions and products of intangible heritage**

- An inventory will be prepared of the various categories of intangible heritage, as defined above. The inventory will be a means of safeguarding the intangible heritage, and must not exclude that which might not have been
- For the purpose of these procedures, the intangible heritage is related to specific locations, which will be identified in respect to the specific intangible heritage. The locations related to intangible heritage can be singular, multiple, linear or omnipresent.

**Protection of place of significance for intangible heritage**

- The locations will be defined in a particular manner, with specific characteristics, as required by the related intangible heritage, which will be protected. The characteristics of the location, as defined in the creation of a specific place, allows for the practice of specific forms of traditional activities and rituals, or reflects certain forms of belief, or is the expression of intangible heritage, which must be retained to safeguard the intangible heritage.
- The heritage property, whether site, monument or object, will be protected as required by the intangible heritage. The protection will be provided to ensure that the related usage, expression and beliefs are taken into consideration. The protection in certain circumstances might require certain changes to take place as circumstances changes, however, such change must be justified through the requirements of the intangible heritage.

**Support and promotion for traditional artisans and practitioners of intangible heritage**

- Within the broader classification of communities and community members, the artisans and practitioners of intangible heritage will be identified. This group is specifically focused on those who carry out activities within the heritage property, ensuring the safeguarding and continuity of intangible heritage, by being the custodians of the related knowledge and skills.
- Inventory and Documentation of the knowledge and skills of artisans and practitioners of intangible heritage. The inventory will focus on the knowledge and skills related to activities carried out by artisans and practitioners of intangible heritage, including the expression and, where relevant, the product of these activities.
- Facilitate the transmission of knowledge and skills over generations. The inventory and documentation of intangible heritage is not sufficient to ensure continuity of the intangible heritage, for it needs to be transmitted to the next generation. This requires facilitation and support to ensure viability.
- Provide recognition to the artisans and practitioners of intangible heritage. Recognitions can be through certification, conferring of titles, through medals and prizes, and media coverage were appropriate.

**Improving the understanding and awareness of intangible heritage**

- The intangible heritage of all cultures and communities need to be understood to develop mutual
acceptance, which requires general awareness. Information on the intangible heritage of all related communities will be disseminated to allow for general awareness to develop. This is linked to sharing of information, where possible, allowing observation and participation in each other’s activities.

**Protection from inappropriate activities**
- Inappropriate activities need to be mitigated.

Provisions will be made to control inappropriate activities in the Protected Monument Zone to safeguard the intangible heritage, as well as the monuments, archaeological vestiges and cultural objects, the environment, as well as maintaining the sacred character of the place.
- Only new activities that are appropriate and not offensive will be allowed.

The introduction of new activities will only be done if they are not offensive and are compatible to the character and heritage of the property.

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### 5.3.9 ZONING WITHIN MONUMENT ZONES AND RELATED REGULATIONS

**Introduction**

Each of the monument zones including their buffer zones of the Kathmandu Valley will prepare zoning plans with clearly demarcated subzones identifying the related approach to conservation and protection, the allowed activities, along with guidelines and related bylaws where applicable. These zoning plans will comply with the procedures and guidelines provided in this document, as well as relevant building bylaws prepared by the Department of Archaeology.

**Possible subzones**

For each of the monument zones, the following subzones might be considered.

1. **Sacred Subzones**
   Which might include areas of particularly importance in respect to sacredness. This subzone might only be used for sites dedicated to religious activities such as Pashupati, Changu Narayan, Swayambhu and Baudhanath.

2. **Conservation Subzone**
   The area where the main monuments are located, and the main focus is conservation, with no new construction being allowed. This would include the main Durbar Squares of Kathmandu, Patan and Bhaktapur.

3. **Settlement Subzone**
   This is the area where traditional settlements are located, where building bylaws define any new interventions. Settlement subzones will be defined in all seven monument zones.

4. **Utility Subzone**
   This is an area where utilities are established for the functioning of the monument zones. Particular focus will be given on providing services to ensure the continuity of intangible heritage.

5. **Rectification Subzones**
   These are areas which have been inappropriately developed in the past and need to be rehabilitated in an appropriate manner. Rehabilitation planning will be carried out.

**Regulations for subzones**

For each of these subzones development regulations and building bylaws, where relevant will be provided.
5.3.10 Post-Earthquake Rehabilitation Procedures

Introduction
The “Post-Earthquake Rehabilitation Procedures” provide the legal framework for the restoration and reconstruction of monuments damaged and destroyed by earthquakes. These provisions can also be used for damaged caused by other hazards. The major destruction caused by the 2015 Gorkha Earthquake will still require rehabilitation. Consideration must also be given to the destruction caused by the 1934 Great Nepal Bihar Earthquake.

These procedures have been established to guide the authorities and site managers on rehabilitation of built heritage that has been damaged or destroyed by earthquakes, or other hazards. The following provisions have been prepared to be considered along with the officially adopted ‘Basic Guidelines for the Conservation and Reconstruction of Earthquake-Damaged Heritage 2072’. These procedures will also be understood in conjunction with the other legal provisions provided herewith, particularly ‘(A2) Procedures for the Protection of Built Heritage’.

General considerations

1) Response based on damage assessment and documentation
The response and interventions will be based on detailed condition assessments which ensure the highest possible level of research and detailed documentation, taking into account transformations of the built heritage over time.

2) Vulnerability reduction of built heritage
All interventions will consider the reduction of vulnerability of monuments. Vulnerability assessments and appropriate interventions to reduce vulnerability will also be carried out over time on non-damaged monuments.

3) Hazards and multi-hazards considerations
Every site, monument and cultural object will be provided maximum protection from all possible hazards such as earthquakes, but also flooding, landslides, fires, lightening and possibly hazards based on visitors and other functional requirements.

This will be connected to a larger national level disaster risk mitigation policy and a site disaster risk mitigation and management plan.

Assessment of built heritage and appropriate interventions

The following procedures will be followed in the process of assessing built heritage impact by earthquakes and taking the decision on the general approach to rehabilitation.

1. Vulnerability assessments need to be carried out on heritage buildings by multi-disciplinary experts (not only engineers!) with understanding of conservation.
2. The outcome of the vulnerability assessment would conclude whether interventions are required or not.
3. If interventions are required, the first option would be to carry out repairs of the damaged parts, using original material and technology. It would need to be assessed whether this is sufficient or not.
4. If repair work is no sufficient, retrofit can be used to ensure that the original structural system can be retained. For heritage structures possible retrofit methods must ensure minimum intrusiveness and the possibility of removal.
   - Possible interventions might be steel ties.
   - RCC and cement in any form is not acceptable.
5. If the heritage building has to a large degree collapsed, affecting its original structural system, these damaged elements (which generally does not include the
foundations!) will need to be rebuilt to its original state.

- Certain enhancements might be acceptable if they are in traditional technology, craftsmanship and material.

Guidelines for the rehabilitation of built heritage

As defined in the ‘Basic Guidelines for the Conservation and Reconstruction of Earthquake-Damaged Heritage 2072’, the damage to the built heritage will be categorized under the following three categories which are (1) totally collapse, (2) critically damaged and (3) non-critically affected. Guidelines have been provided below for each of these categories.

1. Interventions for totally collapsed built heritage

Totally collapsed structures will be rebuilt as per their original design, reusing as much of the salvaged material as possible. The foundations will not be removed and, where necessary, the plinth will be restored. Traditional technology, materials and skills will be used to reconstruct the monument. New materials and technology will not be introduced.

2. Interventions for critically damaged built heritage

As much of the critically damaged structure as possible will be retained, providing where necessary additional supports. Such interventions would need to be appropriate, technically and visibly, and should prioritize the use of traditional materials. These original elements will be properly safeguarded and conserved. Where these monuments need to be rebuilt, the conditions defined under category 1 will be followed. The dismantling protocol will be followed.

3. Interventions for non-critically affected built heritage

Non-critically affected monuments, that have not lost their structural integrity and only require minimum non-critical interventions, will be protected and conserved. Conservation materials of original quality, chemical and physical composition and workmanship.

Procedures for the rehabilitation of built heritage

The rehabilitation of built heritage will strictly follow the procedures as provided under ‘6.5.1 Procedures and mandatory phases’, and detailed out below: (1) Preparation, (2) Design (3) Implementation and (4) Completion.

1. Preparation

The first stage of rehabilitation of heritage at monument level shall ensure necessary preparations including documentation, assessment and research. Documentation will be required of the original structure before the earthquake and the present status of the site and the salvaged materials. General assessment of the built heritage in its present state include structural, material and functional aspects will be carried out. Research will be carried out wherever the general assessments are not considered to be sufficient. The preparation phase will also deal with the salvaging of materials and temporary interventions.

2. Design

The second stage of rehabilitation of built heritage focuses on design and will focus on approach, interventions and realization. This means that the structural interventions and the architectural conservation approach will be designed. The artisans and required material procurement will be planned. An implementation plan will be prepared.

3. Implementation

The third stage of rehabilitation of built heritage will ensure appropriate implementation through a community based reconstruction in amanat procedure. During implementation, all activities will be documented. Work will be strictly supervision. Relevant traditional rituals will be carried out, with the priests, community members, as well as the artisans.

4. Completion
The fourth stage of rehabilitation of built heritage will ensure proper completion. Once completed the work will be audited for quality, design and cost. The built heritage will be handed over to the responsible authority with a clearly defined monitoring and maintenance system, which is understood, adopted and fully established. Required training, if required, will be provided.

**ADDENDIUM TO 5.3.10 DISMANTLING PROTOCOL**

**Introduction**
If possible heritage buildings and structures and any parts thereof will not be demolished or dismantled. Damaged structures will be stabilized and as much as possible of the original fabric will be retained.

Should it be found necessary for any damaged heritage building or structure or any part thereof to be dismantled, technical and legal justification will be required which also takes into account the sentiments of relevant stakeholders.

- Technical justification will be provided by a competent team of experts with in depth knowledge of structural aspects of heritage buildings and structures as well as conservation principles. The justification will provide an explanation of why the structure cannot be retained.
- Legal justification be given by a competent authority based on relevant legislation, laws, guidelines and other relevant documents adopted by the government. This would include but not only consist of the Ancient Monument Preservation Act, the Basic Guidelines for the Conservation and Reconstruction of Earthquake-Damaged Heritage 2072 and the Post Disaster Recovery Framework.
- The justification will also be based on interaction with relevant stakeholders which could include community members, user groups, priests and caretakers.

The decision to dismantle the whole or part of any historic building or structure will be taken with the understanding that dismantling will be carried out in a systematic manner, with continuous monitoring and documentation, and that the process can be discontinued at any given time if found necessary. The dismantling process will follow the hereunder defined protocol.

**Objectives**
The Dismantling Protocol aims at achieving two main objectives.

1. To better understand the building technology, materials, chronology and alterations, changes and additions, and particularly previous interventions to the structure. It will thereby be possible to determine the original structure, the alterations over time and the reason for the structure to be damaged.
2. To ensure that all materials are carefully removed to ensure detailed documentation, assessment and any further research can be carried out, while also ensuring that the material can be reused as far as possible for reconstruction.

**Teams**
Once the justifications have been agreed upon, there will be two teams involved in the dismantling process, a team each to ensure that the two objectives are attained.

I. The technical support team will ensure that documentation, assessment and whatever research is required will be carried out.
II. The dismantling contractor team will ensure that the equipment, adequately skilled workers as well as necessary
supervisors are provided to allow for a systematic dismantling process in close collaboration with the technical support team.

**Preparation of Site**
- A large enough space will be demarcated and fenced off to provide protection to bystanders as well as safety to the salvaged materials.
- Storage space for the various salvaged materials will be clearly defined particularly in respect to timber elements, terracotta elements, mortar and plaster, as well as miscellaneous materials and object of special significance.
- Necessary scaffoldings along with platforms and pulley systems will be arranged for.

**Planning dismantling procedures**
The following considerations will be made when planning dismantling procedures:
- Safety of the technical support team, the dismantling contractor team as well as bystanders will be considered high priority.
- The stability of the structure being dismantled as well as structures and other nearby threats will be closely monitored.
- The chronology of dismantling will consider both the rational of implementation as well as the need for documentation.
- The process will begin with cleaning of the site of all waste, foreign materials and surface vegetation.
- In principle dismantling will be carried out from the top to the bottom of the structure.

**Removal of materials by dismantling contractor team**
- The removal of materials will be done systematically, piece by piece and layer by layer, and only after it has been documented and assessed by the technical support team.
- The materials will be removed from its position carefully so that other parts of the structure are not affected.
- The material once removed will be transported in a manner that ensures that it does not get damaged more than it might already be. It will be ensured that any labelling done by the technical support team will remain on the object.
- The material will be stored in the designated storage space in a manner determined by the technical support team. This is to ensure that the material is easily assessable and well protected.

**Documentation, assessment and research by technical support team**
- During the dismantling process the structure will be documented in detail using photography as well as scale drawings and if possible other appropriate means.
- Damage will be mapped in detail, particularly where there are cracks, damaged elements, as well as collapse patterns.
- The collapsed sections will be carefully excavated in the presents of an archaeologist using relevant archaeological procedures.
- Each major element of the structure will be documented which includes material identification, design, connections between similar as well as adjacent materials.
- This might require further research on materials to identify timber, brick, mortar, plaster, stone, etc. The materials will furthermore be assessed for material deterioration, aging or weathering.
- Materials used for later interventions will specifically be studied and mapped out.
- Each element will be assessed in respect to its function, whether structural, architectural or as ornamentation. The significance of these elements in respect to fulfilling their functions will be studied in detail.
- Construction materials will be labelled where relevant, particularly in respect to timber elements and other important elements that will be reused during reconstruction, possibly in the original location.
o Intricate ornamentation will be documented using photogrammetry. Where possible murals will be salvaged. Samples of carved stuccowork will be salvaged for future use to create moulds or used as samples for use during reconstruction.

**Final reporting**

o The final reporting will consist of the overall results of documentation, assessment and research. This would mean the following information will be provided as far as possible.

- Information on the original architectural and structural design and details. This is of course often difficult to assess and might need to be assessed individually.
- Information on later interventions that were carried out as partial restoration, strengthening or in some cases in the event of maintenance.
- The damaged caused by earthquake or due to other reasons, particularly the reason for the latest damage or collapse.
- The detailed documentation and assessment of individual materials and structural elements, assessment of their state, possibility of reuse as well as location of storage.

o The documentation, assessment and research carried out during dismantling will be the basis for reconstruction. This means that the requirements for reconstruction will constantly be kept in mind ensuring the outcome allows for sufficient information is available as required for reconstruction.

- The documentation of the structural system of the original structure and possible later interventions will allow for structural assessments to be carried out and structural design proposed for reconstruction.
- The detailed documentation of all elements will allow for the reuse of these in their original location. The elements that are deteriorated will be identified accordingly determining the need for replacement. This will clearly need to be differentiated between materials that have a particular identify such as carved wooden elements and materials that will be reused however in their general location such as bricks.

The reuse and the recreation of elements of ornamentation will be determined through the documentation and salvaging process during dismantling.
## 2.3.11 Rectification Guidelines

The ‘Rectification Guidelines’ provide the legal framework for rectifying existing buildings that have a negative impact on the elements and attributes that contribute to the outstanding universal value of the Monument Zone.

<table>
<thead>
<tr>
<th>The basic principle of the rectification guidelines is:</th>
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<td>• to remedy those elements and attributes of inappropriate buildings that contribute negative impact on the value of the surrounding historic context;</td>
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<tr>
<td>• specifically focusing on compatibility of mass (height, coverage and form) and exterior (material, colour, texture, order, scale and proportions)</td>
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Inappropriate buildings shall be rectified to fulfil the following conditions, however keeping in mind the basic principles mentioned above:

### Mass
- Must not be higher than the neighbouring historic buildings or must comply with the relevant article in the Building Bylaws;
- Must not cover areas that are not within the plot, with the possible exception of sloping (non cement concrete) roof projections;
- The overall form of the building must be compatible to neighbouring historic buildings or must comply with the relevant article in the Building Bylaws for roof, balconies, projections, etc.

### Exterior
- The materials, colour and texture of all elements of exposed facades or facades that could be exposed in the future must be compatible to neighbouring historic buildings or must comply with the relevant article in the Building Bylaws;
- The order of elements of the main facades and of the elements themselves must comply to traditional rules;
- The scale and proportions of the main facades must be rectified to whatever degree possible to reduce their negative impact on any adjacent historic buildings

### Implementation Process

The Rectification Guidelines shall be accompanied by a detailed implementation process clearly defining the authorities, the flow of information and the decision making and monitoring provisions.

### Inappropriate Buildings:

Inappropriate Buildings can generally be understood as those buildings that do not correspond to any of the traditional styles of architecture normally understood to be found within the Kathmandu Valley and do not correspond in scale, height, façade (material, colour, texture) with the surrounding historic buildings.

### Application:

The conservation of historic buildings shall be given priority before the rectification of inappropriate buildings. The implementation of the Rectification Guidelines should not be used to legitimise illegal construction in the future. The implementation process will take into account the legal status of the inappropriate building, structures and infrastructure. The guidelines are to be implemented with authorisation of the Department of Archaeology.
ADDENDIUM TO 5.3.11 Rectification Procedures

Introduction
The “Rectification Procedure” provide the legal framework for rectifying existing inappropriate structures, buildings and other forms of development that have a negative impact on the heritage site. Inappropriate structures, buildings and other forms of development encompass legal and illegal construction and development activities carried out in the past that have ongoing physical, visual or sentimental impact on the environmental or cultural attributes of the heritage property.

1. Identification of inappropriate structures and other forms of development
Construction and developments that were carried out in the past that do not comply with the present legal provisions, impact monuments, subsurface archaeology, intangible heritage or environment, or affect the cultural sentiment of the community will undergo a Heritage Impact Assessment (HIA).

2. Emergency rectification
Should construction and developments that were carried out in the past or are ongoing have a continuing or increasing impact on monuments, subsurface archaeology, intangible heritage or the environment, or affect the cultural sentiment of the community, rectification procedures will be carried out immediately.

3. Rectification over time
Construction and developments that were carried out in the past that do not comply with the present legal provisions that however do not have continued or increasing impact on monuments, subsurface archaeology, intangible heritage or the environment, or affect the cultural sentiment of the community, will be rectified or phased out over a period of maximum 5 years, to be implemented as per the decision of PADT and DOA.

4. Timeframe for rectification
The duration of time allotted for rectification will depend on the scale of investment, the legality of the development, the degree of inappropriateness and whether it is located in the Protected Monument Zone or Continuum Zone. The suggestion on timeframe will be provided within the Heritage Impact Assessment.

5. Implementation and covering of cost for rectification
The rectification of inappropriate developments and construction carried out by the authorities within the Protected Monument Zone or on identified heritage in the Continuum Zone will be rectified by the authorities. If the inappropriate structures, buildings and other forms of development are considered to be carried out illegally, the entire cost for rectification will be borne by the developer. If at the time of construction and development they were considered legal, then the cost of rectification will be borne equally between the developer and the government.

6. Compensation for the outcome of rectification
No compensation will be given for the loss of property or income caused through the rectification of inappropriate structures, buildings and other forms of development; Consideration will be given to construction and development that were legal at the time of execution and the developer has not been able to gain sufficient income from the investment.
2.3.12 ADDITIONAL TOOLS AND PROVISIONS

Various management tools have been established or are in the process of being established. These are important means of implementing and enforcing the legal provisions and are considered part of the legal framework package. These will be used within the overall management system; this means the institutional, legal and the resources frameworks.

‘Prioritize Heritage’ Initiative
This initiative has been established to ensure that all site managers prioritize heritage in their decision-making procedures. This will require the review of the management structures and relevant capacity to make appropriate decisions and carry out conservation works. All staff of DOA and site managers must have basic training in heritage conservation, and only the relevant conservation officers shall take decisions and supervise work within the heritage property.

Heritage Impact Assessments (HIA)
Heritage Impact Assessment has been legally established. The implementation of Heritage Impact Assessments (HIA) will be a strategic means of ensuring that development and conservation activities in and around heritage properties are compatible and appropriate. This will give the DOA the authority to demand HIA wherever found necessary and it will be carried out based on the standardized procedures.

‘One Map’ Coordination
The maps of all relevant government authorities will be harmonized, allow for the heritage zoning to be made more functional. This will allow for information to be shared and planning and decision-making to be done in a coordinated manner. The basic legal maps are the cadastre plans of the Survey Department for planning at the level of individual plots.

Data Management System
Effective management requires easy access to information which is regularly updated. The information collected through regular monitoring will be feed into a data management system, allowing site managers to obtain accurate information. The data management systems will link inventories, mapping and assessments to the map while additionally linking this to management activities such as monitoring and activity reports.

Inventories of Significant Attributes
Inventories will include both tangible and intangible attributes of the heritage property. The assessments carried out by DOA assisted by various organizations and experts will be linked to the information of the individual attributes as compiled in the data management system. The inventories shall be constantly updated and close cooperation will be maintained to ensure that the inventory is used as a management tool.

Archaeological Risk Map (ARM)
The archaeological risk maps define which areas have subsurface archaeology, which areas could have subsurface archaeology and which areas most probably don’t have subsurface archaeology. The map will become part of the legal system for protecting sub-surface archaeology. This will also be the basis for decision making in respect to any infrastructure or development works that might need to be carried out.

Adapted National Building Code
The National Building Code will have provisions to address the particular characteristics of traditional construction. This will allow for historic structures that are tested over time to be legally approved, without necessarily introducing modern interventions.

Traditional Artisan Promotion
Traditional artisans shall be promoted and supported to carry out conservation works within the heritage property. Provisions shall be made within the Public Procurement Act to address this issue.

Training Programmes
To ensure that there is sufficient capacity to implement the management system correctly, regular training programmes are required. Such activities will to be carried out targeted specifically to requirements directly related to safeguarding heritage, but also in respect to overall management.
2.4 RESOURCES FRAMEWORK

For the Institutional Framework and the Legal Framework to function, resources are required. These resources shall be assured as required by the State Party, so that the Kathmandu Valley World Heritage property is safeguarded, while promoting the heritage for appropriate functions and income, while

Resources required for managing Kathmandu Valley World Heritage property have been identified under three sections:

1. Human Resources
2. Financial Resources
3. Material and Equipment Resources

These resources need to be considered not as separate entities, but as part of a comprehensive package. For each of these resources the typology, source and general scale of will be defined. Detailed requirements would however need to be assessed in the Annual Action Plans linking it to the planned actions.

Resources are required for various categories of actions to address identified issues. For the management of the cultural heritage site resources are required to carry out:

1. Routine Actions
2. Time-bound Interventions
3. Emergency Response

Each category of action would require different types of human resources, financial resources and material and equipment resources.

Resources are required for the integrated management and coordination along with the implementation of the sector plans. Therefore, activities can be categorized under the following heading:

1. Integrated Management
2. Conservation
3. Sustainable Development
4. Disaster Risk Management
5. Tourism Management

The management of these different attributes will require differing resources both in typology as in scale.

The planning of required resources will be given high priority, directly related to all management issues that need to be addressed and the related actions that need to be carried out. For each action, the required human and financial resources will be identified so that prioritization and implementation planning can be carried out in a realistic manner. In addition to the direct resource needs and use, the indirect implications on sustainable development of the heritage property will be considered. This requires an in-depth consideration of the socio-economic implications of all activities that are carried out within the heritage property.

The following sub-sections will define the various types of resources and what they will be required for within the management system for Kathmandu Valley World Heritage property.
2.4.1 Human Resource Management

Human resources for management of a cultural heritage site consist of people with the required knowledge and skills to maintain and safeguard the significant attributes. Human resources incorporate the managers and planners as well as those responsible for carrying out skilled or non-skilled activities on the site, their availability, motivation, training and remuneration.

Required Human Resources

For routine actions and the general management of the heritage site managers will be provided, who can monitor the property, do reporting, carry out necessary procedures for guiding development, as well as managing the museum and database. The managers at the cultural heritage site must understand the legal and technical aspects of safeguarding heritage. This would be essential for both for the DOA as well as at the Site Managers. Particular importance needs to be given to the required experts for maintaining the site, monuments and cultural objects, as well as intangible heritage.

For time-bound Interventions which includes the preparation, planning, design, monitoring and auditing of projects, required expertise will be made available to ensure successful, efficient project are carried out. The experts, artisans, contractors, labor must understand the legal and technical aspects of safeguarding heritage. The projects that are carried out, particularly in respect to conservation works and related research must have the best trained and experienced experts with the specific expertise in the tasks that they are to perform. For development projects there must be experts involved who have knowledge of working within a cultural heritage site.

For emergency preparedness and response, trainers and responders will be ensured, both at local as well as national level, who are adept with the conditions and requirements of a heritage property and are trained in dealing with cultural landscapes, monuments, historic buildings and cultural artefacts. All forms of hazards, whether natural or human induced, will be considered in the preparedness and response procedures.

Awareness and general understanding of cultural heritage: The managers and decision-makers at shall be provided training and awareness on conservation management procedures and requirements for the heritage property to ensure that all decisions and actions are appropriate and compatible to the relevant legal provisions and procedures as defined in the IMF document.

Collaboration and Monitoring: The management of a large heritage property requires the close collaboration of all the departments of the local and provincial government as well as line agencies to ensure coordination. Collaboration will allow for efficient use of the scarce human resources.

Securing Human Resources

• Local: Local expertise will be used particularly in respect to monitoring the site, and activities requiring local knowledge. This will be an opportunity for local community to get involved in assisting in managing the cultural heritage site.

• National: national expertise will be represented within advisory committees to allow for regular involvement in the management of the heritage property. This would include members of educational institutions and professional associations of archaeologists, architects, engineers, conservators, social and cultural studies,

• International: International expertise will be kept on a roster to allow for support whenever required. This would be closely linked to ongoing research and support for project design and implementation.

The roster will also include government officers and staff in the various relevant departments who will be responsible for the respective sectors and category of actions. This is especially important since on-going training and meetings will be coordinated according to the assessment of capacity of the government officers and staff with respective responsibilities.
2.4.2 Financial Resource Management

Financial resources for management of a cultural heritage site consist of different forms of funding required for maintaining and safeguarding the significant attributes.

Financial resources are required for managing the heritage property, for monitoring, reporting, maintaining, restoring and for emergency response. Incentives are also required for guiding development and for ensuring that heritage is safeguarded. This might consist of subsidies on restoration costs and services, tax exemptions (house, land, material, permits, etc.) and bank loans for restoration. Additionally, a fund will be required to support conservation.

Required Financial Resources

Funding routine actions will be through regular annual budget. Funding will be provided to the site managers for monitoring, maintenance and administrative functions. Funding will also be ensured for the running of the museums and maintaining a database. Funding will be augmented through the participation of the local and provincial government in the management of the heritage property.

Funding for time bound interventions will be provided to implement prioritized activities; however, these funds will be separated from the regular budget. Time bound projects do not need to be aligned to fiscal years and can be planned and implemented through external contracts; however, the responsibility for monitoring and auditing will remain with the site management.

Funding for emergency response as well as preparedness will be provided as a separate budget both at local as well as national level. Funding will be provided for training, awareness building, monitoring and planning as well as for equipment and site interventions. Minimum requirements will be fulfilled at site level with national level resources being made available when required. All forms of hazards, whether natural or human induced, will be considered in the preparedness and response procedures.

Financial resources will also be required for the overall development of the Kathmandu Valley World Heritage monument zones beyond the specific safeguarding and management of the cultural heritage, as defined in the sector plans.

Securing Financial Resources

The administrative costs of managing the Monument Zones shall be borne by the respective Site Managers. A large part of the tasks determined for site management of the Monument Zones are to be implemented by the Local Government (Kathmandu Metropolitan City, Lalitpur Sub-Metropolitan City, Bhaktapur Municipality and Changu Narayan Municipality). Changu Narayan Municipality shall be supported by the Department of Archaeology office in Bhaktapur. Pashupati Area Development Trust has the authority and the funds to participate as a full-fledged partner to Kathmandu Metropolitan City in managing Pashupati Monument Zone. The Federation of Swayambhu Management and Conservation and the Baudhanath Area Development Committee have income by way of collecting visitor fees which covers their administrative costs.

The World Heritage Section and the site offices of the Department of Archaeology in Kathmandu (Hanuman Dhoka Palace Maintenance Office), Lalitpur (Lalitpur Monument Conservation and Palace Maintenance Office) and Bhaktapur (Bhaktapur Monument Conservation and Palace Maintenance Office) shall be provided an annual budget that allows them to carry out their tasks of coordinating, implementing and monitoring the activities laid down in the Integrated Management Plan.

The funding for running the Coordinative Working Committee Secretariat will be borne by the Department of Archaeology. The CWC meetings would generally be carried out at the Department of Archaeology, unless other provisions are made. The necessary funds would be made available by the Government in the annual budget of the Department.
**Funding**

Most conservation efforts are being funded through conventional channels; either directly by the government or by international “donors”. Potential partners shall be drawn on to carry out conservation, monitoring and safeguarding.

**Central Government funding**

The central government shall fund the functioning of the Department of Archaeology as the overall responsible authority for World Heritage.

The central government shall fund the maintenance of classified buildings that require immediate attention. The central government shall also put aside funds for situations requiring emergency response.

The central government shall arrange for funding through government, international or private sources for the conservation of classified buildings as well as safeguarding other elements of the property that express outstanding universal value.

The central government shall contribute to the Conservation Assistant Fund which shall be used mainly for privately owned classified monuments and shall be administered by the local government under the supervision of the Department of Archaeology.

**Local Government (municipal) funding**

The municipalities are the main authorities directly involved with site management. The administrative aspect of managing the monument zones shall be borne by the respective offices of the municipalities responsible for heritage.

The municipalities shall contribute to the Conservation Assistance Fund and shall administer the Fund. The Conservation Assistance Fund shall be used for the safeguarding and conservation of classified buildings and elements of the site.

The municipalities shall fund the general cleaning, maintenance and upkeep of the monument zones, except for those that have separate site managers such as in Swayambhu, Baudhanath and Pashupati. The municipalities shall therefore also be responsible for the collection of entrance fees for the monument zones that they are responsible for.

**Dedicated Site Managers**

Swayambhu, Baudhanath and Pashupati monument zones have dedicated site managers, established to deal specifically with the management of the particular monument zone. These site managers (Federation of Swayambhu Maintenance, Baudha Area Development Committee and Pashupati Area Development Trust respectively) are responsible for collecting entrance fees and are therefore responsible for the cleaning, maintenance and upkeep of the respective monument zones.

**Conservation Assistance Fund**

In 2004, as per the instruction of the National Development Action Committee, an integrated Coordinative Action Plan for the conservation of the Kathmandu Valley World Heritage Site was set up in collaboration with all the stakeholders (Kathmandu, Lalitpur and Bhaktapur municipalities, Department of Archaeology, the National Planning Commission and the Ministry of Finance). Simultaneously, the Conservation Assistance Fund was established. The central government put aside funds which are to be matched by the Municipalities. The government shall ensure that the Conservation Assistance Fund is established and functioning.

This Fund has been established to provide partial funding for the restoration of private historic buildings. Provisions have also been made to allow for the funds to be utilised for the expropriation of historic buildings that are in threat of being destroyed. This is usually when owners are not willing to implement restoration even after being provided financial assistance.

**Funding Partners**

Funding shall be sought through International Partners such as UNESCO, or directly from embassies, international development banks and INGOs dealing with conservation and sustainable development.

Funding shall also be sought from national institutions, banks, NGOs, heritage organizations, community members, philanthropists and agreeable industries.
Income

The monument zones shall have a clear business plan to ensure certain income, while supporting the local economy and guiding the safeguarding and conservation of the classified buildings and elements that express outstanding universal value of the site.

Tourism

Tourism is the most obvious source of income for any heritage site. In the case of Kathmandu, tourism has been the driving force behind heritage conservation, often dictating the local economy. The foreign, local and religious tourists contribute to the economy of monument zones.

The site managers of all seven Monument Zones are collecting entrance fees from tourists. The funds collected from the tourists shall be fully utilised within the Monument Zones. The use of these fees for projects beyond the general administration, maintenance and monitoring shall be reviewed by the Coordinative Working Committee.

Local Economy

The local economy in and around most Monument Zones is geared towards Tourism. The religious Monument Zones cater to varying degrees to the religious visitors. The Durbar Squares are, however, city centres and are therefore also vibrant areas for the local economy. The success of conserving historic buildings will depend on a flourishing local economy.

Sustainable Economic Development

Sustainable Economic Development is required in Kathmandu Valley considering the projected changes that will be taking place over the next decades. This means that the entire economy particularly of the local community will be affected. A high priority will be given to improving the livelihood of local community members by providing support and incentives towards their traditional activities local manufacturing and production. Financial support for communities to maintain their traditional buildings will be arranged.

Taxation

Taxation within the Monument Zone areas shall be seen as potential tools for providing incentives to owners to conserve historic buildings.

The various forms of taxation shall be used to guide conservation within the monument zones:

The central government taxation is based on direct and indirect taxation. Direct taxation would mean personal taxes and company or corporate taxes. Indirect taxation is based on VAT. In addition to these, there are various service charges and fees. Relevant is, for example, the fees pertaining to the purchase and sale of property.

Municipal taxation consists of house and land tax or integrated property tax, vehicle entrance tax, rent tax, business tax, entertainment tax, advertisement tax, etc. In addition to these taxes, there are service charges and fees. Especially relevant are the building permission fees.
Material and equipment resources for management of a cultural heritage site consist of required appropriate materials and specialized equipment to maintain and safeguard the significant attributes.

Material for the conservation of monuments and their ornamentation will be provided for which would include both traditional as well as highly specialized materials. In a similar manner basic equipment will be required for the management of the cultural heritage site. However, highly specialized equipment would be necessary to carry out extensive survey as well as minutely detailed investigations.

**Required Material and Equipment Resources**

Material and equipment resources for **routine actions** will be provided to ensure that monitoring and maintenance of the cultural heritage site is possible. This means the basic requirements of transportation, communications and documentation will be provided. Additionally, the material and equipment required for maintaining, cleaning and safeguarding the main attributes of the property will be provided. These requirements will be provided through the regular annual budget.

**Material and equipment resources for time bound interventions** will generally be linked to the particular projects. This means the material and equipment necessary for the particular time-bound intervention will be arranged for by those responsible for implementation. There is however certain material that are regularly required particularly for very specific tasks in conservation that might best be arranged by the government through specific developing specific suppliers or establishing stores. This is also the case for equipment particularly those required for regular recurring projects such as in monument conservation or archaeological investigations.

Material and equipment resources for **emergency response** will need to be stored and made available when required. These materials and equipment will be part of the disaster risk management planning (refer Disaster Risk Management Strategy Document). Certain basic equipment will be stored at site along with materials required for immediate response. A larger source of materials and equipment for emergency response needs to be accessible when required form provincial or national level.

**Securing sufficient Material and Equipment Resources**

Government will acquire equipment that is necessary to carry out monitoring, assessments and surveys. This will go along with establishing well equipped conservation labs. A detailed inventory of such equipment shall be made as required for work in the monument zones of the Kathmandu Valley World Heritage property. The inventory will determine the whether the equipment would be used regularly and would therefore need to be acquired. Depending on the expense, such equipment could be provided at either site level or national level. Furthermore, equipment that is expensive and not regularly used can be leased or integrated into projects to be carried out by international partners who will provide the necessary equipment or the use of such equipment in the respective locations.

Research into traditional materials and construction equipment and techniques is required. Along with these the equipment and techniques used for construction will be better understood to allow for proper conservation.
3. IMPLEMENTATION

3.1 INSTITUTIONALIZATION

The implementation of the Integrated Management System is an ongoing process that requires regular review, amendment and detailing of action plans. The changing circumstances at site bring new challenges and issues which the management system needs to address. The management frameworks and processes that have been established will allow for appropriate actions to be carried out addressing the issues facing the cultural heritage site.

The management that is established focused on the cultural heritage property will work closely with the sectors relevant for the sustainable development of the site and surrounding area. This would primarily be the authorities and agencies linked to urban planning and the governance of the associated areas within the Kathmandu Valley. Additionally, the management system will work closely with the authorities and agencies relevant to sustainable tourism development as well as disaster risk management. An overview of these sectors and relevant strategies have been provided in this section which will link to relevant attached documents: Sustainable Development, Tourism Management and Disaster Risk Management.

The section also provides the required monitoring and reporting procedures and schedules along with the required reviews and assessments of the management system itself.

3.1.1 ESTABLISHING FRAMEWORKS

Institutional Framework

The institutional framework for the management of the Kathmandu Valley World Heritage property has been identified under section 2.2 of this document. The institutional framework shall be maintained and where necessary established as per the provisions in this document. The coordination between the DOA, the municipalities and the specific site managers shall be maintained through the Coordinative Working Committee (CWC).

The CWC and its members shall ensure close cooperation with the associated authorities that are working within the monument zones and buffer zones as provided in section 2.2.4 of this document. The Government of Nepal is committed to ensuring that all its offices shall participate in ensuring the maintenance and protection of the heritage site.

To improve the functioning of processes within the institutional framework, specific actions shall be developed and carried out are:

Orientation Programmes: all new members or representatives within the CWC or any of the positions that deals with the WH property shall be given orientation of the site and its management system. Especially planned orientation programmes shall be provided for decision makers within the relevant ministries, local government bodies, site managers and communities.

Dissemination of Information: a means shall be devised for news on the heritage sites to be disseminated to the associated authorities and community. This shall be done through various forms of media including radio, newspapers and a newsletter.
Legal Framework

The Ancient Monument Preservation Act 1956 shall be amended to take into consideration the full and mandatory protection of World Heritage sites, the establishment of Heritage Impact Assessments as a standardized procedure, the preparation of inventories, as well as provisions for protective zones around all ancient monuments and archaeological sites. Accordingly the regulations, bylaws and other legal instruments shall be amended.

All guidelines, regulations and bylaws shall provide special consideration for historical buildings, particularly classified monuments. This includes the National Building Code, retrofitting guidelines and any other legal instruments that are developed and enforced within the World Heritage boundaries and the buffer zones. A separate set of parameters will be used to assess the structural stability of historical buildings. Retrofitting guidelines specific to historical buildings will be prepared and adopted. Special provisions shall be established for privately owned historical buildings and particularly classified monuments to ensure that the buildings are not vertically divided, allowing for more flexible ownership modalities to ensure the building’s protection.

An inventory shall be prepared as defined under section 2.3.3. The inventory shall be regularly updated and gazetted, at least once a year. This information shall be disseminated to all relevant authorities, organizations and individuals. Each classified elements shall be provided with a folder containing relevant information required for its safeguarding, care and management. A standardized format shall be developed which is used by all authorities and parties involved in safeguarding the classified elements.

Resources Framework

The human and financial resources as well as material and equipment for implementing actions as defined in the Integrated Plan of Actions document have been assured by the government. This will allow for monitoring, routine maintenance, reporting as well as the functioning of the site managers and the CWC. The regular budget and staff will also ensure the running the museum, maintaining the data base, carrying out Heritage Impact Assessments and maintaining the inventory.

Resources will also be provided for implementing time bound projects which focus on specific interventions that improve the condition of the cultural heritage site. Furthermore, the resources required for emergency response including preparedness will be provided for.

The overall management framework also includes the planning linked to related sectors. These are particularly focused on the protection of the site, monuments and cultural artefacts, as well as the intangible culture heritage, including sustainable development, disaster risk management and sustainable tourism. The conceptual plans and strategies have been adopted as part of the Integrated Management System; however further detailed planning is required. These detailed plans will then become part of the overall management system.

3.1.2 Establishing Processes

Management processes take place based on the institutional, legal and resources frameworks that have been established for the management of the cultural heritage site. For these processes to function, a clear means of communication needs to be established which ensures that necessary information is disseminated as per the requirements of each component of the system, in order for them to carry out their respective responsibilities. This also requires each component of the system to have the capacity to carry out their respective responsibilities.

The overall management procedure entails the following components:

To ensure an efficient and effective management of the heritage property, it is necessary to clearly define all essential management processes. These would include but not restrict themselves to the following procedures for decision-making and implementation: for any kind of conservation work; for any kind of construction work; for any kind of archaeological work; for visitor management; for providing services, for monitoring and for maintenance. These
Processes shall be strictly adhered to by the Site Manager and related authorities. Each step in the process would need to identify who carries out what action, what information is passed on, why it is necessary and how long it would take.

**Routine actions**

For the implementation of routine actions each process would roughly be developed following the given format:

- Office or person dealing with issue
- Type of action or decision
- Required information to be received
- Maximum time for action or decision

This means that a detailed process flowchart will be prepared for all routine actions to be carried out within the cultural heritage site or buffer zone.

**Time-bound interventions**

For the implementation of time-bound interventions the following phases will be followed. The following three phases must be carried out including where relevant the various points mentioned under each phase.

**Phase 1: Preparation** including:
- (1) Documentation
- (2) Assessment
- (3) Research
- (4) Inventory of existing status
- (5) Temporary Interventions

**Phase 2: Design and Planning** including:
- (1) Structural Interventions
- (2) Conservation
- (3) Material – requirement and supply
- (4) Artisan – requirement and availability
- (5) Implementation Planning

**Phase 3: Implementation** including:
- (1) Rituals
- (2) Documentation of Implementation
- (3) Supervision and Monitoring
- (4) Handing-over procedures
- (5) Audit – quality and financial

**Emergency response**

For the implementation of emergency response detailed procedures will be developed. Basic response procedures are also provided within the Disaster Risk Management Plan which is part of the Integrated Management System. More elaborate procedures will be defined in the Disaster Risk Management Plan for Kathmandu Valley World Heritage property which is to be prepared. Training will be provided on these procedures.
### 3.1.3 Plan of Action

The Plan of Action is a formulation of specific tasks that need to be accomplished to achieve the Key Objectives of the IMP. These tasks or actions are planned taking into account the implementing authority, the time scale and funding sources.

**Plan of Action**

A Plan of Action shall be developed and annually updated based on the Integrated Management objectives given in Part 1.3. For each Monument Zone, a “Monument Zone Plan of Action” shall be developed and annually updated based on the management objectives identified for the specific Monument Zone. For each action, the lead agency, timescale, funding source along with possible interim measures shall be indicated.

Preparation and updating of the Plan of Action shall be carried out by the Coordinative Working Committee, which represents the DOA and the Site Managers.

**Annual Action Plan**

Based on the overall Plan of Action, detailed Annual Action Plans shall be prepared to implement tasks within the framework of this integrated management framework. This shall take place at integrated level as well as at Site Management level and annual review meetings shall be held to check progress. These Annual Action Plans need to coincide with the official fiscal year starting mid-July of each year.

**Categories of Actions**

All actions shall be categorized under the following three headings:

- **Routine procedures**: these are all actions that are usually routines carried out over a longer period of time. This category includes actions such as monitoring and maintenance.
- **Time-bound projects**: these are actions that address specific issues which are carried out within a given timeframe. This category includes specific planning, restoration and infrastructure development.
- **Emergency response**: these are all actions that are linked to immediate response to emergencies. Such actions cannot be planned but are based on preparedness and mitigation.

**Actions**

The Actions shall be formulated based on the management objectives. The Actions shall be specific and realistic with a clear understanding of how they will be implemented.

The Actions shall be categorised under the headings used for the formulation of the objectives:

- A. Planning and Policy
- B. Legislation
- C. Operationalising Site Management
- D. Establishing Sectoral Plans
- E. Information and Research
- F. Sustainability

**Lead Agency**

For each Action a Lead Agency shall be determined that will be responsible for implementation. The indicated Lead Agency shall be involved in the formulation of the action to allow it to take on full responsibility for carrying out the action.

**Time Scale**

For each Action, a time scale shall be indicated. The Time Scale needs to indicate approximately when the Action needs to start and when it needs to end (with respective indicators). Certain Actions may be part of a continuous process and need to be indicated respectively. This links back to the categories of routine, time-bound and emergency response actions.

**Resource**

For each Action, the required resources will be indicated including the potential source of obtaining the resource. This would be annual budgets, extra-budgetary projects, international assistance, or local community based interventions.
3.2 Sector-wise Coordination

The sector-wise coordination is an integral part of the Integrated Management. Sectoral strategies or plans need to be developed to function as a cross-cutting feature of all activities carried out within the World Heritage areas.

The major sectors are; Conservation, Sustainable Development, Disaster Risk Management and Tourism. These sectors are very closely linked to the overall provisions for managing the World Heritage property and must therefore be seen as part of a single integrated system.

3.2.1 Conservation Management Plan

The Conservation Management Plan contains assessments of all categories of physical heritage attributes, including the approach to monitoring, safeguarding and conserving them. This also includes the identification of cultural artefacts and potential sub-surface archaeology, preparation of risk maps as well as means of researching, safeguarding and conserving them.

An inventory of physical heritage attributes of Kathmandu Valley World Heritage property will be prepared. All the entries in the inventory need to be protected and therefore the necessary procedures and guidelines need to be established. These heritage attributes would be historic structures, cultural artefacts and elements of the historic city and its surroundings. The urban and natural landscape need to be protected along with the identified as well as potential sites for subsurface archaeology.

The Conservation Management Plan is a component of the overall Integrated Management System of Kathmandu Valley World Heritage property. The Conservation Management Plan will follow the principles, approaches as well as the management frameworks defined in the IMF document. The actions defined for the Conservation Management Plan will be integrated into the overall IPA, so there is coordination with activities linked to the overall management of Kathmandu Valley World Heritage property, as well as with all the sector plans and strategies. Furthermore, cultural heritage properties are protected by the provisions of the Ancient Monument Preservation Act 1956.

The Conservation Management Plan will address conservation issues linked to the built attributes of the heritage property as well as historic urban infrastructure, cultural objects and sub-surface archaeology. Accordingly, guidelines and procedures will be put in place for the appropriate conservation of these physical attributes.

The conservation plan will include the following components and activities related to research, planning and implementation of conservation activities:

- Documentation and assessment of past interventions
- Documentation of the significance and characteristics of the attributes
- Documentation and understanding of the traditional construction system and architectural vocabulary
- Mapping type of decay and deterioration, and analysis of causes
- Conducting investigations including non-destructive, moderately destructive and destructive material, and structural tests
- Intervention for long term sustainable with planned actions
- Developing sustainable sources for required materials for conservation
- Supporting and developing traditional artisans with their required skills to ensure continuity of their trade, along with documenting the traditional knowledge.
ADDENDUM TO 3.2.1 PROVISIONS FOR CONSERVATION

The following provisions will be considered in preparing the sector plan for conservation.

Different categories of heritage

Heritage conservation will take into account the site and landscape, the built heritage, cultural objects and intangible heritage. For each of these categories of heritage, different approaches will be necessary, however, the basic principle of ensuring appropriate continuity of the heritage will be followed.

General Conservation Approach

The general approach to conservation is to ensure that all significant attributes are safeguarded through regular monitoring, maintenance and control of activities that might impact the attributes. While ensuring that the attributes are safeguarded, activities linked to the local intangible heritage shall be promoted. A balance will be achieved to ensure sustainable development taking into account the livelihood of the local community, their cultural identity as well as their spiritual sentiments.

Approach to Development Controls and Physical Planning

The general approach to conserving the physical attributes, the built heritage such as monuments, is to safeguard original fabric, while allowing appropriate restoration of living monuments. The parts of monuments that have been recently rebuilt, especially those using inappropriate mortar, will be rehabilitated over time. Interventions to improve structural stability, whether using traditional or modern materials, will be removable and documented to allow for monitoring and replacement. Conservation will include the various types of ornamentation used on the buildings. The general approach to conserving subsurface archaeology is to identify and to safeguard and only where protection is ensured will excavation and presentation be carried out. Non-intrusive surveys will be carried out and risk maps prepared to ensure that construction work does not damage subsurface archaeology.

Approach to conservation of site and landscape

The landscape and urban setting of the monument zones are comprised of natural features and human interventions over numerous centuries. This created a landscape that contributes to the heritage site’s significance and must therefore be maintained. The basic approach to maintenance and safeguarding of the physiographical attributes is to retain the original landscape including the topographical features, flora and fauna. Substantially changing the topography is not permitted, particularly quarrying and levelling sites for construction.

Traditional knowledge and skills

The artisans are critical for the continuity of both tangible and intangible heritage. Priority will be given to ensure that built heritage and cultural artefacts can continue to be created through the relevant artisans. The need for cyclical renewal of heritage requires artisans to be able to restore and maintain the heritage to ensure continuity.

Museum in the monument zones

The museums within the monument zones will be a repository of the displaced cultural artefacts, or those requiring special protection. The museums will also be responsible for documentation and research on the cultural heritage of the particular site. The museums will be a place for local communities to relate to their heritage, and express their interpretations and stories.
3.2.2 SUSTAINABLE DEVELOPMENT STRATEGY

The ‘Sustainable Development’ of the areas within the World Heritage property and buffer zone shall be pursued. This requires the coordination between the heritage site managers and a wide spectrum of authorities, organizations and institutions dealing with development agendas. This can only be possible if the principles for sustainable development are clearly defined, acknowledged and adopted by all relevant actors.

The key principles for sustainable development shall be defined, acknowledged and adopted by all relevant actors. To ensure compliance by all authorities and line agencies, the Government of Nepal, represented by the Cabinet of Ministers, shall endorse the principles. Furthermore, local organizations and associations shall also be included in defining and enforcing the key principles of sustainable development.

As defined by the Brundtland Commission, Sustainable Development is “development that meets the needs of the present without compromising the ability of future generations to meet their own need”. Sustainable development within the Kathmandu Valley World Heritage Site shall mean that conservation of cultural and natural heritage must go hand-in-hand with social and economic development, taking into account the needs of future generations. The four components of sustainable development shall be taken into consideration when planning and implementing any activities within the World Heritage property. These include economic sustainability, social sustainability, environmental sustainability, as well as cultural sustainability. The radical change that is taking place within the Kathmandu Valley shall be guided by the principles of Sustainable Development.

The establishment and adoption of the key principles for sustainable development shall be the basis for all authorities, organizations and institutions to work together with a shared vision and direction. This shall be relevant for all activities carried out within the World Heritage boundaries as well as the buffer zones. The principles for sustainable development within the World Heritage property and buffer zone shall assign special consideration to the long-term benefits of heritage conservation. This shall especially focus on the conservation of privately owned historical buildings. Special consideration shall also be given to community activities, celebrations and festivals that define the identity of the heritage site.

The principles for sustainable development shall be linked to the various provisions within the legal framework. The link is especially critical in respect to the Development Guidelines that determines the improvement of infrastructure and services.

The principles of sustainable development shall be linked to the provisions within the resources framework. This is especially critical in respect to defining the funding and income sources that guide the development of the local economy.

Procedures shall be established that ensure the coordination of all relevant authorities during critical decision making processes, whereby the principles for sustainable development are accounted for. This will be aligned with the relevant Sustainable Development Goals (SDGs), particularly Target 11.4 to safeguard the world’s cultural and natural heritage, Target 4.7 appreciation of cultural diversity and of culture’s contribution to sustainable development, and Targets 8.9 and 12.b related to sustainable tourism to support local culture and products.

The priority for action shall be to establish key principles for sustainable development in a format that can be used to assist decision-making processes and assess projects and actions. The implementation shall be integrated into the management processes and monitoring shall be done by the Monitoring Committee established for the implementation of the Integrated Management.
ADDENDUM TO 3.2.2 PROVISIONS FOR SUSTAINABLE DEVELOPMENT

The following provisions will be considered in preparing the sector plan for sustainable development.

The sector plans dealing with sustainable development will include environmental, social and economic issues. These strategies might be in a single sector plan, but might also be separated into different sector plans. For example Regional and Urban Planning deals with settlement, land-use, infrastructure development and environment. Community Engagement and Livelihood will deal with the sustainability of the communities living in and around the monument zones and how they participate in the cultural activities. The strategy for environmental sustainability will deal with both the need to protect the landscape, as well address issues of pollution and waste management.

Regional and Urban Planning

The regional and urban planning will deal with, not only the property and the buffer zone, but also the larger area which might affect the property. For each monument zones a detailed ‘Master Plan’ will be prepared that ensures that the maintenance, restoration and development projects are coordinated, controlled and are in line with the overall approach and legal provisions. Changes to land-use, expansion of settlements and the introduction of infrastructure and service need to be planned carefully to ensure sustainable and appropriate development of monument zones. This would ensure that drainage projects as carried out within the Patan Durbar Square are not carried out again.

The regional and urban planning will also resolve many issues that have been identified which will require additional space, improved access and services. The regional and urban planning will also address the protection of related heritage that might not be within the property or even in the buffer zone. The regional and urban planning will also map existing infrastructure, as well as a short, mid- and long-term infrastructure development proposals, which would impact the Kathmandu Valley World Heritage.

Community Engagement and Livelihood

There is a sizable community living within the m zones of Kathmandu Valley. They will need to become partners in the effort to safeguard heritage: the historic structures, the temples and pagodas, as well as the landscape and environment. Particularly important will be to work on issues related to encroachment of important areas as well as management of both solid and liquid waste. Many of the issues that Kathmandu Valley is facing is linked to uncontrolled development and community activities carried out consciously or due to lack of awareness. There will be certain restrictions put on the community and these must contribute to safeguarding heritage. However, the community living within the heritage site must also be able to profit from this location which means they must be given certain privileges, support and subsidies. The local communities must over time become champions of safeguarding the heritage of the Kathmandu Valley.

Environment and Landscape

The Landscape Management Plan will includes the overall documentation of physiographical attributes of the monument zones, particularly the landscape. The plan deals with assessment of the environment, the landscape, forested areas, hydrology and other important ecological areas. These will be protected from encroachment, pollution as well as any other threats they might be facing.

The protection of the landscape will ensure that the landscape that defines the monument zones are not altered. Natural features such as rivers and their drainage will be protected. The flora and fauna of these areas are protected. Any sources of pollution, whether of water, land or air, will be dealt with. Rivers will be protected upstream, including watersheds to ensure that quality and quantity of water is ensured. Waste management will be carefully planned.
3.2.3 DISASTER RISK MANAGEMENT PLAN

A Disaster Risk Management Plan for Kathmandu Valley World Heritage property shall be established. The system shall respond to natural as well as human-induced hazards, focusing on reducing vulnerability, while preparing for response and reconstruction, based on the lessons learned from the Gorkha Earthquake.

A Disaster Risk Management Plan for the Kathmandu Valley World Heritage property shall be defined and established taking into account all relevant authorities. To ensure compliance by all authorities and line agencies, the Government of Nepal, represented by the Cabinet of Ministers, shall adopt the Disaster Risk Management Plan.

We understand that disasters are created through the combination of hazards and the vulnerability of a given site or structure. This interplay between hazards and vulnerability has been going on throughout history and communities had to learn to survive, otherwise they perished. We have come to understand that possibly even characteristics of the hazards might be changing, for example due to climate change. The vulnerability of our environment in many cases has increased drastically due to growing populations and the uncontrolled spread of human habitat and construction with little consideration for risk reduction. There is much that can be learnt from heritage to reduce disaster risk; however these lessons need to be introduced into the mainstream planning and decision making.

As per paragraph 118 of the Operational Guidelines for the implementation of the World Heritage Convention, ‘The Committee recommends that States Parties include risk preparedness as an element in their World Heritage site management plans and training strategies’.

The cultural heritage of the Kathmandu Valley has developed with a close association to earthquakes by adapting and regenerating in a process of cyclical renewal. From history, we understand that such destructive earthquakes occur at intervals of between 80 and 100. The lessons learned from the recent Gorkha Earthquake shall be the basis for developing the Disaster Risk Management Plan.

The Disaster Risk Management Plan shall be the basis for all authorities, organizations and institutions to work together in risk reduction and disaster preparedness with a shared vision and direction. This shall be relevant for the World Heritage property as well as the buffer zones. The coordination between the authorities responsible for the management of the World Heritage property and those responsible for disaster risk management shall be ensured.

The principles for risk reduction and disaster preparedness within the World Heritage property and buffer zone shall assign special consideration to the long-term benefits of heritage conservation. This means that heritage shall become an important component of the long-term planning which would include post disaster rehabilitation and reconstruction.

The principles for risk reduction and disaster preparedness shall be linked to the various provisions within the legal framework. The Disaster Risk Management Plan shall take into account the heritage values when establishing legislation for risk reduction and disaster preparedness. Appropriate legislation shall be put in place to deal specifically with the structural stability of historical buildings.

The principles of risk reduction and disaster preparedness shall be linked to the provisions within the resources framework. The necessary resources shall be earmarked to allow for emergency responses to take place immediately.

Procedures shall be established that ensure that all relevant authorities, organizations and institutions become part of the Disaster Risk Management Plan. Detailed procedures shall be put in place, which address risk reduction and disaster preparedness. Implementation shall be integrated into the management processes and monitored by the CWC.
The following provisions will be considered in preparing the sector plan for disaster risk management.

The disaster risk management strategy will be based on the principle of ‘Learning from the past and preparing for the future’. This means that there are two main components that need to be addressed, researched, agreed upon and institutionalized:

1. Learning from the Past

1.1 Traditional Knowledge

Cultural heritage is developed on knowledge gathered over centuries, which has allowed it to adapt and persist. The cultural heritage has survived the effects of many hazards. It is essential to understand these adaptations and integrate them into conservation approaches. Any interventions to the structure, material, procedures, systems, and other aspects of cultural heritage will only be carried out based on the understanding of the relevant traditional knowledge.

1.2 Experience from the last earthquake

There are any lessons to be learned from every disaster. The lessons can be learned from understanding the total destruction, the damage, or the resilience of cultural heritage. The 2015 Gorkha Earthquake causes great damage mainly to the built heritage and related cultural artefacts. Which monuments withstood the hazard and why? Which monuments collapsed or were damaged and why? Inappropriate interventions in past restorations and then the lack of maintenance the two main reasons for damage and collapse. These are questions that need to be answered to be able to address similar issues in future.

The lack of procedures adapted to restoration works, the inappropriate use of materials, lack of supply of timber, sub-quality materials, use of inexperienced contractors instead of traditional artisans are things that need to be addressed in preparing for the future disaster response and recovery.

2. Preparing for the Future

The preparation for future hazards will be tackled from various angles.

2.1 Reducing vulnerability

The reduction of vulnerability of cultural heritage will be assessed at all levels: site, built heritage, cultural objects and intangible heritage. Vulnerabilities often arise with the introduction of new elements into the context, whether taller buildings or motorized vehicles. These need to be addressed. The vulnerabilities within the cultural heritage itself will need to be carefully dealt with, taking into account the impact of any change to the cultural significance.

2.2 Preparing for response

Preparing for the impact of hazards, which are often beyond the control of human protection, will reduce unnecessary loss of heritage after the initial disaster. This includes the proper means of salvaging of objects, protection of damaged heritage, and careful restoration using traditional techniques and skills. The response phase must protect and stabilize the area of destruction, possibly introducing temporary interventions that will be replaced in the long-term rehabilitation phase.

2.3 Planning sustainable recovery

The post-disaster recovery will consider long-term rehabilitation, sustainability and resilience. This is dependent on the restoration procedures and interventions on the cultural heritage. Long-term protection is also dependent on legal provisions and its enforcement by the relevant authorities. Resilience is dependent on the stakeholders and communities being involved in ensuring continuity of the cultural heritage. These might be the caretakers, the users, the artisans or traditional guthi members.
3.2.4 TOURISM MANAGEMENT STRATEGY

Tourism plays a major role in heritage conservation, both as a source of income as well as to gain acknowledgement for the heritage. However, without appropriate management, Tourism can have a negative impact on the property.

A Tourism Management Strategy shall be developed that addresses the impact of tourism on the heritage, while ensuring maximum profitability for the heritage site. Regular interaction must be established between the authorities implementing the Tourism Management Strategy and those responsible for the IMP.

The Tourism Management Strategy is part of the overall management system for the Kathmandu Valley World Heritage property. The tourism sectoral plan will function within the management framework of the IMF, and link with the IPA, while ensuring coordination with the other sectoral plans.

The Tourism Management Strategy shall be developed and implemented through close collaboration of the World Heritage Site managers and the authorities, organizations and institutions related to tourism promotion as well as those related to heritage conservation. A clearly defined committee shall be established with representatives from all relevant authorities, organizations and institutions.

The Tourism sector should become a key partner in the conservation of the heritage sites. This will allow a close synergy to develop between the two sectors. The following key objectives of the Tourism Management Strategy shall be integrated into the overall management framework of the World Heritage property.

- to ascertain the involvement of the Tourism sector in the conservation of the cultural heritage, in respect to financing, marketing and improving tourist facilities;
- to develop standards for tourist facilities which takes into account the preservation of the value of the heritage site;
- to ensure a tourist experience that is based on accurate and correct information while building awareness for the importance for conserving cultural heritage;
- to monitor the negative impact of tourism in the heritage areas and develop measures to keep it within acceptable limits

Reinvestment by the Tourism sector to conserve the heritage resource shall become a priority. A clear strategy shall be developed to utilise the available resources from Tourism. The basic principles that the Tourism Management Strategy shall follow are:

- Tourism shall assist in preserving the outstanding universal value of the World Heritage while respecting the authenticity and integrity of the Monument Zones.
- The tourism sector will ensure that their activities do not contribute to development that has an adverse effect on the heritage property;
- The tourism sector will participate in the sustainable human development within the heritage area.

The priority for action shall be to establish close working relationship between authorities, organizations and institutions dealing with culture and those dealing with tourism. The Tourism Master Plan shall be developed along with detailed five year Action Plans. The implementation shall be closely monitored. Clear indicators for each activity shall be formulated to allow for evaluation of progress. The Action Plan for the Tourism sector shall be integrated into the overall Action Plan and the monitoring should be done by the Monitoring Committee established for the implementation of the Integrated Management.
ADDENDUM TO 3.2.4 PROVISIONS FOR TOURISM

The following provisions will be considered in preparing the sector plan for tourism.

Concerning overall approach for tourism and sustainability:
1. The Kathmandu Valley is a heritage site, a place where communities live and work, a sacred site, and only then a tourist destination;
2. Tourism will support the safeguarding of the heritage site;
3. Only activities that do not negatively impacted heritage shall be carried out;
4. Activities that enhance the protection of heritage shall be promoted;
5. Wherever possible the local community shall be prioritized to profit from tourism activities;
6. Long-term planning shall be carried out to ensure focus is not only on immediate gains;
7. The heritage site as a tourism product must ensure that there is a clear balance between the requirements and visions of the tourism sector and the need to safeguard the cultural heritage, the environment and the integrity of the local community;

Concerning tourism accommodations, services and infrastructure
8. Tourist accommodations within the monument zones, where allowed by the bylaws, will ensure that all the forms of tangible and intangible heritage is not negatively impacted.
9. The development of facilities and infrastructure for tourists within the heritage site will consider visitor satisfaction in respect to basic needs, experience as well as information. These shall however be restricted to facilities that are non-intrusive, reversible and
10. Within the heritage site any facilities that need to be built shall adhere to the legal framework particularly to the building bylaws regarding temporary structures. Special care shall be taken with service lines for supply of electricity and water and disposal of sewage, waste water and solid waste.

11. Any development projects that are not temporary or easily removable shall first have a Heritage Impact Assessment (HIA) carried out along with detailed sub-surface archaeological surveys linked to Archaeological Risk Maps (ARM). The project will be developed taking into account the outcome of the assessment and survey.

Concerning tourism transportation and accessibility
12. Transportation within the heritage site will be a critical issue in ensuring heritage is protected. The distribution of visitors throughout the site in sustainable numbers needs to be targeted.
13. Priority will be given to divert vehicular traffic from the monument zones, and only restricted routes and access will be allowed.

Concerning tourist activities
14. Tourist activities will ensure that they do not impact the heritage which includes the monuments, the subsurface archaeology as well as the cultural sentiments of the community. This will need to be based on detailed studied and discussions with community members.
15. All activities will be planned taking into account of the carrying capacity of each of the monuments and sites. In certain cases, it might require controlling the number of tourist at any one time and overall daily restrictions, possibly by charging extra fees to cover direct management expenses.

Concerning involvement of local community
16. Tourism will be promoted while ensuring that it supports the livelihood of the local community. Great care shall however be taken to ensure that the lives of the local community members are not unduly disrupted.
17. Tourism activities will consider the sentiments and values of the local community.
18. Tourism will support local activities such as production of handicrafts and local agricultural products.

Concerning tourist during post-disaster rehabilitation
19. Tourism will be promoted during post-disaster rehabilitation to ensure continued support to the livelihood of the community. Tourists will be encouraged to contribute to rehabilitation efforts.
20. Provisions will be made to allow visitors to observe the rehabilitation activities. This will include possible means of observing ongoing restoration work but also by being provided information on the rehabilitation process.
21. Visitor management during the rehabilitation phase must be specially managed to allow for the experience however ensuring safety for heritage and visitors. Signage concerning possible threats must be clearly provided.
3.3 MONITORING FRAMEWORK

3.3.1 ASSESSMENT, MONITORING AND REPORTING

The periodic assessment of management efforts needs to be carried out based on a monitoring framework with clear indicators and targets.

Periodic Assessment

The Coordinative Working Committee shall coordinate activities related to the implementation of the IMP. The CWC shall be chaired by the Department of Archaeology and be comprised of representatives of the local government with technical support from individual experts. The Coordinative Working Committee Secretariat shall be located at the Department of Archaeology.

Periodic Assessment shall be carried out by the CWC on the progress of implementing the IMP and the state of conservation of the monument zones.

The CWC shall have a regular meeting schedule; at least once every two months. The CWC shall ensure that the activities are being carried out as per the detailed Annual Action Plan. The CWC shall also develop strategies for obtaining necessary funds.

Site Monitoring and Reporting

The Site Managers shall be responsible for the regular monitoring of activities in the monument zones. A detailed monitoring format shall be developed to allow for effective collection of information.

A regular reporting schedule shall be prepared based on the CWC meetings. The information from the monitoring carried out by the respective Site Managers shall be presented to the CWC as notification or for necessary decisions.

For emergency cases, provisions shall be made for emergency reporting to the Coordinative Working Committee Secretariat.

Annual Progress Reports shall be prepared in conjunction with the implementation of the Annual Action Plans.

Targets and Indicators

An overall schedule shall be prepared for the implementation of all the activities outlined in the Plan of Action. This shall be proposed within a five year period. The linkages and chronological order of the activities would need to be closely studied. An overall review of the issues and strategies shall take place after a five year period.

Considering the overall schedule of activities, the targets and indicators for each activity shall be defined in detail. The indicators in most cases shall be a document or legislation that has been acknowledged or passed by the concerned authorities, implementation of certain provisions, completion of certain specific actions or establishment of an institution, body or programme.

REPORTING PROCESS:

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<tr>
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<tr>
<td>SECRETARIAT</td>
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<tr>
<td>SITE MANAGERS</td>
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</table>

REPORTS:

- **ANNUAL PROGRESS REPORT**
  Based on the Annual Action Plan

- **COMMITTEE REPORTS**
  Monthly / Bi-Monthly based on Weekly Monitoring Reports from individual Monument Zones

- **SITE MONITORING REPORT**
  Carried out by the Site Managers for their respective Monument Zones as per a monitoring format

- **EMERGENCY REPORT**
  In the case of an emergency the Site Managers report directly to the CWC Secretariat
3.3.2 PRIORITIZED ATTRIBUTES FOR MONITORING

The Department of Archaeology is responsible for the overall cultural heritage site, particularly the area within the boundaries. The buffer zone, though still a part of the cultural heritage site, will be monitored by the local government. Within this division the monitoring of attributers will be defined in principle, with the main cultural heritage attributes being the responsibility of the Department of Archaeology while related attributes and the context will be dealt with by the two relevant local government authorities and site managers.

The main monitoring on cultural heritage will be carried out by the site managers and DOA. A system for secondary monitors such as local community members, visitors and vendors will be established.

Built Heritage

The built heritage includes the following identified physical attributes of the monument zones. The monitoring of the monuments requires some degree of expertise particularly in respect to structural assessments, however other aspects such as deterioration, plant growth and misuse can be monitored by anyone. The monitoring of built heritage has to be carried out systematically by the site managers, assisted by technical teams when required. Secondary monitors will be promoted.

Cultural Objects

Cultural objects, include those that are displaced and in museums or cultural artefacts that are in situ such as statues, inscriptions, ancient stone elements, and various forms of building ornamentation. These attributes require constant monitoring and are the responsibility of the site managers with support from the DOA. The objects that are in situ will be monitored by the site managers. There are however objects that are still being venerated by religious communities which would be monitored by the respective religious communities. They would report to the DOA if these have been affected or major threats are identified. The monitoring of the artefacts within the museum is the responsibility of the DOA together with the management of the museums. Secondary monitors will be promoted.

Intangible Heritage

Festivals, celebrations, processions, religious practices as well as the overall customs, belief system and way of life of the local communities are important attributes to the cultural heritage site. This will also include traditional crafts and skills. These attributes must be supported by the authorities; however, it is up to the communities to ensure their continued safeguarding practice. The monitoring of such intangible attributes is a difficult task, since many of these will constantly be adapted and changed. The monitoring of intangible heritage will need to focus on trends of change often caused by external influences that endanger the basic identity of the local communities. Such changes need to be monitored by the communities themselves, supported by the site managers.

The Context and Landscape

The urban and natural landscape that creates the cultural context of the monument zones will be monitored by the site managers with support from the local authorities and secondary monitors. The DOA will only be involved when activities directly threaten monuments, archaeology or cultural objects or have a major impact on the visual integrity of the cultural heritage site.

Sub-surface Archaeology

The monitoring of sub-surface archaeology is closely linked to establishing a risk map and ensuring that all activities within the areas of potential sub-surface archaeology is regulated. This is closely linked to the monitoring of the landscape which is mainly carried out by the site managers, assisted by secondary monitors.
The Coordinative Working Committee is to meet on a monthly basis to monitor the implementation of the Annual Action Plan and the weekly site monitoring reports of the Site Managers.

On a yearly basis, work will be implemented as per the Annual Action Plan. The year is based on the Nepali Fiscal Year, which begins mid-July. During the last three months of each fiscal year, the Plan of Action is to be reviewed and the next Annual Action Plan prepared.

After every five years, as far as possible, a thorough review of the Integrated Management Plan is to be undertaken, allowing necessary amendments to be made.

**Site Monitoring and Reporting**

**Weekly Site Monitoring** shall be carried out by the Site Manager by filling out a monitoring form. This form shall be filled out regularly, stating whether activities have taken place or not, whereby a detailed history of the site is documented.

**Monthly reporting** shall be done to the Coordinative Working Committee. Information shall be presented as notification or for necessary decisions.

**Emergency reporting** shall be done directly to the Coordinative Working Committee Secretariat at the Department of Archaeology.

**Annual Progress Reports** shall be prepared in conjunction with the implementation of the Annual Action Plans. The progress report shall explain whether targets have been achieved based on the predetermined indicators. The indicators in most cases shall be a document or legislation that has been acknowledged or passed by the concerned authorities, implementation of certain provisions, completion of certain specific actions or establishment of an institution, body or programme.

**Periodic Assessment**

Periodic Assessment shall be carried out by the Coordinative Working Committee on the progress of implementing the Integrated Management Plan and the state of conservation of the Monument Zones.

**Monthly Assessment** of ongoing activities shall be done at the regular Coordinative Working Committee meetings. This will be based on the reports of Site Managers of the individual Monument Zones. The monthly assessment shall also include a progress report on implementation of the Annual Action Plan.

**Annual Assessment** of implementation of the Action Plan shall be done in conjunction to preparation of the next annual Action Plan. The overall Plan of Action shall also be reviewed and revised as found necessary.

**Five-Year Assessment** of the components of the Integrated Management Plan shall be carried out. The Integrated Management Framework and Management Handbooks for the Monument Zones, including institutional, legal and economic frameworks shall be reviewed and if necessary amended.

The entire Integrated Management Plan shall be reviewed and amended beginning every five years after adoption of any previous amendments. The Integrated Management Plan will need to incorporate the achievements and experiences of the previous five years and address the issues that are predominant at that given time. The Integrated Management Plan must remain flexible and adapt itself to ascertain the long-term objective of conserving the outstanding universal value of the Kathmandu Valley World Heritage property.
Proposed
Pashupatiksetra Master Plan
Management and Structure
2021
The overall Master Plan has been prepared in Nepali and is going through final discussions with stakeholders. After review and general agreement, the document will be adopted as the Master Plan for the Pashupati Area, including the Pashupati Monument Zone of the Kathmandu Valley World Heritage property.

Attached is Chapter 5 on the Zoning and Conservation Management Guidelines which was prepared in English.
# Pashupatiksetra Master Plan 2021

## Chapter 5: Strategy and Procedures

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<td>(D+) Dismantling Protocol</td>
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5.1 Introduction

This chapter provides the strategy to ensure continuity of Pashupati as an important religious, cultural and pilgrimage site. The framework for the institutional arrangements, legal provisions and resources management is established, to ensure the effective protection and appropriate development of Pashupatiksetra.

The previous chapter has provided a detailed overview of issues facing the Pashupatiksetra which the Master Plan needs to address. The following chapter provides information on the specific activities that are planned to address the issues. All activities carried out within the Pashupatiksetra, particularly within the Protected Monument Zone, but also in respect to protection of heritage within the Continuum Zone, will follow the provisions provided within this strategy.
5.2 General Approach

Based on the vision for the Pashupatiksetra provided in Chapter 1, the Pashupatiksetra Master Plan 2021 has been established to ensure continuity of the site as the ‘Sanatan Tirtha’ and place of pilgrimage for the Hindus and as a site of outstanding universal value, a World Heritage property, for all humanity. The goal of the Master Plan is to protect and maintain the sacred and pristine site for continued religious practices, ensuring the protection of the built heritage as testimony to the history of faith and religious expression, while providing appropriate facilities for pilgrims and visitors.

The strategy of the Pashupatiksetra Master Plan 2021 has been established to address the seven defined objectives of (1) facilitating worship, (2) maintaining the built structures, (3) safeguarding the attributes defining the pilgrimage site, (4) protecting the unique landscape, (5) providing for visitors, (6) carrying out institutional improvements and (7) attending to the traditional guthi system. This means that the management system established through the Master Plan will protect and support the tangible and intangible heritage, the sacred and historic context, as well as the natural landscape of the Pashupatiksetra.

The strategic system that has been presented in this chapter provides an overview of the institutional, legal and resources frameworks, as well as the standard procedures to be adhered to while implementing the Master Plan. This is the basis for carrying out all the activities, such as those provided in the next chapter, that have been identified to address critical issues of Pashupatiksetra.

The Pashupatiksetra includes an area designated as a Protected Monument Zone as per the Ancient Monument Preservation Act (AMPA) 1956, which corresponds to the area of the World Heritage Monument Zone and buffer zone, part of the Kathmandu Valley World Heritage property (KVWHp). Activities within this area will need to follow the provisions of the AMPA 1956, as well as the Integrated Management Plan (IMP) of the KVWHp. Any planned activity that might impact the heritage value of the property, including those listed in this Master Plan, must be vetted through a Heritage Impact Assessment (HIA), which is carried out by the Department of Archaeology.

The seven objectives listed above will determine the planned activities. The relevant attributes will be listed and prioritized based on the immediate risks, urgency for intervention, potential loss of significance, level of damage, significance, religious sentiments, liturgical requirements, as well as availability of resources. A tentative implementation schedule will be prepared as a basis for planning of annual budgets and activities, which will be updated as per requirement.
5.3 Institutional Framework and related legislation

The Pashupati Area Development Trust Act (PADTA) 1986 was specifically adopted to establish the management authority for the Pashupatiksetra: the Pashupati Area Development Trust (PADT).

The principle legislation for the protection of cultural heritage is the Ancient Monument Preservation Act (AMPA) 1956, giving the responsibility and the authority to the Department of Archaeology (DOA). The core area of Pashupatiksetra has been gazetted as a Protected Monument Zone (PMZ), as per the provisions of the AMPA. The Pashupati PMZ is also part of the Kathmandu Valley World Heritage property, for which the Department of Archaeology is the focal point.

Both these authorities come under the Ministry of Culture, Tourism and Civil Aviation (MOCTCA), making the position of the Minister and Secretary of this ministry key for the coordination and proper implementation of the legislation.

The Constitution of Nepal 2015 has addressed the issue of cultural heritage and defined the division of authority between the central, provincial and local governments. This is still in the process of being institutionalized, and over time, possibly bringing with it new challenges for practical management when adapting to new procedures. A particularly important development under the Constitution of Nepal 2015 has been the prioritization of local governance and the adoption of the Local Government Operation Act 2017.

Coordination between the various authorities and the stakeholders will be established and cultivated. The communication and collaboration between PADT and DOA will be maintained with regular meetings. Communication and collaboration will also be developed with local government and line agencies. The major stakeholders of Pashupatiksetra will be determined to ensure that they are included in the discussions. These would particularly include the religious communities and representatives of the settlement.

<table>
<thead>
<tr>
<th>Pashupatiksetra Coordination</th>
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<td>MOCTCA</td>
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3
5.4 Resources Management

The resources required to protect and support the tangible and intangible heritage, the sacred and historic context, as well as the natural landscape of the Pashupatiksetra will be provided by the Government of Nepal. Resources can be understood as the following: (1) human skill and expertise, (2) funding, (3) equipment and (4) facilities. For each planned project or activity, the four categories of resources will be defined as per requirement, as a basis for implementation.

The required activities will be categorized under 1) routine activities, 2) time-bound projects and 3) emergency response. For each of these categories, the required resources will be provided. For routine activities, consisting mainly of monitoring and maintenance, the PADT will ensure the resources within their annual budget. For time-bound projects, to address specific issues and improve certain circumstances within the area, specific budgets will be obtained, and generally external expertise, equipment and facilities will be used. For emergency response, a separate set of resources will be kept at the disposal of the authorities. For larger emergencies, assistance from other government authorities will be requested, for which detailed emergency procedures will be established.

<table>
<thead>
<tr>
<th>Routine activities</th>
<th>Time-bound projects</th>
<th>Emergency response</th>
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<tbody>
<tr>
<td><strong>By PADT</strong></td>
<td><strong>By Consultants/Contractors</strong></td>
<td><strong>By Emergency Team/PADT</strong></td>
</tr>
<tr>
<td>Annual budget for maintenance and monitoring with own staff / or on full-time contract, with PADT equipment and facilities.</td>
<td>Specific budget for projects to be carried out by external expertise / workforce, with hired equipment.</td>
<td>Special emergency budget, to be carried out by first responders, PADT staff and related emergency</td>
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</tbody>
</table>

The PADT will ensure that sufficient resources, including annual budget, are allocated for the monitoring and maintenance of the heritage attributes, as a priority. This includes the necessary resources for providing support and facilitating the performance of intangible heritage within the Pashupatiksetra, and related to the Pashupatiksetra. The communities and individuals responsible for the implementation of festivals and rituals will be provided the highest regard, respect and support.

The PADT will prioritize resources for the restoration of monuments, also taking into account those that were damaged and destroyed by the 2015 earthquake. The restoration of these monuments will follow the procedures and regulations defined within this chapter (Chapter 6) of the Master Plan.
5.5 Procedures and Planning of Activities

All activities carried out within the Pashupatiksetra will take into account its impact on the heritage attributes as defined in the legal provisions. To facilitate this, activities that are planned within the Pashupatiksetra by the government, particularly PADT, DOA, KMC, Wards 7, 8 and 9, should adhere to the following procedures.

1. Preparatory Phase

Before any new activities are carried out, the authorities will go through a preparatory phase. During this phase the general concept of the new activity will be defined and presented to the relevant authorities, experts and community members. During the preparatory phase the compliance with guidelines, regulations and bylaws will be reviewed, and the possible need for a Heritage Impact Assessment will be decided upon. Only after clarification and mutual agreement will the next phase begin for the new planned activity.

2. Detailing Phase

Detailing of the new planned activity will be carried out following all relevant legal provisions, as well as considering the overall vision, goals and objectives of the Master Plan. The detailing of the new planned activities will ensure the all aspects are appropriate to the heritage site and the highest possible quality is achieved. Proper documentation will be prepared including images, plans and textual recordings of past conditions or circumstances and justification for the changes. The detailing will also consider the possibility of implementation, taking into account traditional artisans, knowledge and skills, while ensuring the best possible quality.

3. Implementation Phase

Before implementing new activities, the required permissions, agreement and mutual understanding will be arranged. Implementation will be carried out considering traditional procedures, such as rituals. Proper supervision will be arranged to ensure that work is carried out as defined by the detailed reports. Any unexpected circumstances, requiring alterations or adaptations to the design will be report and discussed, making sure that guidelines, regulations and bylaws are adhered to.

4. Completion Phase

On completion of the project, or completion of annual activities, proper quality and financial auditing will be carried out. A monitoring and maintenance plan will be established. On satisfactory completion, a completion certificate will be issued, signed by both PADT and DOA.
When implementing any project the following check-list will be used and the responsible authorities will sign off each phase before moving on to the next one. The related document which provides information on each of the phases will also be provided.

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<thead>
<tr>
<th></th>
<th>Activity</th>
<th>Documentation Location / Access</th>
<th>Responsible Authority Signature</th>
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<tbody>
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<td>1</td>
<td><strong>Preparation Phase</strong></td>
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<tr>
<td>1.1</td>
<td>Presentation to all stakeholder</td>
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<td>1.2</td>
<td>Compliance to legal provisions</td>
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<td>1.3</td>
<td>Heritage Impact Assessment</td>
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<td>2</td>
<td><strong>Detailing Phase</strong></td>
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<td></td>
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<tr>
<td>2.1</td>
<td>Research and Documentation</td>
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<td>2.2</td>
<td>Appropriate Detailed Design</td>
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<td>2.3</td>
<td>Implementation Planning</td>
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<td>3</td>
<td><strong>Implementation Phase</strong></td>
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<td>4</td>
<td><strong>Completion Phase</strong></td>
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<td>4.1</td>
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<td>4.2</td>
<td>Financial Audit</td>
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<td>4.3</td>
<td>Establish Monitoring and Maintenance System</td>
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</table>
5.6 Legal Framework for Pashupatiksetra

A set of legal provisions have been established to protect and support the tangible and intangible heritage, the sacred and historic context, as well as the natural landscape of the Pashupatiksetra. This is linked to the legislation mentioned under 6.3. For the PMZ area, which corresponds to the World Heritage property and buffer, the provisions of the AMPA 1956, as well as the World Heritage Integrated Management Plan, adopted by the Cabinet of the Government of Nepal in 2007, are applicable. The heritage attributes of the Continuum Zone is are to be protected as per the AMPA, while the urban development, particularly the activities of the Kathmandu Metropolitan City (KMC) and Wards 7, 8 and 9 will be defined by the Local Government Operational Act 2017.

Within the framework of the relevant national legislation, the follow legal framework, regulations and procedures, have been provided specifically for the Pashupatiksetra, consisting of:

Content of Legal Provisions

(A) Pashupatiksetra General Procedures and Parameters
   (A1). Procedures for the Protection of Heritage Sites and Landscapes
      (A1+) Protection of Subsurface Archaeology
   (A2) Procedures for the Protection of Built Heritage
      (A2+) Adaptive Reuse of Historical Buildings
   (A3) Procedures for the Protection of Cultural Artefacts
      (in stone, clay, metal and timber)
   (A4) Procedures for the Safeguarding Intangible Heritage

(B) Pashupatiksetra Zoning Regulations (including related building bylaws).
   (B1) Continuum Zone
   (B2) Protected Monument Zone

(C) Pashupatiksetra Rectification Procedures

(D) Post-earthquake Rehabilitation Procedures
   (D+) Dismantling Protocol
(A) Pashupatikshetra General Procedures and Parameters

The Pashupatikshetra General Procedures and Parameters will guide activities within the Protected Monument Zone and in areas of heritage significance in the Continuum Zone. The guidelines have been established to protect and support the tangible and intangible heritage, the sacred and historic context, as well as the natural landscape of the Pashupatiksetra.

Parameters for sustainable development and heritage conservation

1. Pashupatikshetra will be developed in a sustainable manner, providing for present needs while ensuring the needs of future generations.
2. Cultural heritage, whether buried or standing, within Pashupatikshetra will be protected, conserved and, where necessary, will be restored.
3. The environment of Pashupatikshetra will be safeguarded and where necessary will be rehabilitated.
4. The communities linked to maintaining and using the cultural property, particularly those carrying out rituals and participating in festivals, will be considered integral to the significance of Pashupatikshetra.
5. Pashupatikshetra is a multicultural heritage property.
6. Landscapes, monuments and cultural objects can be closely connected to existing religious and other traditional beliefs and practices. In such cases living heritage contributes to the significance of the place, while the place allows for the performance of or is an expression of the living heritage. Conservation will be carried out taking into due consideration the need to ensure the continuity of such traditional beliefs and practices.

Parameters related to providing for visitors [religious pilgrimage]

7. Visitor management is a priority for Pashupatikshetra; however, measures will be put in place to ensure that visitor facilities and services do not cause irreversible damage to identity, cultural heritage and the environment.
8. Visitor facilities and services within the Protected Monument Zone will be non-intrusive and reversible unless provided within the historic buildings or found to be necessary and appropriate based on a detailed Heritage Impact Assessment.
9. Visitor facilities and services, where possible, will be provided outside the Protected Monument Zone.
10. Existing facilities that are inappropriate for the Protected Monument Zone will be removed or relocated to a suitable location. All rubble will be removed from the entire heritage site. These would be facilities that are not in harmony and not compatible to the natural, historic, religious and archaeological setting.
11. All decisions will be taken based on the understanding for the need to balance the activities of the pilgrims with the need to conserve and protect the monuments, archaeological vestiges and cultural objects of the site.

**Parameters related to status as Protected Monument Zone**

12. All activities within the Protected Monument Zone of Pashupatikshetra will follow the provisions as defined in the latest amendment of the Ancient Monument Preservation Act 1956 and related regulations.

13. All activities within the Protected Monument Zone of Pashupatikshetra will follow the respective guidelines and bylaws prepared by the Department of Archaeology.

14. The post-earthquake legal provisions for cultural heritage will be followed particularly the provision under ‘(D) Post-earthquake Rehabilitation Procedures’ and related procedures.

15. No development work will be carried out within the Protected Monument Zone other than what is necessary to conserve the property and provide basic facilities for the visitors and devotees, however such activities must be non-intrusive and with a detailed plan for reversibility.

16. Any new construction that takes place within the Protected Monument Zone will be carried out ensuring good quality and using appropriate materials as per the zoning regulations and building bylaws.

**Parameters to protect outstanding universal value and World Heritage**

17. The outstanding universal value (OUV) of the property will be safeguarded, by managing the attributes that convey OUV and ensuring the authenticity and integrity of the property.

18. Safeguarding outstanding universal value (OUV) will be strictly adhered to within the World Heritage boundaries.

19. The provisions of the latest updated World Heritage Integrated Management Framework will be followed.

20. Activities within the World Heritage buffer zone as well as the Continuum Zone will be guided to ensure further protection of OUV.

21. The World Heritage monument zone site manager will be Pashupati Area Development Trust (PADT) with the specific responsibility to coordinate all affairs related to managing, monitoring and reporting on the World Heritage Property.

22. All development activities that are undertaken within the World Heritage boundaries and buffer zone will have to pass a Heritage Impact Assessment.

**Parameters to promote continued research and discourse**
23. Research on the history, anthropology, archaeological and other related fields of PashupatiKshetra will be promoted including religious and cultural studies.

24. Research on identifying, evaluating and interpreting cultural, intangible, natural and spiritual heritage of PashupatiKshetra will be implemented to allow for better presentation, management and long-term protection.

25. Processes will be put in place to ensure the cooperation and collaboration of all stakeholders in partaking in an appropriate development of PashupatiKshetra and to ensure the safeguarding of the cultural, natural, intangible and spiritual heritage.

26. A documentation centre will be established for all forms of documentation on the cultural and natural heritage of PashupatiKshetra.
(A1) Procedures for the Protection of Heritage Sites and Landscapes

Preamble
The ‘Procedures for the Protection of Heritage Sites and Landscapes’ addresses the need for an appropriate approach to conserve the identity of the public and semi-public realm within the heritage site, both within the Protected Monument Zone, as well as the Continuum Zone. The public and semi-public realm encompasses the physical spaces, (such as within the settlement areas the squares, streets, tanks, etc. and natural environment such as the forest, agricultural fields, ponds, rivers, streams, etc.), the intangible heritage linked to these physical spaces and the public services and infrastructure that support the heritage site. These guidelines are to be read in conjunction with all the legal provisions as defined in Chapter 6. Close cooperation of numerous authorities is needed for the implementation of the ‘Procedures for the Protection of Heritage Sites and Landscapes’. There is an addendum to these procedures: (A1+) Protection of Subsurface Archaeology.

1. Scope
The ‘Procedures for the Protection of Heritage Sites and Landscapes’ will be adhered to for any construction or development work being carried out within the Pashupatinath by government authorities, line agencies, communities or private entities.

GENERAL

2. Community needs and safeguarding cultural heritage
The basic needs of the community living within the Protected Monument Zone will be given high priority, however, all activities carried out within the heritage property will follow the legal provisions provided in this chapter and be carried out keeping in mind that cultural heritage must be safeguarded;

3. Traditional function and land-use
The traditional functions and land-use will be maintained within the Protected Monument Zone. The subzones and the related regulations will be strictly adhered to by all authorities, line agencies, communities and individuals. In the Continuum Zone compatible functions can be introduced however follow all legal provisions.

4. Encroachment
Encroachment of public and semi-public spaces is not allowed - at ground level, below ground level and above ground level – which includes the construction of aprons, plinths steps etc.; spaces that have traditionally been used for public and semi-public functions may not be encroached upon;

5. Disaster Risk Management
Disaster preparedness, especially in respect to earthquakes, floods and fires, will be integrated into the overall planning of the heritage property; Risk management and disaster preparedness will be done keeping in mind the authenticity and integrity of the historic area, following a Disaster Risk Management Strategy.

6. Monitoring, Research and Heritage Impact Assessment (HIA)
   The design and implementation of development works will take into consideration the need to safeguard heritage; priority will be given to carry out research on any aspect of the heritage site to better assess the impact of development; any major works, particularly in the form of time bound projects that could have an impact on heritage will require a Heritage Impact Assessment (HIA) to be carried out through the Department of Archaeology.

GENERAL PROVISIONS FOR LANDSCAPE AREAS

7. Protection of landscape
   The natural landscape and the landscape created out of centuries of human activities, which include the natural features and topography, flora and fauna, as well as monuments and subsurface archaeology, will be protected and maintained, only allowing change that is consistent to the intrinsic character of the landscape over time. The natural setting within the Pashupatiakhsetra will take into account the spiritual context as well as the legends related to Lord Pashupatinath include other myths and legends.

8. Activities within the landscape
   All activities that take place within the landscape will take into account the need to protect the landscape, respect the heritage and any impact that these activities have on the landscape will be non-intrusive, temporary and removable.

GENERAL PROVISIONS FOR SETTLEMENT AREAS

9. Layout and extent of settlements
   The settlement structure, layout and extent of the settlements within the Protected Monument Zone will be maintained, while developments in the Continuum Zone will strictly adhere to the relevant legal provisions.

10. Identity
   The traditional identity of the public and semi-public spaces (squares, streets, ponds, etc.) must be preserved; the form, shape, boundaries and character of the public and semi-public spaces must not be altered.

INFRASTRUCTURE / SERVICES within Heritage Property

11. Vehicular traffic planning
   Traffic within the heritage property will be planned systematically to ensure minimum impact on the heritage attributes, the environment and the ambience. Where possible, vehicular traffic will be restricted fully within the heritage property, with vehicular parking
provided along the periphery, without being intrusive to the heritage property. Through traffic must also be restricted, providing alternative routes. Emergency access for ambulance and fire brigade must be provided.

12. Public transportation
Appropriate, non-polluting means of public transportation can be provided throughout the heritage property, particularly for the disabled and aged, however, these must also be restricted to ensure minimum impact on the heritage attributes, the environment and the ambience.

13. Transportation infrastructure and paving
Transportation infrastructure within the heritage site will be kept to a minimum. Any extensions, widening, construction or changes to roads within the heritage site will be carried out only after detailed planning and a heritage impact assessment. Roads will be paved in an appropriate manner, either in stone or brick, while ensuring a certain level permeability. Where other materials have been previously used, these will be rectified. The level of the road will be fixed to ensure that it doesn’t impact and it doesn’t rise above the plinth of historical buildings.

14. Surface rain water drains
Historic and natural drainage systems will be safeguarded and maintained. The historic and natural drainage systems can be augmented where necessary to ensure proper surface drainage throughout the heritage property. The surface drainage will ensure safety of monuments, subsurface archaeology, and within settlement areas buildings are safeguarded. The roads and paths will be kept from water logging.

15. Subsurface drainage, sewerage and water supply lines
In principle digging within the heritage property is not allowed. Permission for any form of digging will be obtained from the Department of Archaeology. Digging up to 30 cm deep will be allowed by notifying the Department of Archaeology and ensuring that subsurface archaeology is not affected. Digging for the construction of septic tanks, soak pits, sewer and subsurface drainage and water supply lines within the heritage site is only allowed within the settlement areas, with permission, after detailed planning, archaeological investigations based on archaeological risk maps and where necessary watching brief. Subsurface piping will not be allowed where there is a possibility of archaeological remains. The impact on the environment will follow national norms and will be closely monitored.

16. Electrical and telecommunication cables
Within the cultural heritage property electrical supply and telecommunication cables will follow the alignment of roads and paths and will not be positioned crossing the landscape. Within the heritage site armoured, electrical cables will be installed underground, at a
depth of maximum 30 cm, along the roads and paths. Digging up to 30 cm deep will be allowed by notifying the Department of Archaeology and ensuring that subsurface archaeology is not affected. High tension lines should not cross the heritage property. Electricity and telecommunication connections, particular to monuments and historic buildings will be done in an unobtrusive manner.

17. Electrical supply system
Transformers will be placed in such a manner that they do not affect the visual integrity of the site. Generators will not be placed in the public and semi-public areas, while also ensuring that the noise from generators does not affect the ambience of the heritage property.

18. Lighting of public and semi-public spaces
Functional lighting for public and semi-public spaces will be planned and installed in a manner that does not disturb the character of the place. The lamp posts, lamps and lighting brightness and colour, will all be carefully planned to be neutral to the heritage ambience. Cables must be concealed. Lighting with solar panels integrated on the post will not be used. Where possible exposed elements will not be bright and shiny. Lighting for special occasions and festivals may be developed in a manner that enhances the traditional quality of the place, however, must not be intrusive, and must be removable.

19. Telecommunication and multimedia facilities
No communication or multimedia cables, equipment and installations should be placed in a location that affects the visual integrity of the historic site. Any towers that need to be constructed must ensure they are not visually intrusive, and ensure monuments and subsurface archaeology are safeguarded.

20. Mechanical Installations
The installation of utility and mechanical systems such as water or gas meters, antennas, air condition units should be inconspicuously placed.

21. Solid Waste Management
Provisions will be made for disposal of solid waste with allocated collection points (preferably with separation of bio-degradable, glass, metal, plastics, etc.). Recycling will be promoted; composting biodegradable materials will be promoted. Aesthetically designed rubbish bins will be provided and strategically located for public and semi-public spaces. Provisions for regular solid waste collection should be made.

22. Public access and fencing
Public access to the landscape, including the forests and the river, other than when areas are cordoned off for security purposes. No area of the landscape will be enclosed within compound walls. Fencing will only be used where it is essential for the security of the
heritage property. All other fencing will be removed. Fencing, where essential will be
designed in a manner that befits a heritage site, without being flashy and obtrusive.

NATURAL FEATURES, FLORA AND FAUNA

23. Protection of natural features and topography
The natural environment of the hills will be protected. Care will be given to ensure proper
protection is provided from erosion. There will be no digging, levelling, changing the
topography or slopes within the landscape.

24. Protection of ancient and natural water bodies
All water bodies such as ancient reservoirs and tanks, as well as natural streams and
ponds will be protected. The ancient and natural hydrology systems will be maintained
and where required rehabilitated to manage water resources and help mitigate flooding.
No lake, pond, tank, water reservoir, rivers, rivulets, streams, natural drain, spring or water
source or any other water course will be permitted to be filled up.

25. River protection
Rivers will be protected from pollution and inappropriate use. The river ecosystems of the
Bagmati River that flow through Pashupatikshetra will be protected in respect to water
management and pollution right from its sources. The erosion along the banks will be
monitored and protective measures will be taken were required. Other than protective
works, no construction will be allowed along the banks of the rivers within the heritage
site, other than temporary structures. Historical structures, particularly the ghats, will be
maintained and restored.

26. Forest areas protection and tree plantation
Forest areas will be protected. Within the heritage site, the plantation of trees and shrubs
will only be allowed in traditional forest areas and after detailed assessment ensuring
there is no negative impact on monuments and subsurface archaeology. Plantation will
be done using indigenous species of trees in appropriate locations, ensuring that it is not
a mono-culture.

27. Care for animals
Wildlife and their natural habitat will be strictly protected and cared for in
Pashupatikshetra, as well as the surrounding region. Where necessary, they will be
provided with medical care.

FUNCTION

28. Traditional Use and Intangible Heritage
Traditional functions and usage of public and semi-public spaces will be supported.
Traditional rituals, processions and festivals that have been performed over centuries in
the public and semi-public spaces must in no way be hindered;

29. Signage for orientation and information
Signage for orientation and information on the heritage site will be provided in a manner that does not have visual impact on the heritage property. No hording boards or electrical screens will be allowed. Signage will be planned in a uniform manner, reflecting the identity of the heritage property, without being obtrusive.

30. Commercial Use

Use of public and semi-public spaces for private commercial use is not allowed unless specifically managed within allotted areas and designated sub-zones and without disturbing the identity of the place. This also includes the public space in front of commercial buildings such as shops.

31. Commercial Signage

Commercial signage, hoarding boards, posters, banners etc. are not allowed within the heritage site. Commercial enterprises within the settlement areas may have signboards that follow strict norms of size and aesthetic quality.

32. Controlling Pollution

Strong measures will be put into place to make the Pashupatikshetra a minimum pollution zone and all polluting activities must be controlled within the Pashupatikshetra as well as the surrounding areas.

ASSESSMENT AND PROTECTION OF THE LANDSCAPE

33. Assessment of natural factors

The impact over time of natural factors that are affecting the landscape will be assessed. These can be natural factors slowly changing the landscape such as weathering and erosion, particularly considering the effects of climate change. The landscape is also affected by natural hazards such as earthquakes, heavy rains and storms, as well as flooding.

34. Assessment of human factors

The impact over time of human factors that are affecting the landscape will be assessed. Human activity within the landscape can often have detrimental effects, particularly through construction activities, excavations, deforestation or change in plantation.

35. Controlling adverse effects

To ensure that the landscape is maintained to an acceptable degree, it will be necessary to control the factors adversely affecting the landscape, both natural and human, while allowing for social and cultural activities to continue.
Protection of Subsurface Archaeology

Introduction

The heritage attributes that are under the surface are generally better preserved and are a repository of a huge amount of information on the heritage site. This repository of information must be protected. This repository must only be disturbed when accessed through careful documentation and investigations. The most advance possible technology must be used to ensure that all the evidence is interpreted, and a maximum amount of information is obtained. The following regulations have been adopted to ensure the protection of subsurface archaeology.

Regulations to ensure safeguarding of subsurface archaeological heritage

1. The protection of the archaeological vestiges, visible or below the current land surface that are testimony to the history of Pashupatikshetra is non-negotiable. This includes archaeology below open areas, streets, lanes and courtyards and foundations of buildings, which is critical also in respect to new plantations and existing plantations.

2. The subsurface archaeological heritage areas of Pashupatikshetra are to be mapped for risk and assessed for safeguarding the phases of development and linked historic periods are to be standardized to ensure a coherent understanding of the property for purposes of research, interpretation and presentation.

3. All activities and interventions within the Protective Monument Zone of Pashupati are to be non-intrusive to the archaeological vestiges and be reversible without causing any damage to the archaeological vestiges and integrity of the site.

4. Shelters, whether permanent or temporary, will only be provided for the most significant archaeological vestiges and only if found to be essential for their long-term conservation and if developed in an appropriate manner.

5. The exposed archaeological vestiges are to remain visible to visitors and provisions are to be made for any future archaeological structures to be kept exposed and visible for visitors as long as it does not compromise their long-term conservation.

6. The archaeological vestiges are to be presented to the visitors in a clear and truthful manner. Access onto all monuments will be restricted and clearly defined paths and areas will be provided for the visitors and pilgrims.

7. Provisions are to be made for worship and mediation which fulfils the requirements of the pilgrims, however, ensuring the protection of the archaeological vestiges.

8. Archaeological research, surveys and investigations will be carried out using the latest technology and methods.
Preamble
The ‘Procedures for the Protection of Built Heritage’ addresses the need for an appropriate approach to conserve the identity of all forms of built heritage within the heritage site, both within the Protected Monument Zone, as well as the Continuum Zone. Built heritage is comprised of the main monuments, such as temples, stupas, shrines and palaces, as well as historical buildings, which might be privately owned. Built heritage also encompasses public structures such as sattals, patis, ritual platforms, ghats, as well as historical steps, bridges, retaining walls, etc. These guidelines are to be read in conjunction with all the legal provisions as defined in Chapter 6. Close cooperation of numerous authorities is needed for the implementation of the ‘Procedures for the Protection of Built Heritage’. There is an addendum to these procedures: (A2+) Adaptive Reuse of Historical Buildings.

1. Scope
The ‘Procedures for the Protection of Heritage Sites and Landscapes’ will be adhered to for any conservation, construction or development work being carried out within the Pashupatiksetra by government authorities, line agencies, communities or private entities.

GENERAL

2. Categorization of built heritage
The categories of monuments are to be standardized to ensure a coherent understanding of the property for purposes of research, interpretation and presentation. The phases of development and linked historic periods are to be standardized to ensure a coherent understanding of the property for purposes of research, interpretation and presentation.

3. Documentation and recording
An inventory will be prepared of standing monuments and cultural objects, including detailed documentation so there is record for any potential post-disaster reconstruction

4. Original form and material
All monuments will be safeguarded in their original form and material. Damaged monuments will be restored to their original form based on documentation, reuse of original material and where necessary replaced with similar materials.

5. Use of new technology and materials
New technology or materials will not be allowed in work carried out on built heritage. Such materials and technology will only be acceptable for providing support to damaged structures to retain original fabric, with permission from the DOA.

ASSESSMENT OF BUILT HERITAGE

6. Category of vulnerability
Built heritage will be assessed as per their vulnerability and will be categorized under the 3 levels of (1) critically vulnerable (2) vulnerable (3) minimally vulnerable.

7. Prioritization for intervention

Built heritage will be prioritized for conservation, based on the immediate risks, urgency for intervention, potential loss of significance, level of damage, significance, religious sentiments, liturgical requirements, as well as availability of resources for the particular monument.

TRADITIONAL TECHNOLOGY, MATERIALS AND SKILLS

8. Traditional procedures and rituals

Traditionally specific procedures and rituals will be carried out considering that these procedures and rituals are part of the living heritage significance ensuring cultural continuity of the monument. It will be ensured that traditional procedures and rituals are respected and performed while carrying out any work.

9. Material availability and specification

The availability of materials and their specifications will be considered in the design of conservation works. The procurement of appropriate necessary materials will be facilitated by the government. The replacement with alternate materials where strongly justified will follow strict rules in respect to compatibility, proven performance, demonstrable beneficial effect, no negative impacts, removability and possible future corrective measures.

10. Crafts-persons availability and training

The master crafts-persons with the required traditional crafts will be given high recognition and high priority will be given to the training of new craftsperson. It will be ensured that work is carried out by crafts-persons with an acceptable level of expertise and experience or under the guidance of an experienced master. As many of the conservation treatments will require intervention by trained masons and crafts-persons, they should be given training to document their work in a format prescribed by DOA.

11. Capacity building and awareness

Capacity building for undertaking conservation works of cultural heritage will become an integral part of site management. Skills and knowledge will be imparted to various target audiences including community volunteers, site staff and decision makers to ensure their regular and appropriate involvement. Regular activities and interactions will be carried out to inform and create awareness within the community as well as to a wider audience within the country, but also at international level.

CONSERVATION OF BUILT HERITAGE

12. Stabilizing damaged structures
Built heritage with critical structural damage will be stabilized using the most appropriate methods and technology to ensure minimum intrusiveness, removability, renewability and with least visual impact. When in doubt, interventions should be of temporary nature and adopting an observational approach.

13. Consolidation of non-structural elements

Built heritage with damage that does not have structural implications will be consolidated using traditional methods and materials. The sealing of cracks will be carried out with appropriate and compatible materials to ensure that there is no adverse impact caused by the material, blends in with the existing structure and ensures that water penetration into the structures is hindered. The use of modern technology and materials can only be used to provide critical protection to the monument which is justified and agreed upon by the DOA, is removable without any major damage to the original structure.

14. Conservation of ornamentation

The ornamentation of the built heritage such as mural paintings, decorative stucco work and glazed stone and terracotta will be conserved and protected.

15. Subsurface repairs

The foundations of built heritage will be retained as far as possible and will only be strengthened if there is clearly visible damage. Any interventions in the foundations will require a Heritage Impact Assessment. Any intrusive subsurface repairs or assessments should be preceded by a watching brief and, if necessary, rescue excavations by an archaeologist, under the supervision of DOA. Further regulations are provided under ‘(A1+) Protection of Subsurface Archaeology’.

16. Consideration for living monuments

Living monuments will be conserved to the maximum extent possible while seeking to accommodate changes necessary for their use as active monuments, while having no negative impact on significance.

17. Non-conjectural restoration

Restoration should be based on complete documentation and to no extent on conjecture. Only if sufficient documentation is available, and later alterations are considered inconsistent to the structure’s integrity, will built heritage be restored or reconstructed back to an earlier style.

18. Reuse of original material

The built heritage will be restored by reusing as much materials as possible in their previous location and function. When certain parts or elements of the monument need to be replaced, these will be done by using materials that are as similar to the historic as possible in quality, chemical and physical composition and workmanship.

CONSERVATION OF MONUMENTS WITH LATER INTERVENTIONS
19. **Phases of buildings**
   All phases of buildings will be considered to be of equal importance and will, as far as possible be protected.

20. **Assessment of past structural interventions**
   Previous stabilizing interventions will be assessed for their performance. These could be internal metal frames, external metal supports or ties, brick piers or concrete tie beams. Depending on the condition and effectiveness of the stabilizing interventions, they might need to be removed, retained, replaced, repaired or new stabilizing methods introduced.

21. **Removal of inappropriate interventions**
   Past inappropriate interventions in incompatible materials are to be assessed on whether they might be a threat to the monument. If assessments and comparisons to other similar circumstances show that these additions could pose a threat to the monument, then these components will be removed as long as the removal does not cause excessive damage to the structure. If necessary, traditional materials or techniques will be used in any replacement.

**MONITORING, MAINTENANCE AND SECURITY**

22. **Monitoring and maintenance system**
   All built heritage attributes will be provided with a framework for monitoring and maintenance and responsibilities will be clarified among associated communities, other stakeholders and authorities. Where possible the resources for maintenance will be ensured. The means and procedures for maintenance of, as well as the responsible bodies, will be determined.

23. **Continuity**
   To ensure the continuity of the built heritage, only appropriate functions will be allowed. The monuments should survive in good condition over time which will require consideration of renewal and maintenance. All interventions will take into account how they contribute to the performance of the structure over time.

24. **Traditional maintenance procedures**
   All interventions and restoration methods will ensure that procedures are put into place for regular maintenance and repair of decayed fabric. Maintenance and repair will take into account traditional construction approaches and materials.

25. **Structural health monitoring**
   Provisions for periodic structural health monitoring for structural performance will be established. Material testing will be carried out regularly, along with, where possible, the installation of sensors, to monitor the structural

26. **Emergency and safety measures**
Safety measures will be required for built heritage, and where relevant evacuation routes for visitors and other safety and security measures will be established in consultation with all stakeholders as well site managers.

27. Modern installations and services

Built heritage will in principle not be provided with modern installations and services. However, where necessary for functional or security reasons, certain provisions will be allowed, ensuring that the installation does not damage the structure while fixing, and that installations are not visibly obtrusive. Refer to ‘(A2+) Adaptive Reuse of Historical Buildings’ Article 7 for mandatory considerations on installations and services for built heritage.
(A2+) Adaptive Reuse of Historical Buildings

Introduction

There are many historical buildings that have become obsolete in respect to their original function. For the continued monitoring and maintenance of such buildings, it is essential that they are given an appropriate new function. Any newly introduced function must be compatible with the character of the heritage site, the specific location, as well as the historical building. To ensure that the new function is compatible, a Heritage Impact Assessment will be carried out before finalizing the adaptive reuse.

Regulations for adaptive reuse of historical buildings

1. For historical buildings with adaptive reuse, all provisions and regulations provided in ‘(A2) Procedures for the Protection of Built Heritage’ will be valid.

2. For the conservation of historic buildings, either the historic function will be maintained or adaptive reuse will be assigned to ensure the regular upkeep and the continued value of the structure.

3. In the case of structures that already have communities involved in using and maintaining them, such as for social service, religious activities or residential purposes for related communities, these activities will be supported.

4. Historic buildings will be conserved taking into account their structural system, main architectural components as well as decorative elements. Any required restoration works will be carried out ensuring that interventions ensure that materials, techniques and craftsmanship are as per the historic records.

5. Any alterations that might be required must ensure that the building does not lose its historic identity and the alterations are sympathetic, non-intrusive, reversible and visually compatible.

6. The foundations of historic buildings will be retained as far as possible and will only be strengthened if there is clearly visible damage. Any interventions in the foundations will require a Heritage Impact Assessment. Any intrusive subsurface repairs or assessments should be preceded by a watching brief and, if necessary, rescue excavations by an archaeologist, under the supervision of DOA. Further regulations are provided under ‘(A1+) Protection of Subsurface Archaeology’.

7. The historic buildings that are still being used or are given new functions might require modern installations and services such as electrical and plumbing, as well as for safety and security. However, the installation will not damage the structure while fixing, and the installations will not be visibly obtrusive. The following installations might be considered, and will only be installed with permission from the DOA.
a) Water supply and drainage, where it is ascertained that it will not affect the historical building. The water supply and drainage system will follow the ‘(A1) Procedures for the Protection of Heritage Sites and Landscapes’.

b) Toilet facilities and sewerage, will where possible not be installed within the historical buildings. Should it be essential for the adaptive reuse, then it should be done in a manner that it has minimum impact on the historical building. The sewage disposal system will follow the ‘(A1) Procedures for the Protection of Heritage Sites and Landscapes’.

c) Lighting system can be installed for security, safety and as per functional requirement, however, it will be carried out using the highest of safety precautions, ensuring the mitigation of electrical fire hazards.

d) Decorative lighting will not be allowed. Festive lighting will only be installed for special occasions.

e) Installations for fire safety equipment will be considered as per vulnerability assessments.

f) Sensors to monitoring health of buildings should be considered wherever possible, linking this to a technical support system and regular maintenance.

g) Essential installations for security, which might include modern locking systems, will be integrated into the historical building, in a non-destructive manner, and without being visually obtrusive. Rolling shutters will not be allowed.
(A3) Procedures for the Protection of Cultural Artefacts
(in stone, clay, metal and timber)

Introduction

For the purpose of these procedures, cultural artefacts will be defined as objects created by humans, which provide information about the culture or civilization that created, maintained and used them, are of importance and are worthy of preservation. These procedures will focus on cultural artefacts that were produced from stone, clay, metal and timber, but might be valid for artefacts of other similar materials. These procedures do not encompass sites and built heritage, nor easily movable artefacts that are not bound to a specific location.

Provisions are to be made for worship and mediation which fulfils the requirements of the pilgrims and devotees, however ensuring the protection of the cultural objects.

The cultural artefacts will be defined under the following categories:

1) **Statues** – This category includes idols within and outside of temples and other worshipping complexes, free standing statues, including lingams, and other objects of veneration.

2) **Inscriptions** – these particularly focus on the stone inscriptions, but there are also inscriptions on copper and timber, and even on burned clay elements.

3) **Elements of monuments** – these are elements such as carved timber struts, doors and windows, plinth stones, metal *gajur*, and also bricks, tiles and plain timber elements, that have been displaced from the built structure.

4) **Miscellaneous** – this category includes such artefacts as stone spouts, steles, stone pillars, *jarun* (stone water tanks), small stone chaityas, etc.

The significance of the cultural artefacts can be for the following reasons:

1) **Historical** – this refers particularly to the inscriptions, but can also be for the age of cultural artefacts.

2) **Sacred** – this refers particularly to idols, as well as to ritual and devotional objects,

3) **Artistic** – this refers mainly to works of exquisite craftsmanship, which even when possibly losing its religious or sacred significance, is still of great value.

4) **Structural** – this refers to elements of buildings, particularly when they have been displaced.

All cultural artefacts, as defined in these procedures, have an original location. This location might be within the city square, along the river bank, within a particular building or as part of a built structure. The original location might have been changed in the past, however, it is important to determine, if possible, the earliest known location of any cultural artefact.
Many artefacts will have been displaced in the past. There would have been various reasons for such **displacements** to have occurred.

i. Due to past disasters, e.g. because of the destruction of the original location.

ii. For protection or reuse through official procedures.

iii. Due to theft or other illicit means.

iv. Caused by unknown events in the past.

**Basic guiding principles**

1. Cultural artefacts will remain in their original locations.
   
   *This principle ensures that cultural objects are not moved unless the cultural object cannot be protected or has become functionally obsolete and must be replaced.*

2. Displaced cultural artefacts will be restituted in their original locations.
   
   *This principle ensures that cultural objects that are displaced due to natural or human causes, will be returned to their original location, if they can be provided adequate protection and if they can perform their required function.*

3. Cultural artefacts will not be threatened by or subjected to hazards of natural or human causes.
   
   *This principle ensures that cultural objects are protected from damage, destruction, erosion, theft, or any other negative impact.*

4. Cultural artefacts that are threatened, will be provided adequate and appropriate protection in their original location.
   
   *This principle ensures that, where possible, the cultural artefacts are provided adequate and appropriate protection from all possible hazards.*

5. If appropriate protection is not possible in their original location, the cultural artefacts will be moved to an appropriate location.
   
   *This principle ensures that cultural artefacts that are threatened or are being impacted, and cannot be protected in their original location, will be moved to a location where appropriate protection can be provided.*

6. Should a cultural artefact become obsolete, in respect to their function, these artefacts will need to be replaced, following traditional procedures.
   
   *This principle ensures that cultural artefacts that have become functionally obsolete, whether as a structural element in a monument or as an object of worship, can be removed and replaced, however, ensuring that the replica is similar in design and material, and fabricated through traditional techniques, and reinstalled as per traditional practices.*

7. Cultural artefacts are to be accessible to the public.
This principle ensures that cultural objects are made accessible to the public. There might be restrictions to cultural artefacts that are used for rituals or due to beliefs, can only be viewed by certain initiated individuals, however, this must be justified accordingly.

Standard procedure to ensure protection

Rapid assessments will be carried out using the ‘traffic light’ approach: green for low, amber for medium and red for high. When several factors are considered, the final assessment would be the combined overlap of the results.

**Basic identification and assessments**

- **Listing** – identification of objects along with value assessment  
  *Cultural objects will be identified, mapped with GPR coordinates, and provided with an initial assessed value. In certain cases, this might require further research.*

- **Inventory** – including documentation and assessment of condition  
  *The listed cultural objects will be documented in detail, including photographic and possibly 3D scanning, which will include a detailed condition assessment.*

- **Threats** – assessment of threats  
  *An assessment of threats to the cultural object in its present location will be done. The possible hazards might be natural or human, with sudden impact or slow effect. The possible need for mitigation measures will be highlight.*

- **Prioritization** – based on level of value, condition and threats  
  *Based on the assessment of value, condition and existing threats, the cultural objects will be prioritized for planning response and mitigation measures. In certain cases, emergency responses might be needed and immediate protective action will be carried out.*

**Protection of cultural artefacts in situ**

- **Planning of approach to ensure protection in situ.**  
  *Wherever possible, the cultural object will remain in situ and will be provided adequate protection in this location. The protective measures will need to be effective for all forms of hazards, without diminishing the functional and aesthetic values of the cultural artefact.*

- **Implementation of protective measures or removal.**  
  *Should an acceptable means of providing protection for the cultural artefact be found, this will be implemented as soon as possible. If it is not possible to protect the cultural artefact in its original location, it will need to be removed and provided appropriate protection in a new location.*
Protection of displaced cultural artefacts

- To assess original location for threats
  
  A displaced cultural object, whenever possible, will be returned to its original location, however, the original location will first need to be assessed for threats. The possible hazards might be natural or human, with sudden impact or slow effect. The possible need for mitigation measures will be highlight. As with cultural artefacts in situ, appropriate mitigation measures will be planned. If there are threats and appropriate mitigation measures are not possible, then the displaced object will not be returned to its original location, and will be stored in an appropriately protected and secured location nearby.

Removal and replacement of cultural artefacts

- Clarify justification for removal, whether obsolete or lack of protection.
  
  If the cultural object is damaged and cannot carry out its required function, or is not acceptable for ritual purposes, or if the cultural object cannot be provided with adequate protection, the cultural object must be removed from its original location.

- Requirement for replacement for functional reasons and type of replacement.
  
  Should a cultural object be removed from its original location, depending on its function, whether structural or religious, in certain cases aesthetic, it will need to be replaced. The replica must be similar in design and material.

- Storage, protection and display of removed cultural object.
  
  The cultural object that is removed will be stored in an appropriate location, ideally close to its original location, will be provided adequate protection and security, and were possible and of sufficient interest, will be displayed for viewing by the public.
(A4) Procedures for the Safeguarding Intangible Heritage

Introduction

Intangible heritage must remain alive, relevant and flexible to changing circumstance. The knowledge and skills must be transmitted to future generation. Intangible heritage is often associated with specific sites, built heritage, cultural artefacts, or might be manifested in the production of cultural objects. Intangible heritage will change and adapt, as required by the community, and only those aspects that are recognized and continue to be relevant to the community need to be safeguarded. Safeguarding intangible heritage ensures that the circumstances required for its continuity is provided. Safeguarding measures must always involve the relevant community, and be carried out with their consent.

These procedures have been established to guide the authorities and site managers of cultural heritage properties on safeguarding intangible heritage. The following provisions are to be considered strictly within the parameters of managing cultural heritage properties and does not profess to address all forms of intangible heritage.

Categories of intangible heritage

For the purpose of these procedures, intangible heritage will be identified under the following categories:

1. Activities and events related to social practices and religious beliefs
   This category includes all forms of festivals, processions, celebrations and rituals that take place within the cultural heritage property. These activities might take place at a specific location, or numerous locations, in the open spaces or within the monument, or along a certain linear route.

2. Traditional craftsmanship including knowledge and skills
   This category includes all forms of craftsmanship required to create monuments, cultural artefacts or objects required for the activities under Category 1. The creation of such structures or objects requires knowledge and skills, and is often linked to a set of intrinsic rituals and procedures.

3. Significance and meaning given to particular locations and their physical manifestation
   This category includes the relationship to the landscape, the natural and built environment, in respect to myths, legends or history. These would include significance given to natural features such as forests, rivers, gorges, as well as the related flora and fauna.

4. Other forms of intangible heritage
This category encompasses particularly those forms of intangible heritage that might not be directly related to the cultural heritage property, but might be identified within the area. These might be various forms of performing and visual arts, music, oral traditions and other forms of cultural expression.

Basic guiding principles

For the purpose of these procedures, UNESCO's ‘Twelve ethical principles for safeguarding intangible cultural heritage’ have been adapted to the requirements of specific cultural heritage properties.

1. The relevant communities and individuals will have the primary role in safeguarding intangible heritage. All safeguarding measures will involve the relevant community, and be carried out with their consent. The communities will decide on the value of their intangible heritage, the degree of threats they are facing, and the necessity for preventive and mitigation measures. Community consultations will ensure honest and transparent dialogue, leading to free, prior, sustained and informed consent. The impact of any actions on intangible heritage will be carefully assessed before being carried out.

2. Equal priority will be given for safeguarding the intangible heritage of all communities. Considering cultural diversity, the intangible heritage of all communities will be respected. This will require a mutual respect to be developed between communities, as well as the State authorities. Particular attention will be provided to respecting the elders, involving the youth, ensuring gender equality and assuring human dignity. Under certain circumstances, means of conflict resolution will be required.

3. Safeguarding ensures the circumstances required for the viability of intangible heritage and its continuity through practices, representations, expressions, knowledge and skills, and where required adaptation to changing circumstances. Communities and community members have the right to their intangible heritage, which must remain viable, by providing the conditions required for its continuity. Communities can determine how to adapt their intangible heritage to ensure viability and continuity.

4. The locations of significance for communities, particularly in respect to carrying out activities related to their intangible heritage, will be protected and made accessible. The locations and places of significance, particularly to practice activities related to intangible heritage will be made accessible to the related communities and community members. Customary practice of accessibility will be respected.

5. The safeguarding of the intangible heritage and associated activities will benefit the related communities and community members.
The safeguarding of intangible heritage will allow for continued practice, belief, as well as documentation, research, adaptation, use and promotion for the benefit of the related communities and community members.

6. Special provisions will be made to carry out documentation, research, promotion, and recognition of traditional knowledge and skills.

To develop general awareness and acceptance beyond the respective communities, and to understand the continuously changing condition of intangible heritage, the mechanisms and means of documentation and research will be established, along with promotion and recognition of traditional knowledge and skills.

Standard procedure for safeguarding intangible heritage

These standard procedures are based on the requirement for safeguarding intangible heritage in specific heritage sites. The intangible heritage might be directly linked to the location, site, monument or objects within the specific area based on history, customary practice or beliefs, or be related to the use, management and maintenance of the place.

Identification and empowerment of associated communities

- The communities and community members who created, and have been maintaining and using the heritage property, whether site, monument or object, will be identified. All communities and community members who are related to the heritage property will be identified, defining their specific relationship and related intangible heritage.

- The identified communities and community members will be empowered as per their specific relationship with the heritage property. The communities and community members will be empowered to participate in safeguarding the intangible heritage related to their specific activities, which might be associated with the maintenance, restoration or use of the heritage property.

Inventory of activities, expressions and products of intangible heritage

- An inventory will be prepared of the various categories of intangible heritage, as defined above. The inventory will be a means of safeguarding the intangible heritage, and must not exclude that which might not have been

- For the purpose of these procedures, the intangible heritage is related to specific locations, which will be identified in respect to the specific intangible heritage. The locations related to intangible heritage can be singular, multiple, linear or omnipresent.

Protection of place of significance for intangible heritage
• The locations will be defined in a particular manner, with specific characteristics, as required by the related intangible heritage, which will be protected. 
The characteristics of the location, as defined in the creation of a specific place, allows for the practice of specific forms of traditional activities and rituals, or reflects certain forms of belief, or is the expression of intangible heritage, which must be retained to safeguard the intangible heritage.

• The heritage property, whether site, monument or object, will be protected as required by the intangible heritage. 
The protection will be provided to ensure that the related usage, expression and beliefs are taken into consideration. The protection in certain circumstances might require certain changes to take place as circumstances changes, however, such change must be justified through the requirements of the intangible heritage.

**Support and promotion for traditional artisans and practitioners of intangible heritage**

• Within the broader classification of communities and community members, the artisans and practitioners of intangible heritage will be identified. 
This group is specifically focused on those who carry out activities within the heritage property, ensuring the safeguarding and continuity of intangible heritage, by being the custodians of the related knowledge and skills.

• Inventory and Documentation of the knowledge and skills of artisans and practitioners of intangible heritage. 
The inventory will focus on the knowledge and skills related to activities carried out by artisans and practitioners of intangible heritage, including the expression and, where relevant, the product of these activities.

• Facilitate the transmission of knowledge and skills over generations. 
The inventory and documentation of intangible heritage is not sufficient to ensure continuity of the intangible heritage, for it needs to be transmitted to the next generation. This requires facilitation and support to ensure viability.

• Provide recognition to the artisans and practitioners of intangible heritage. 
Recognitions can be through certification, conferring of titles, through medals and prizes, and media coverage were appropriate.

**Improving the understanding and awareness of intangible heritage**

• The intangible heritage of all cultures and communities need to be understood to develop mutual acceptance, which requires general awareness. 
Information on the intangible heritage of all related communities will be disseminated to allow for general awareness to develop. This is linked to sharing of information, where possible, allowing observation and participation in each other’s activities.
Protection from inappropriate activities

- Inappropriate activities need to be mitigated. *Provisions will be made to control inappropriate activities in the Protected Monument Zone to safeguard the intangible heritage, as well as the monuments, archaeological vestiges and cultural objects, the environment, as well as maintaining the sacred character of the place.*

- Only new activities that are appropriate and not offensive will be allowed. *The introduction of new activities will only be done if they are not offensive and are compatible to the character and heritage of the Pashupatinath.*
(B) Pashupatikshetra Zoning Regulations

The Pashupatikshetra has been divided up into two main zones. The Protected Monument Zone (PMZ) is defined as per the gazetting of 1998. The PMZ includes roughly what was previously known as the Core and the Consonant Zones. The PMZ also encompasses the boundary and the buffer zone, as adopted in 2006, of the Pashupati Monument Zone, part of the Kathmandu Valley World Heritage property. The PMZ has been provided with newly defined sub-zones to provide guidance on protection, conservation and limited development. Beyond the PMZ lies the Continuum Zone. This area extends from the Rudramati (Dhobi Khola) all the way to the Gaucharan (now International Airport). Other land owned by the Pashupati Temple goes beyond the purview of this Master Plan, and a spate detailed plan is required.
(B1) **Continuum Zone**

The Pashupatiksetra has been demarcated under the Continuum Zone that extends from the Rudramati (Dhobi Khola) to the Gaucharan Airport. In the centre is the Protected Monument Zone have been gazetted as per the Ancient Monument Preservation Act and is part of the World Heritage property and buffer zone.

The basic concept for the development and protection of the Continuum Zone is to protect the heritage elements and attributes of significance. The important monuments and processional routes within the Continuum Zone will be listed in a Protective Inventory, documented, mapped and protected. The Protective Inventory will provide the means of protecting, maintaining and restoring these heritage elements. Care will be taken to protect the natural elements, particularly the rivers, forests and the open spaces.

The urban area within the Continuum Zone will be regulated as per the Municipal Bylaws. The buildings in the Continuum Zone will remain low-rise and of low density, particularly catering to the requirements of the Pashupatinath, which includes the rule that the priests need to have been born within this area.
Bilateral arrangement with the airport and other government agencies will be reviewed. Arrangements will be made to ensure that such facilities do not encroach upon the Protected Monument Zone, partake in protecting the cultural heritage, and remain unobtrusive.

The continuum Zone can be divided into three main areas which are as follows:

1. Gaucharan Area
   This area is occupied by the airport, the army camp and the golf club.
2. Tilganga Area
   This area has been built up with various facilities including hospitals and hotels.
3. Siphal – Chabil Area
   This is a large area which is largely residential, with pockets of commercial areas.

**Provisions for sustainable development of Continuum Zone**

1. The Continuum Zone will be planned by determining areas of jurisdiction between Pashupati Area Development Trust, private property and areas administered by various government bodies.
2. Large areas of land being used by government authorities such as the Army and the Airport Authorities will be demarcated and lease agreements will be reviewed.
3. The areas of Pashupatikshetra that retain a natural setting will be clearly demarcated and protected while such areas that have been encroached upon will be rehabilitated.
4. Areas of Pashupatikshetra that have been transferred to private property will be planned in a sustainable manner in close collaboration with Kathmandu Metropolitan City.
The Protected Monument Zone was gazetted in 1998, as per the Ancient Monument Protection Act. The Pashupati Monument Zone is part of the Kathmandu Valley World Heritage property, which was inscribed in 1979. The World Heritage boundary and buffer zone was redefined in 2006 to conform to the Protected Monument Zone, which has the highest level of national protection. These provisions will be respected in the Master Plan of Pashupatiksetra.

Zoning Map identify Protected Monument Zone and subzones

The Pashupatiksetra Protected Monument Zone has been divided into six different categories of sub-zones which include:

1. **Sacred Subzone** linear with nine specific locations.
2. **Conservation Subzone** has five areas.
3. **Plantation Subzone** has two areas.
4. **Open Space Subzone** has a single area.
5. **Utility Area Subzone** has three areas.
6. **Settlement Subzone** has two areas.

For each category there are various areas demarcated and detailed regulations, guidelines and planning recommendations have been provided in this Master Plan.
(1) Sacred Subzone

The Sacred Subzone defines the area which has the highest cultural significance for the Pashupatiksetra. The conditions and regulations provided under the Conservation Subzone is valid here, however, with the highest priority. Sacred Subzone includes the main religious facilities along the Bagmati River between the confluence with Tamraganga to the north and Tilganga to the south. The subzone also includes the processional route from the west that crosses the Bagmati and climbs over the Mrighastali and down to Guheshwori.

The Sacred Subzone consists of (A1, A2, A3, A4, A5, A6, A7, A8, A9, A10)

General regulations
1. The provisions of the ‘Pashupatiksetra General Procedures and Parameters’ will be strictly adhered to, which includes the procedures for the protection of the site and landscape, the built heritage, the cultural artefacts and the intangible heritage.

Specific regulations
2. All components of the Sacred Subzone will follow the provisions and regulations under the Conservation Zone.
3. All components of the Sacred Subzone the tangible and intangible heritage along the Bagmati River will be protected, with focus on the cultural significance and the natural setting. On either side of the banks of the Bagmati River, the natural or historically built banks will be protected and where required restored or stabilized, ensuring that the character of the holy river is not changed. Provisions are required to improve the water flow and water quality, however, these must be addressed further upstream.
4. All components of the Sacred Subzone the processional routes will be protected, in respect to it tangible and intangible heritage, and the character and setting of the route. On both side of the traditional processional route the natural or built environment will be maintained in an appropriate manner. Where there is a natural setting, appropriate trees and plants will be maintained. Where there is built setting, the buildings will be of an appropriate height and style to ensure the appropriate character. Where rectifications are needed, these will be carried out in close collaboration with the relevant communities.
5. The monuments and monument ensembles identified under A1 to A10 will be carefully documented, assessed, protected, maintained and where necessary restored: A1 Pashupati temple ensemble, A2 Guyeshwori temple ensemble, A3 Surya Ghat complex, A4 Tribikram Baman A5 Mrigastali ensemble, A6 Vishwarup complex, A7 Ban Kali, A8 Jayabageshwori complexes, A9 Bhubaneshwori, A10 Dakshinamurti. These provide the main points that identify the Sacred Subzone along the holy Bagmati River and the processional routes.
(2) Conservation Subzone

The Conservation Subzone defines the area of Pashupatiksetra where the tangible and intangible heritage, both immovable and movable, as well as the natural landscape are protected. The Conservation Subzone covers all the forested areas where many of the monuments, shrines and cultural objects are located.

The Conservation Subzones (C1, C2, C3, C4, C5)

General regulations

6. The provisions of the ‘Pashupatiksetra General Procedures and Parameters’ will be strictly adhered to, which includes the procedures for the protection of the site and landscape, the built heritage, the cultural artefacts and the intangible heritage.

Specific regulations

7. All components of the Conservation Subzone will be strictly protected as per the specific characteristics of the individual areas, whether forested areas or historical built-up areas.

8. All components of the Conservation Subzone will be kept free of any new construction, such as structures, buildings, walls, plinths, etc., as well as temporary structures.

9. Historic buildings will be allowed appropriate adaptive re-use, however, without changing the overall structure.

10. Historic monuments that have been inappropriately restored, will be rectified over time. The discussion on previous changes to the design will be reviewed and reassessed.

11. For the area of C1 covering the area of Mrigastali and Sleshmantak forest, the forest will be protected, ensuring there is sufficient tree cover and that changes to the topography through erosion is kept under control.

12. For the area of C2 covering the area of Kailash, the open area will be kept without any additional landscaping or construction.

13. For the area of C3 covering the area from Kiriya Putri to Rajrajeshwori Temple, the historical building ensembles will retain its historic character and will be rectified where required. The cultural objects will be protected.

14. For the area of C4 covering the area of Ban-Kali, a densely forested area will be maintained, ensuring that there are no encroachments, fencing or inappropriate infrastructure developments.

15. For the area of C5 covering the area of Bhandarkhal, a densely forested area will be maintained. No new structures will be built in this subzone.
(3) Plantation Subzone

The Plantation Subzone defines the area which has been rehabilitated from past encroachments and will be covered with tree plantations of appropriate species. The Plantation Subzone are the two areas next to the Ring Road where encroachments were removed and tree plantation planned.

The Plantation Subzone (P1 and P2):

General regulations
1. The provisions of the ‘Pashupatiksetra General Procedures and Parameters’ will be strictly adhered to, which includes the procedures for the protection of the site and landscape, the built heritage, the cultural artefacts and the intangible heritage.

Specific regulations
2. The area of the Plantation Subzone (P1 and P2) will be maintained as a forested area, with a plantation density ensuring moderately dense to dense canopy cover (minimum 40%), however, keeping in mind the protection of subsurface archaeology.
3. The area of the Plantation Subzone (P1 and P2) will be kept free of any new construction, such as structures, buildings, walls, plinths, etc.
4. The area of the Plantation Subzone (P1 and P2) will be used for temporary functions only.
5. Should roads and parking be planned within the area of the Plantation Subzone (P1 and P2), the paving will be environmentally appropriate, rainwater permeable, non-intrusive and removable.
Detailed planning of subzone P2

- Planning of surface parking, with appropriate paving and prescribed tree cover.
- Phased removal of all buildings within this subzone, including Sumargi Hall
- Discuss requirement for ARMs, though this was previously a built-up area
- Rectification of fencing around along the Ring Road.

*Concept of parking with tree cover*

Total area for parking under the trees would be around 27000 sqm allowing for around 1000 parking slots (including the area of the Sumargi Hall)
(4) Open Space Subzone

The Open Space Subzone defines an area that will be kept as an open field for temporary functions during the larger annual festivals. The Open Space Subzone is an area east of Bankali which will remain an open field for multiple use, particularly during the festivals.

The Open Space Subzone (O1)

General regulations
1. The provisions of the ‘Pashupatiksetra General Procedures and Parameters’ will be strictly adhered to, which includes the procedures for the protection of the site and landscape, the built heritage, the cultural artefacts and the intangible heritage.

Specific regulations
2. The area of the Open Space Subzone will be maintained as an open field.
3. The area of the Open Space Subzone will be kept free of any new construction, such as structures, buildings, walls, plinths, etc.
4. The area of the Open Space Subzone will be used only for temporary facilities for the duration of each festival.
5. The existing roads and paving within the Open Space Subzone will be removed and the ones along the periphery will not be widened.
6. The existing buildings without heritage value will be removed over time.
7. Tree plantations will only be done along the periphery of the Open Space Subzone.
8. The Open Space Subzone will only be used for temporary activities.
9. This area will not be used for vehicular parking.
10. Fencing will not be allowed and all existing walls and fencing will be removed.
11. Special provisions have been made for the commercial row where shops stalls will be allowed along both sides of the street.
(5) Utility Area Subzone

The Utility Subzone defines an area where restricted construction will be allowed, following strict procedures and regulations, to allow for required functions related to operating and managing the sacred site. The Utility Area Subzone are areas that can be developed with functions to support the cultural and required managerial functions of the heritage site.

The Utility Area Subzone (U1, U2, U3)

General regulations
1. The provisions of the ‘Pashupatiksetra General Procedures and Parameters’ will be strictly adhered to, which includes the procedures for the protection of the site and landscape, the built heritage, the cultural artefacts and the intangible heritage.

Specific regulations
2. Utility Area Subzones will be used to develop infrastructure and facilities for the better functioning and management of the cultural heritage, however, strict procedures will be following, including Heritage Impact Assessments (HIA) for each project / cluster of projects.

Specifically for U1
3. The area designated as U1 will be used to provide serviced in support of the intangible activities.
   a. A Rehabilitation Plan will be prepared and implemented to rectify and adapt this area, where previous structures were demolition in 2002. Particularly important will be to consider the character of the site and the protection and promotion of the various forms of heritage: site and landscape, archaeology, built, cultural artefacts and intangible.
   b. All the functions in U1 will be focused on providing appropriate serviced to the festivals and rituals, as well as for the devotees visiting the main shrine.
   c. Any new structures that are built will be temporary in nature, Building regulations for temporary structures will be strictly enforced.
   d. The landscape of U1 will be rectified and rehabilitated to conform to the characteristics of a heritage property, using traditional materials.

Specifically for U2
4. The area designated as U2 will be used for administrative purposes and essential facilities.
   a. All activities within U2 will be linked to administrative purposes, for research or additional services to visitors.
   b. The area will be built up sparsely, maximum 20% coverage, with 50% tree coverage.
c. The building regulations for U2 will not follow the standard bylaws for Protected Monument Zones, and minimize the visual impact, buildings will not exceed two floors (maximum 3.70 metres from ground level) with sloping roofs (100% of total roof area, in tile or red metal sheeting), with no visible overhead water tanks or other services, and appropriate façade in exposed brick. Door and window shutters will be of wood and no rolling shutters will be allowed.

d. The rectification works in U2 subzone will include moving the Bridha Ashram to Gothatar.

Specifically for U3

5. The area designated as U3 will be used for the electrical crematorium and related functions.
   a. All activities within U3 will be linked to the electrical crematorium.
   b. The existing facilities will be run and full capacity and maintained regularly.
   c. The conditions set by the 2013 Heritage Impact Assessment will be implemented.
   d. Should any further construction work be carried out, separate HIA will be required.

Specifically for U4

6. This zone along the pedestrian access has been established for shops selling products required for rituals and festivals.
   a. The zone will include the main street (width 7 metres) including 3 metres on either side for the shop cubicles. The zone extends approximately 155 metres as shown on the map.
   b. The structures for shops will follow the regulations provided for temporary structures: foundations maximum 0.30 metres, with light structure and sloping roof with maximum height to be 2.40 +1.00 +0.30 (structure, sloping roof, plinth).
   c. The shops will only have openings towards the road. The stalls may protrude with temporary shelves up to maximum 1 metre into the road, which will be removed when the shops are not open.
   d. The design will be uniform with prescribed signage that befits the site, to be finalized by the site managers.
Detailed planning of U1

Utility 1 subzone is divided into three parts by sacred routes, the northern one connecting to the west gate of the main shrine complex, while the southern one linking to the ghat area.

- The entire U1 area is to provide services for pilgrims and visitors in an appropriate manner, however, only temporary construction is allowed (other than for historical structures). This needs to be further planned.
- The northern and middle section is the area where in 2002 the urban context was removed to provide an open space. This ‘open space’ has been provided with inappropriate landscaping, which needs to be rectified. It is also necessary to remove all the fencing, and reconsider the walls.
- The southern-most part of the subzone is also linked to the main pedestrian access from the south, where the shop stalls are proposed. This area would be ideal for the ‘annadanam’.

The *annadanam-ghar* would be a light single storey structure possibly built around a courtyard. The design must not impose on the nearby monuments.
Detailed planning of subzone U4

(Planning for shops)

- Phased removal of all buildings within this subzone O1, including old Dharmashala and shops on the northern end (and those in C4)
- Phased removal of fencing / walls and replacement with plantation

- CONSIDERTATION FOR SHOPS along pedestrian access (indicated in brown)

Concept of shop stalls for the pedestrian street

Location and calculations of length of shopping street.

- 125 units of 2 x 3 metres – basic 60 per side + 5 unit
- Each unit of 10 = 24 metres x 6 = 144 metres + the 5 unit

To fit within area indicated on map above (which is about 155 metres)
(6) Settlement Subzone

The Settlement Subzone defines an area where a historic settlement was located and will be retained, with measures to protect heritage attributes, but allowing restricted buildings construction as per strict procedures and regulations. The Settlement Subzone is the area of Deupatan, an ancient settlement of historical significance that will be maintained in an appropriate manner.

The settlement subzone is divided into two parts, S1 and S2. Though both these parts are within the Pashupati Protected Monument Zone, S1 is an area of the settlement that is in the World Heritage buffer zone, while S2 is within the World Heritage property. There is therefore a differentiation in the building bylaws that are applicable in these two areas.

The Settlement Subzone (S1 and S2):

General regulations

7. The provisions of the ‘Pashupatiksetra General Procedures and Parameters’ will be strictly adhered to, which includes the procedures for the protection of the site and landscape, the built heritage, the cultural artefacts and the intangible heritage.

Specific regulations

8. All significant urban attributes of the ancient settlement will be maintained, particularly the urban structure.

9. Particularly pertinent are the provisions in the ‘(A1) Procedures for the Protection of Site and Landscapes’, and the sections on ‘Infrastructure / Services within Heritage Property’ and ‘Usage’.

10. All cultural artefacts, particularly statues, shiva lingams, inscriptions, etc., will be protected and kept accessible as per the ‘(A3) Procedures for the Protection of Cultural Artefacts.’

Building Bylaws

The bylaws as defined by the Department of Archaeology and adopted and enforced by the municipality for Protected Monument Zones and the World Heritage property and buffer zones respectively.
REGULATIONS for BUILDINGS AND STRUCTURES

No new construction, whether buildings or landscaping structures, is allowed in the Conservation and Sacred subzones. Existing buildings and landscaping will be maintained and where necessary rectified. The forested areas will be rehabilitated. The deer park will be removed.

In the Open Area subzone only temporary structures are allowed. This area will be kept open and plantations will only be allowed along the periphery, however, complying with the archaeological risk maps.

In the Plantation subzone only temporary structures and appropriate paving for the circulation and parking of vehicles will be allowed. Unless there is proper justification through archaeological risk maps, this area will have to have tree coverage as per the regulations.

Only temporary structures will be allowed in U1, and the landscaping will be rectified. Two storey buildings will be allowed in U2 as per the building bylaws provided. In U3, the existing electrical crematorium will be maintained and the provisions of the HIA will be implemented.

The settlement areas S1 and S2 will follow the respective buildings bylaws. Where necessary, rectification will be carried out. The buildings aligning the sacred routes will be improved to provide an acceptable ambience. The landscaping, services, etc. will follow the provided regulations and procedures.

<table>
<thead>
<tr>
<th></th>
<th>Temporary Structures (Excluding tents)</th>
<th>Zone U2 Buildings (Institutional)</th>
<th>Zone S2 Buildings (Residential)</th>
<th>Zone S1 Buildings (Residential)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stories</td>
<td>1</td>
<td>2</td>
<td>DOA bylaws</td>
<td>DOA bylaws</td>
</tr>
<tr>
<td>Height (+ sloping roof, + plinth)</td>
<td>2.40 +1.00 +0.30</td>
<td>5.40 +1.00 +0.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum building Coverage</td>
<td>NA</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roofing</td>
<td>100% sloping</td>
<td>100% sloping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overhead water tanks</td>
<td>Not visible</td>
<td>Not visible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facade</td>
<td>(Appropriate)</td>
<td>Exposed Ma-Appa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Door / Windows</td>
<td>Timber</td>
<td>Timber</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signage on building</td>
<td>No</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foundations</td>
<td>30cm</td>
<td>As per ARM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum width of building</td>
<td>Max 7 metres</td>
<td>Max 7 metres</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- No dachi-appa facades
- No rolling shutters
- Standardized signage with fixed size
- ...
The main access and circulation around the Pashupati PMZ is shown above. Vehicular traffic will be controlled particularly within the PMZ, something that will need to be negotiated also with the local community.
(C) Rectification Procedures

The “Rectification Procedure” provide the legal framework for rectifying existing inappropriate structures, buildings and other forms of development that have a negative impact on the heritage site. Inappropriate structures, buildings and other forms of development encompass legal and illegal construction and development activities carried out in the past that have ongoing physical, visual or sentimental impact on the environmental or cultural attributes of the heritage property.

1. Identification of inappropriate structures and other forms of development

Construction and developments that were carried out in the past that do not comply with the present legal provisions, impact monuments, subsurface archaeology, intangible heritage or environment, or affect the cultural sentiment of the community will undergo a Heritage Impact Assessment (HIA).

2. Emergency rectification

Should construction and developments that were carried out in the past or are ongoing have a continuing or increasing impact on monuments, subsurface archaeology, intangible heritage or the environment, or affect the cultural sentiment of the community, rectification procedures will be carried out immediately.

3. Rectification over time

Construction and developments that were carried out in the past that do not comply with the present legal provisions that however do not have continued or increasing impact on monuments, subsurface archaeology, intangible heritage or the environment, or affect the cultural sentiment of the community, will be rectified or phased out over a period of maximum 5 years, to be implemented as per the decision of PADT and DOA.

4. Timeframe for rectification

The duration of time allotted for rectification will depend on the scale of investment, the legality of the development, the degree of inappropriateness and whether it is located in the Protected Monument Zone or Continuum Zone. The suggestion on timeframe will be provided within the Heritage Impact Assessment.

5. Implementation and covering of cost for rectification

The rectification of inappropriate developments and construction carried out by the authorities within the Protected Monument Zone or on identified heritage in the
Continuum Zone will be rectified by the authorities. If the inappropriate structures, buildings and other forms of development are considered to be carried out illegally, the entire cost for rectification will be borne by the developer. If at the time of construction and development they were considered legal, then the cost of rectification will be borne equally between the developer and the government.

6. **Compensation for the outcome of rectification**

No compensation will be given for the loss of property or income caused through the rectification of inappropriate structures, buildings and other forms of development; Consideration will be given to construction and development that were legal at the time of execution and the developer has not been able to gain sufficient income from the investment.
(D) Post-Earthquake Rehabilitation Procedures

The “Post-Earthquake Rehabilitation Procedures” provide the legal framework for the restoration and reconstruction of monuments damaged and destroyed by earthquakes. These provisions can also be used for damaged caused by other hazards. The major destruction caused by the 2015 Gorkha Earthquake will still require rehabilitation. Consideration must also be given to the destruction caused by the 1934 Great Nepal Bihar Earthquake.

These procedures have been established to guide the authorities and site managers on rehabilitation of built heritage that has been damaged or destroyed by earthquakes, or other hazards. The following provisions have been prepared to be considered along with the officially adopted ‘Basic Guidelines for the Conservation and Reconstruction of Earthquake-Damaged Heritage 2072’. These procedures will also be understood in conjunction with the other legal provisions provided herewith, particularly ‘(A2) Procedures for the Protection of Built Heritage’.

General considerations

1) Response based on damage assessment and documentation

   The response and interventions will be based on detailed condition assessments which ensure the highest possible level of research and detailed documentation, taking into account transformations of the built heritage over time.

2) Vulnerability reduction of built heritage

   All interventions will consider the reduction of vulnerability of monuments. Vulnerability assessments and appropriate interventions to reduce vulnerability will also be carried out over time on non-damaged monuments.

3) Hazards and multi-hazards considerations

   Every site, monument and cultural object will be provided maximum protection from all possible hazards such as earthquakes, but also flooding, landslides, fires, lightening and possibly hazards based on visitors and other functional requirements. This will be connected to a larger national level disaster risk mitigation policy and a site disaster risk mitigation and management plan.

Assessment of built heritage and appropriate interventions

The following procedures will be followed in the process of assessing built heritage impact by earthquakes and taking the decision on the general approach to rehabilitation.
1. Vulnerability assessments need to be carried out on heritage buildings by multi-disciplinary experts (not only engineers!) with understanding of conservation.

2. The outcome of the vulnerability assessment would conclude whether interventions are required or not.

3. If interventions are required, the first option would be to carry out repairs of the damaged parts, using original material and technology. It would need to be assessed whether this is sufficient or not.

4. If repair work is no sufficient, retrofit can be used to ensure that the original structural system can be retained. For heritage structures possible retrofit methods must ensure minimum intrusiveness and the possibility of removal.
   - Possible interventions might be steel ties.
   - RCC and cement in any form is not acceptable.

5. If the heritage building has to a large degree collapsed, affecting its original structural system, these damaged elements (which generally does not include the foundations!) will need to be rebuilt to its original state.
   - Certain enhancements might be acceptable if they are in traditional technology, craftsmanship and material.

Guidelines for the rehabilitation of built heritage

As defined in the ‘Basic Guidelines for the Conservation and Reconstruction of Earthquake-Damaged Heritage 2072’, the damage to the built heritage will be categorized under the following three categories which are (1) totally collapse, (2) critically damaged and (3) non-critically affected. Guidelines have been provided below for each of these categories.

1. Interventions for totally collapsed built heritage
   Totally collapsed structures will be rebuilt as per their original design, reusing as much of the salvaged material as possible. The foundations will not be removed and, where necessary, the plinth will be restored. Traditional technology, materials and skills will be used to reconstruct the monument. New materials and technology will not be introduced.

2. Interventions for critically damaged built heritage
   As much of the critically damaged structure as possible will be retained, providing where necessary additional supports. Such interventions would need to be appropriate, technically and visibly, and should prioritize the use of traditional materials. These original elements will be properly safeguarded and conserved. Where these monuments need to be rebuilt, the conditions defined under category 1 will be followed. The dismantling protocol will be followed.
3. Interventions for non-critically affected built heritage

Non-critically affected monuments, that have not lost their structural integrity and only require minimum non-critical interventions, will be protected and conserved. Conservation materials of original quality, chemical and physical composition and workmanship.

Procedures for the rehabilitation of built heritage

The rehabilitation of built heritage will strictly follow the procedures as provided under ‘6.5.1 Procedures and mandatory phases’, and detailed out below: (1) Preparation, (2) Design (3) Implementation and (4) Completion.

1. Preparation

The first stage of rehabilitation of heritage at monument level shall ensure necessary preparations including documentation, assessment and research. Documentation will be required of the original structure before the earthquake and the present status of the site and the salvaged materials. General assessment of the built heritage in its present state include structural, material and functional aspects will be carried out. Research will be carried out wherever the general assessments are not considered to be sufficient. The preparation phase will also deal with the salvaging of materials and temporary interventions.

2. Design

The second stage of rehabilitation of built heritage focuses on design and will focus on approach, interventions and realization. This means that the structural interventions and the architectural conservation approach will be designed. The artisans and required material procurement will be planned. An implementation plan will be prepared.

3. Implementation

The third stage of rehabilitation of built heritage will ensure appropriate implementation through a community based reconstruction in amanat procedure. During implementation, all activities will be documented. Work will be strictly supervision. Relevant traditional rituals will be carried out, with the priests, community members, as well as the artisans.

4. Completion

The fourth stage of rehabilitation of built heritage will ensure proper completion. Once completed the work will be audited for quality, design and cost. The built heritage will be handed over to the responsible authority with a clearly defined monitoring and maintenance system, which is understood, adopted and fully established. Required training, if required, will be provided.
(D+) Dismantling Protocol

Preamble

If possible heritage buildings and structures and any parts thereof will not be demolished or dismantled. Damaged structures will be stabilized and as much as possible of the original fabric will be retained.

Should it be found necessary for any damaged heritage building or structure or any part thereof to be dismantled, technical and legal justification will be required which also takes into account the sentiments of relevant stakeholders.

- Technical justification will be provided by a competent team of experts with in depth knowledge of structural aspects of heritage buildings and structures as well as conservation principles. The justification will provide an explanation of why the structure cannot be retained.
- Legal justification be given by a competent authority based on relevant legislation, laws, guidelines and other relevant documents adopted by the government. This would include but not only consist of the Ancient Monument Preservation Act, the Basic Guidelines for the Conservation and Reconstruction of Earthquake-Damaged Heritage 2072 and the Post Disaster Recovery Framework.
- The justification will also be based on interaction with relevant stakeholders which could include community members, user groups, priests and caretakers.

The decision to dismantle the whole or part of any historic building or structure will be taken with the understanding that dismantling will be carried out in a systematic manner, with continuous monitoring and documentation, and that the process can be discontinued at any given time if found necessary. The dismantling process will follow the hereunder defined protocol.

Objectives

The Dismantling Protocol aims at achieving two main objectives.

1. To better understand the building technology, materials, chronology and alterations, changes and additions, and particularly previous interventions to the structure. It will thereby be possible to determine the original structure, the alterations over time and the reason for the structure to be damaged.
2. To ensure that all materials are carefully removed to ensure detailed documentation, assessment and any further research can be carried out, while also ensuring that the material can be reused as far as possible for reconstruction.
Teams

Once the justifications have been agreed upon, there will be two teams involved in the dismantling process, a team each to ensure that the two objectives are attained.

I. The technical support team will ensure that documentation, assessment and whatever research is required will be carried out.

II. The dismantling contractor team will ensure that the equipment, adequately skilled workers as well as necessary supervisors are provided to allow for a systematic dismantling process in close collaboration with the technical support team.

Preparation of Site

- A large enough space will be demarcated and fenced off to provide protection to bystanders as well as safety to the salvaged materials.
- Storage space for the various salvaged materials will be clearly defined particularly in respect to timber elements, terracotta elements, mortar and plaster, as well as miscellaneous materials and object of special significance.
- Necessary scaffoldings along with platforms and pulley systems will be arranged for.

Planning dismantling procedures

The following considerations will be made when planning dismantling procedures:

- Safety of the technical support team, the dismantling contractor team as well as bystanders will be considered high priority.
- The stability of the structure being dismantled as well as structures and other nearby threats will be closely monitored.
- The chronology of dismantling will consider both the rational of implementation as well as the need for documentation.
- The process will begin with cleaning of the site of all waste, foreign materials and surface vegetation.
- In principle dismantling will be carried out from the top to the bottom of the structure.

Removal of materials by dismantling contractor team

- The removal of materials will be done systematically, piece by piece and layer by layer, and only after it has been documented and assessed by the technical support team.
- The materials will be removed from its position carefully so that other parts of the structure are not affected.
The material once removed will be transported in a manner that ensures that it does not get damaged more than it might already be. It will be ensured that any labelling done by the technical support team will remain on the object.

The material will be stored in the designated storage space in a manner determined by the technical support team. This is to ensure that the material is easily assessable and well protected.

**Documentation, assessment and research by technical support team**

- During the dismantling process the structure will be documented in detail using photography as well as scale drawings and if possible other appropriate means.
- Damage will be mapped in detail, particularly where there are cracks, damaged elements, as well as collapse patterns.
- The collapsed sections will be carefully excavated in the presence of an archaeologist using relevant archaeological procedures.
- Each major element of the structure will be documented which includes material identification, design, connections between similar as well as adjacent materials.
- This might require further research on materials to identify timber, brick, mortar, plaster, stone, etc. The materials will furthermore be assessed for material deterioration, aging or weathering.
- Materials used for later interventions will specifically be studied and mapped out.
- Each element will be assessed in respect to its function, whether structural, architectural or as ornamentation. The significance of these elements in respect to fulfilling their functions will be studied in detail.
- Construction materials will be labelled where relevant, particularly in respect to timber elements and other important elements that will be reused during reconstruction, possibly in the original location.
- Intricate ornamentation will be documented using photogrammetry. Where possible murals will be salvaged. Samples of carved stuccowork will be salvaged for future use to create moulds or used as samples for use during reconstruction.

**Final reporting**

- The final reporting will consist of the overall results of documentation, assessment and research. This would mean the following information will be provided as far as possible.
  - Information on the original architectural and structural design and details. This is of course often difficult to assess and might need to be assessed individually.
  - Information on later interventions that were carried out as partial restoration, strengthening or in some cases in the event of maintenance.
- The damaged caused by earthquake or due to other reasons, particularly the reason for the latest damage or collapse.
- The detailed documentation and assessment of individual materials and structural elements, assessment of their state, possibility of reuse as well as location of storage.
  - The documentation, assessment and research carried out during dismantling will be the basis for reconstruction. This means that the requirements for reconstruction will constantly be kept in mind ensuring the outcome allows for sufficient information is available as required for reconstruction.
- The documentation of the structural system of the original structure and possible later interventions will allow for structural assessments to be carried out and structural design proposed for reconstruction.
- The detailed documentation of all elements will allow for the reuse of these in their original location. The elements that are deteriorated will be identified accordingly determining the need for replacement. This will clearly need to be differentiated between materials that have a particular identify such as carved wooden elements and materials that will be reused however in their general location such as bricks.

The reuse and the recreation of elements of ornamentation will be determined through the documentation and salvaging process during dismantling.
**LIST OF REQUIRED PROJECTS**

**Preparation of Inventories and Mapping**

1. Inventories and mapping of damaged and collapsed monuments including present status, documents, assessment and plans for restoration.
2. Inventories and mapping of historical buildings including their traditional use, their present use and there possible use (where possible and relevant).
3. Inventories and mapping of ceremonial and festive routes, their usage and conditions, including the surrounding context and calendar of events.
4. Inventories and mapping of cultural artefacts including condition, threats, access, with reference to the procedures for the protection of cultural artefacts.

**Required Projects: Beyond Continuum Zone**

5. To map out all lands belonging to the Pashupati Temple beyond the Continuum Zone, assess the present status and develop plans for appropriate functions.

**Required Projects: Continuum Zone**

6. To map out heritage sites, routes, monuments and built heritage, cultural artefacts and intangible heritage within the Continuum Zone and develop mechanisms for safeguarding these.
7. To assess the three sub-zones of the Continuum Zone on their main significance, threats and basis for planning each of these.

**Required Projects: Sacred Sub-zone**

8. Rectification of the natural and built banks of the Bagmati River to ensure that the original character is maintained.
9. Arrangements for clean and sufficient water to be flowing from upstream into the heritage area. This will require macro-level planning upstream.
10. Rectification of the natural and built context along the processional routes ensuring plantations, as well as appropriate buildings, to be addressing in close collaboration with the relevant communities.
11. To carefully documented, assessed and where necessary restored the ten monument ensembles complexes or individual temples, ensuring their proper maintenance and protection.

**Required Projects: Conservation Sub-zone**

12. In C1 to ensure that the plantations and mechanism for appropriate erosion protection through bio-engineering are planned and implemented.
13. The Deer Park will be removed and the landscape rehabilitated.
14. In C2 the inappropriate landscaping and structures will be reassessed and where required will be rectified. This Kailash area must remain an open space without any structures.
15. In C3 the buildings will be reassessed for design and function, and rectifications will be carried out as found necessary, with introduction of adaptive reuse where possible. In appropriate additions will be rectified. The open spaces and fencing will be assessed and rectified to regain the original identity.

16. In C3 all the cultural artefacts will be mapping, documented and protected as a priority.

17. In C4 the forest will be rehabilitated and all encroachments will be removed.

18. All the decorative fenced in gardens will be rehabilitated to open forested areas and the fencing will be removed.

19. In C5 the forest will be improved and maintained ensuring that it is protected from encroachment.

**Required Projects: Plantation Sub-zone**

20. Rectification of P1 and P2 of inappropriate developments including roads, buildings, fencing and gates.

21. Planning tree plantations along with appropriate parking facilities

**Required Projects: Open Space Sub-zone**

22. Rectification of inappropriate developments including roads, paving, buildings, fencing and gates.

23. Redeveloping open space with tree plantations along periphery, along with archaeological investigations.

24. Review existing function and necessity of buildings existing within this subzone, considering relocation.

**Required Projects: Utility Sub-zone**

25. Develop a Rehabilitation Plan for U1, followed by HIA and implementation of the project.

26. Building regulations for U1 to be prepared.

27. Prepare a Master Plan for U2, while reviewing existing functions, followed by HIA and implementation of the projects.

28. Building regulations for U2 to be prepared.

29. For U3 to implement the conditions set by the 2013 Heritage Impact Assessment.

**Required Projects: Settlement Sub-zone**

30. Document all forms of cultural heritage within the Settlement Subzone (S1 and S2) and implement required safeguarding measures.

31. Plan appropriate infrastructure and service plan for the Settlement Subzone (S1 and S2).

32. Review existing buildings and carry out rectification as required.
HANUMANDHOKHA PALACE MUSEUM DEVELOPMENT COMMITTEE
Hanumandhoka, Kathmandu

HANUMANDHOKHA PALACE MUSEUM MASTER PLAN
Prepared: June 2018
Reviewed: June 2021
PREFACE

This report is the result of various discussion we had since the 2015 earthquake which along with lots of damage brought opportunity to improve the Hanumandhokha Palace museum setup. With the ongoing rehabilitation of the affected historic structure, it would be possible to improve the circulation within the buildings for adaptive reuse of the Palace Complex into the museum. Equally, with the entire museum closed down, it is the best time to plan for a better museum. Hence, the conceptual master plan for the Hanumandhokha museum has been developed.

During the preparation of this document we have not been able to access certain spaces within the Palace complex, but in conversation with the museum staffs we have gathered enough information to understand the working of the pre-earthquake museum. In addition we had conducted various discussion programs with the stake holders as well as the culture experts in order to identify the new themes for the museum which will integrate the local community.
ACKNOWLEDGEMENT

We would like to express our sincere gratitude to the Hanumandhokha Palace Museum Chief Mrs. Aruna Nakarmi for all the support she has provided during the project tenure. We would also like to thank the staffs from the Hanumandhokha Palace museum Development Committee and Department of Archeology for providing us with the materials / information related to the project and co-operation for the access to the various spaces during the documentation. Our special thanks goes to Mr. Mith Ram Pudasaini, Mr. Shiva Rajbhandari and Mr. Rajendra for their immense co-operation.

Our deep gratitude goes to Mr. Craig Barclay and Ms. Rachel Barclay from the Oriental Museum in Durham university for the sharing their museum development strategy and experience of community engagement in museum setup.

We would also like to thank all the participants and the experts for their contribution on the discussion meetings and the final workshop. The contribution of participation of Mr. Brian Daniels and Ms. Elizabeth from the Smithsonian for the final workshop is highly appreciated.

Finally, we would like to thank Mr. Jal Krishna Shrestha and Ms. Swosti Kayastha from Lumbini University for reviewing this report.
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ANNEX A- Notes of various discussion meetings

ANNEX B- References to the museum object inventory books
EXECUTIVE SUMMARY

The Hanuman Dhoka Palace Museum was established as a biographical museum focusing on the three Shah Kings Tribhuvan, Mahendra and later Birendra within the premises of the Palace. The Palace continued to be the ceremonial place of power where the kings held their coronations. Most festivals over the years had to get the blessing of the King and therefore part of the ceremonies would be held at the Hanuman Dhoka Palace. (Refer Part one- Overview of Hanumandhokha Palace history)

Large parts of the museum were damaged by the 2015 Gorkha Earthquake. This has been ascribed largely to the lack of maintenance and care provided to the buildings. Some part of the building was not used and large amounts of waste and useless objects had accumulated while leakage and humidity caused further deterioration. In some cases the reason for damage or even collapse of certain sections would have also been due to inappropriate structural interventions in the past.(Refer Part two- Impact of 2015 earthquake)

Over the past years there has been further change that has taken place in the political environment which has questioned the entire reason for the Palace Museum. The change from a monarchy to a democratic republic along with the promulgation of the new constitution in 2015 has sealed the political transition that has removed the authority of the King, both politically as well as in respect to all religious connotations. The power now lies with the people and the presentation of the Shah Dynasty would be within an overall interpretation of history.

The change of circumstances has required a review of the vision of the Palace Museum. A new vision was collated from a series of discussions held with related stakeholders, reviewed and discussed during several short workshops. The new vision was agreed upon by relevant authorities during a meeting held at the Shisha Baitak, Hanuman Dhoka with representatives from the Department of Archaeology, Hanuman Dhoka Palace Museum Development Committee, directors of prominent museums and National Archive, ICOMOS Nepal, ICOM Nepal as well the Department of Culture of Tribhuvan University. (Refer Annex A- Summary od discussion during CHalphal sessions)

The agreed new vision for the Hanuman Dhoka Palace Museum consists of some basic statements principles along with a new list of themes for the exhibitions.

Vision Statement:

The Hanuman Dhoka Palace Museum will become an institution of high quality, multi-disciplinary, community centred institution that is proactive and self-reliant, ensuring research and conservation of tangible and intangible cultural heritage.
Mission Statement:

The Hanumandhoka Palace Museum will be a centre for collecting, researching, documenting, supporting, preserving, presenting and promoting cultural heritage of Kathmandu and for relating the stories of local communities. The Hanuman Dhoka Palace Museum will provide an informative and stimulating experience to the local and international visitors. The Hanuman Dhoka Palace Museum will arrange public events, ensure community engagement and create a platform for the local communities to tell their stories.

Principles:

The Hanuman Dhoka Palace Museum will follow the principles of being non-bias, open and transparent, sharing and respectful to all different opinions. The Hanuman Dhoka Palace Museum will try to present all the views on any given subject.

Themes for exhibitions:

i. The formation of Kathmandu as a city, its expansion and its architectural evolution with prime focus to the Hanuman Dhoka Palace Buildings. The traditional technology and materials used to building the palace linked to the skills and knowledge of the artisans. The exhibition would highlight the traditional construction methods.

ii. The story of the Kings, but not only limited to the Shah Kings. The history should include both legendary as well as archaeological history of the Kathmandu valley, the Malal and Lichavi history needs to be focused with contribution of various kings.

iii. The stories of the earthquake which includes artefacts, recorded experiences of the people along with the process of recovery, rehabilitation and restoration.

iv. A Kathmandu City Museum which shows the intangible heritage of the local community which means the festivals, rituals, beliefs and possibly the local history and transformation.

Fig 1: The community participation during the chariot festival of Kumari Jatra in Hanumandhokha Monument Zone.
Based on the vision a Conceptual Master Plan has been developed.

The museum will provide access to larger part of the Palace complex with certain areas restricted with justification. The entry to the museum will be limited at the Golden gate and the exit will be through Dakh chowk north wing. Within the Palace complex, the visitor will be able to see the magnificent courtyards, its artefacts and historic building through access to Nasal chowk, Lohan chowk, Mohankali chowk, Sundari chowk, Dakh chowk, Vayu chowk, Nhuchen chowk, Nag pokhari premises, Dhukuti, Narayan Pokhari and Gaddi Baitahak. The three main religious courtyard; Mulchowk, Trishul chowk aad Masan chowk with its religious activities have been restricted to visitors.

The historic buildings from different period have been proposed as blocks of different exhibition, which allows the visitor to access and exit from particular gallery if required. visual access to the historic artefacts in the courtyard. Mall dynasty history is proposed on the second floor around Mohankali and Sundari chowk and the balcony surrounding the courtyard will give visual access to the historic artefacts in the courtyard.Shah Dynasty history is proposed along the west wing of Nasal chowk where still the Royal apartment exists and it can be part of the exhibition as well. Gaddi Baitahak is emblematic to the Rana regime where the ground floor of this historic building is proposed for the gallery dedicated to the Ranas regime. The building around Lohan chowk with its significant towers is proposed for the urban history of the Kathmandu and for the intangible heritage. The south wing to Nasal chowk is proposed for the architectural and earthquake history. The northern wing of Dakh chowk is proposed for research. Dhukuti is proposed as the temporary exhibition space.

Along with the proper exhibition space, the visitor facilitates and safety is also considered. The circulation and emergency exit plan is defined along with the resting places for the visitor including a café and toilet facilitates.

With this new museum vision plan put in place, the existing museum setup will need major upgrading with additional units for the proper functioning. Additional units to be established under the management of this committee are enlisted below:

i. Community outreach unit
ii. Research, documentation and publication unit
iii. Curatorial and event management unit
iv. Collection management and storage unit
v. Conservation unit

Hanumandhokha Palace Museum intends to be exemplary with major emphasis on community engagement for showcasing the culture and history of Kathmandu. To implement this vision, a strategy plan has to be developed defining the yearly and long term targets. Along with the existing board, there will be need of advisory and sub-working committees who will be responsible for the preparation of the guidelines, policies and management plan for the new museum setup. National and international collaboration for developing various programs should be the major focus for the museum in the coming first year.
Fig 2: Visitor access plan in Museum Complex before 2015 earthquake

Fig 3: Museum blocks with the themed galleries

Fig 4: Visitor access plan in Museum Complex proposed for new museum

Fig 5: Museum blocks with the themed galleries proposed for new museum
PART ONE – PRE-EARTHQUAKE
Overview of Hanuman Dhoka Palace History

Hanumandhokha Palace Complex is an ensemble of the medieval to the recent history of Nepal with the structures from the 15th to the 20th century. This palace complex depicts the political history of Nepal from the Malla kingdom to the unification of Nepal by the Gurkha King to the dictator regime of the Rana Prime ministers to the recent Republic Nepal. Each regime has engraved its victory through the elaborate architectural styles developed during their rule with due respect to the preceding rulers which is rare in the history which believes in table rase.

The Hanumandhokha Palace complex has records of having more than 40 courtyards during the Malla period. Later record from 19th century mentions 26 courtyards which indicate that over the time with the changes in the structure the courtyards have disappeared. Today Hanumandhokha Palace has 9 main courtyards surrounded by the architecture marvels from different époque. It must have been the need of the enlarging Royal family to expand or the natural disaster like earthquake which brought changes to the Hanumandhokha Palace complex.

Among the three durbar square in Kathmandu, Hanumandhokha Durbar square has retained the rich architectural evolution depicting the various influence over the time through the rich artistic skills and traditional construction knowledge evolved during the centuries.

Its written history dates back to 1484 AD – with records of Ratna Malla crowning himself at the Hitti Chowk, north of the Kot, facing an ancient trade route. He then erected the Taleju Temple and its grand entrance-gate, the Simhadhoka.
The Palace expanded towards the south-west with major work commissioned during the reign of Mahendra Malla and Pratap Malla. Mahendra Malla added significant temples like the Jagannath Temple (1563 AD), Taleju Temple (1564 AD) and Mahendreshwor Temple.

Pratap Malla, during his time, is credited to have aggrandized the living spaces with the Mohankali and Sundari Chowks with their elaborate sunken water fountains (hitis) with myriads of Gods and Goddesses sculpted in stone. In front of the entrance of the Palace, he placed the statue of Hanuman thinking that Hanuman would strengthen his army and protect his home. In 1650, he commissioned for the construction of Mohan Chowk in the palace. This chowk remained the royal residential courtyard for many years. He also built Sundari Chowk about this time with a hiti carved out in gilded metal and the sculpture of Kaliyadaman (suppression of a demon Kaliya by lord Krishna) which is skilfully carved out from a single piece of big boulder. This is one of the oldest icons in the palace complex dated to be of 7/8th century A.D brought by the King along with other valuable sculptures like the Narayan sleeping in the water (located in Banderkhal garden), from around the Valley. However elaborate his constructions may have been, they were not simply intended to emphasize his luxuries but also his and the importance of others’ devotion towards deities. In Mohan Chowk, he erected a three roofed Agamachem temple on the south west corner and Panchamukhi Hanuman temple on the southeast corner. After consulting his Tantric leaders, he ordered a stone image of Lord Vishnu in his incarnation as Nara Simha in 1673 in the Nasal Chowk. During the time of Pratap Malla the sacred mask dance dramas performed in Nasal Chowk were widely famed.

To the main temple of Taleju, he donated metal doors in 1670. He rebuilt the Degutale Temple built by his grandfather, Siva Simha, and erected his statue in front of Degutaleju. As a substitute to the Indreswara Mahadeva Temple in the distant village of Panauti, he built a Shiva temple, Indrapura, near his palace in the square.
When Prithvi Narayan Shah unified Nepal and chose Kathmandu to be his royal seat, he commissioned the remodeling of the Lohan chowk with the four towers. Despite of the change in the scale of architecture, the traditional Malla architecture style continued. It was only in the beginning of the 19th century there was a drastic change in the ornamentation of the façade of the buildings. The main influence must have come from the north India, where the Mughal architecture along with the British influence was already flourishing. Major renovation of the historic building around Mohankali chowk and Sundari chowk took place during the reign of Rajendra Bikram Shah, when Bhimsen Thapa was holding the position of the Prime minister. Bhimsen Thapa had accompanied Rana Bahadur Shah to Benaras from 1800-1804 during his exile which indicates the possible influence of the Mughal architecture in the buildings renovated and constructed during his tenure as Prime Minister.

The major refurbishment of the façade of the Mohankali chowk and Sundari chowk must have been taken place during the early 1800. However, a large rebuilding with a complete new architectural façade around Nasal chowk and Dakh Chowk was built in the second half of the 19th century.

Gaddhi Baithak is the latest addition to the Palace complex built in 1908 A.D. replacing an earlier Lal Durbar

In 1896, the legacy of four centuries of Hanuman Dhoka Palace being the royal residence came to an end when the Royal Palace was relocated to Narayanhiti during the reign of Prithvi Bir Bikram Shah.

Despite of the relocation of the royal residence, the significance centered upon the religious rituals and royal ceremonies continued to take place at the Hanumandhokha Palace complex.

Nepal was declared a Federal Democratic Republic in 2008, abolishing the monarchy. However, the cultural and religious activities performed within the Palace complex has continued in presence of head of state. This indicates how this Palace Complex continues to be a centre of living heritage.
Introduction to the Hanuman Dhoka Palace Museum

Hanumandhokha Palace complex has always been a centre of culture where the Kings and the community came together for various activities. The public access was limited to these special occasions until the Museum was opened in 1975 A.D.

The first gallery in museum at Hanumandhokha Palace Complex established in 1975 A.D. was dedicated to the King Tribuwan- father of the nation. The museum showcased the whole history of the King, his life, his attributes, his victory, his losses and his personal life. In addition, collection of his personal items and photographs was also kept in display. In 1993 A.D. Mahendra gallery was established portraying the contribution of King Mahendra in the political history of Nepal. A large part of the collection consisted of his personal affairs as well.

In addition to the galleries dedicated to three Kings of the Shah dynasty, a brief history of the other Shah King was also displayed through the photographic exhibition. The Royal coronation Thrones has been a major attraction in the museum gallery along with the artifacts of the Royal elephants.

Recently, the weapon gallery and the traditional building construction gallery was also added along with the numismatic gallery and the cultural artefact gallery. However, these various themes of the galleries were not developed along a linking narration. The layout the galleries made it less flexible for the visitors to visit particular gallery only. Along with the galleries the visitors had opportunity to visit some of the courtyards within the Palace complex.

Fig 10 (top): Tourists visiting the Nasal Chowk in Hanumandhokha Palace
Fig 11 (bottom): Royal Throne in display in museum, one of the most valuable object in display in the museum.
Analysis of the status of the museum before the 2015 earthquake

1. SPACE AND ACCESSIBILITY

This Palace museum showcases not only the movable artefacts as the part of its exhibition but also the immovable artefacts which form the integral part of the various courtyard and building components. Hence, the accessibility of the public in various indoor and outdoor spaces was a big challenge.

The visitor had access to the four main courtyards of the Palace complex including Nasal Chowk, Lohan Chowk, Mohankali Chowk and Sundari Chowk. Mohakali chowk and Sundari chowk were open to public only in 2008 A.D. after the establishment of the Hanumandhokha Place Museum Development committee after various discussions and justification that the general public should be able to see the magnificent historic artefacts within these two courtyards which has been well preserved since the 17th century.

Within the three religious courtyards of the palace; Trishul Chowk, Mul Chowk and Masan Chowk there is restriction of the public access. Religious and other tantric activities are performed in these courtyards hence, the religious beliefs the customary restriction has been used to justify to keep these courtyards inaccessible.

A large part of the Palace complex which is exceptional in its architectural and historical values was not explored to be showcased to the public including the Dhukuti building and Gaddi Baithak.

The Golden gate was used as the main entry and exit to the Palace complex which with overcrowding became an issue. Later, entry to the museum directly from the Tribhuwan gallery building was used with the ticket counter on the open portico. However, with the entry and exit point next to each other, it did not resolve the problem effectively as the locker was placed at the entry and had no other access.

Only three main staircases were used for the accessibility to the museum interior space and the accessibility from various floors were limited making it not very visitor friendly as the visitor had to walk a larger distant to exit from the museum building.

The emergency exits were not put into place despite of other existing staircases within the buildings. The use of these other staircases was limited due to inaccessible spaces within the building reserved for special events or other activities.

Most of the ground floor spaces within the museum block were used by the army personnel or storage or not in use. Hence, the regular maintenance of these spaces within the ground floor was not carried out. A large part of the first floor along the western wing of Nasal Chowk houses the Royal family furnished apartment and was used during the Royal visit to Hanumandhokha Palace, as this space was used very occasionally these spaces were occasionally cleaned. The attic space was only used for storage.

Some of the rooms around Mohankali and Sundari chowk was used for office space.
Fig 12: Visitor access plan within the Hanumandhokha Palace complex before the earthquake
Fig 13 (top): Trishul Chowk with the Taleju Bhawani
Fig 14 (bottom): Mul Chowk as viewed from the terrace of Vilas Mandir
Fig 15 (right): Natyaswar Mandir in the Masan Chowk
Fig 16: Ground floor plan with space use before 2015 earthquake; maximum areas has been used by the army personnel or either not in use.
Fig 17 (top left): The ticket counter in the dalan at the Golden gate entrance
Fig 18 (bottom left): Ground floor space used by Army for storage
Fig 19: Commercial rental space on the ground floor of the west wing of Masan Chowk
Fig 20: First floor plan with space use before 2015 earthquake; large areas has been reserved for special use
Fig 21 (top left): The Royal apartment on the first floor; when Royal family visited the Palace they used to stay in this apartment which has discontinued since 2008 with the abolishment of Monarchy

Fig 22 (bottom left): The Sisha Baitthak hall used for various events and meetings

Fig 23: Gaddi Baitthak; opened once a year for the Kumari Jatra festival
Fig 24: Second floor plan with space use before 2015 earthquake; large areas has been used for museum
Fig 25: The wooden struts salvaged from various structures during renovation in display in the museum
Fig 26 (top right): The display of the Portraits of Shah Kings in the museum gallery; the standards for the display in museum has not been considered
Fig 27 (bottom right): Use of wooden showcases within the museum space. The lighting design is not as per the museum design standards.
The museum was housed within the existing Palace structure with very minimum change which limited the space use and accessibility to various interior spaces within the Palace building. The narrow room width restricted the use of large showcase for the exhibits. This has led to the sealing off the windows and using it for the showcases.

However, the lack of the natural as well as mechanical ventilation led to uncomfortable conditions within these museum spaces when it was overcrowded. The incident of visitors being unconscious has been reported by the gallery incharge.

Another major issue with the internal circulation was within the Basantapur tower staircase. The visit to the tower is one of the major attraction for the visitor as it also allows for the bird’s eye view of the Palace complex and the Basantapur square. However, with the 0.70m large stairs with two way circulation in use is not appropriate.

The public services like the toilets, cafe and pause places are integral to the museum design which was not considered in this museum. Seating and pause places were neither provided in the interior nor exterior.

Two of the courtyards; Lohan Chowk and Dakh Chowk were used for the rentals for the events and a special document (user handbook) for the space use has also been published. The various courtyards were also used for the continued religious and cultural activities.
2. EXHIBITION

Theme

The museum development plan for the Hanumandhokha Palace Museum was commissioned by the Royal family members after the Royal palace moved to Narayanhiti. The museum highlighted the life and history of the Shah Kings with special emphasis to King Tribhuwan, King Mahendra and King Birendra. The political and personal lives of these Kings have been portrayed within the museum space with the use of the existing photographs and gifted as well as personal artefacts and affairs. Hence, no museum mission was developed.

The museum had three main galleries; Tribhuwan Gallery, Mahendra Gallery and Birendra Gallery. In addition, other major royal artefacts like the Coronation throne and the artifacts of the Royal elephant were also major attraction within the exhibits. Recently, the weapon gallery and the traditional building construction gallery was also added along with the numismatic gallery and the cultural artefact gallery. However, these various themes of the galleries were not developed along a linking narration. The layout the galleries made it less flexible for the visitors to visit particular gallery only.

Exhibits of the movable objects within the galleries

The artefacts used for the exhibition were selected from the royal collection including the personal affairs, gifted items, photographs and paintings. No descriptive research was made hence, only titles of the objects displayed was put in caption. Minimum description of the objects has been provided without elaborate narration.

Technical input for the museum layout, display design and lighting design needed improvements. As the part of the display design the best use of the available space has been made by using the window openings but it had other consequences of poor ventilation and natural lighting within the galleries. There was very minimum change to the exhibition since its origin.
Exhibits of the immovable objects within the courtyards

Hanumandhokha Palace Complex is the centre of art and architecture. The art and crafts within the premises of the Hanumandhokha dates back to the 15th century which continued flourishing till the early 20th century. The historic building evolution within the ensemble of this Palace complex is one of the kind within the Kathmandu valley as the evidences of the various architectural styles developed during different regime has been well preserved. Similarly, the artistic artefacts and the inscription from the different centuries has been safeguarded in-situ which has become an integral part of the exhibition within the courtyards.

Some of the main artefacts within the courtyards have been enlisted below:

Sundari Chowk - accessible to visitor
i. 8th century Kalidaman stone statue
ii. Stone and brick laid sunken hiti with gold plated water spout
Mohankali Chowk accessible to visitor

i. Stone laid sunken hiti with gold plated water spout
ii. Sculpture and reliefs of great religious and artistic value around the hiti
iii. The stone seating
iv. The wooden sculptures depicting the scenes from life of Krishna on the frieze
v. The wooden sculpture of Astamatrika on the west wing wall
vi. Golden canopy placed in north wing
vii. Inscription from 17th century
viii. A series of stone sculpture depicting 10 avatars of Vishnu
ix. A series of stone sculpture depicting the secular scene with the women and child in western influence dresses.
Fig 37 (top left): One of the 27 wooden sculpture installed on the ground floor wall in Mohankali chowk.

Fig 38 (bottom right): The story of Krishna engraved in the wooden frieze on the ground floor.

Fig 39 (top): The golden canopy placed on the north wing Dalan.

Fig 40 (bottom): The 17th century stone inscription; a series of stone sculpture depicting the secular scene with the women and child in western influence dresses. And a series of stone sculpture depicting 10 avatars of Vishnu placed one over another in the North Dalan.
Nasal Chowk - accessible to visitor

i. Golden gate

ii. Sun dial engraved in stone

iii. Narshimha statue

Fig 41 (top left): Golden gate with the stone guarding lions and the terracotta sculptures on the niche above

Fig 42 (bottom left): Sun dial engraved in the stone

Fig 43 (top): The Narshimha statue in stone at the entrance of Nasal chowk which is regularly visited by the local community as well.
Mul Chowk- not accessible to visitor

i. Metal sculptures

Fig 44: Metal sculptures in Mul Chowk
[Photo: HDMDC]
**Trishul Chowk - not accessible to visitor**

i. Metal sculptures on the stone column

ii. Trishul

Fig 45: The stone columns with gold gilded statues in Trishul Chowk
Fig 46 (right): Trishul displayed in Trishul Chowk | Photo: HDMDC
Exhibits of the immovable objects within the historic building

There were numerous historical mural paintings in four building blocks within the Hanumandhokha Palace complex which were not accessible to the visitors which are enlisted below:

i. Chandi mural in the east wing of Mohankali chowk, not accessible to the visitor
ii. Mural in the north wing of Nuchhen chowk, not accessible to the visitor
iii. Mural on the south wing of the Nasal chowk, not accessible to the visitor
iv. Mural painting within the west wing of Nasal chowk, not accessible to the visitor

Fig 47, 48, 49: Mural painting on the east wing of Sundari chowk
Photo: Deepak Shimkhada
Fig 50: Mural painting on the north wing of Nhuchhen Chowk
Fig 51: Mural painting on first floor apartment of Royal family
Fig 52 (right): Mural Painting on the south wing of Nasal chowk
Fig 53, 54, 55, 56: Mural Painting on the south wing of Nasal chowk
3. MANAGEMENT

There are two different management units within the Hanumandhokha Palace complex:

**Hanumandhokha Durbar Hercha Adda (Hanumandhoka palace management and conservation office)**

This unit is established under the Department of Archaeology and its main objective is the restoration of the Hanumandhokha Palace Complex and monitoring of the various activities within the Hanumandhokha Monument Zone. Another major responsibility of this unit is also to ensure the continuity of various religious and cultural activities within the Palace complex.

There are 82 people working within the Hanumandhokha Palace complex. The staff management within the Hanumandhokha Palace Complex comes under the responsibility of this unit hence; it has different sections within this unit:

i. Administrative unit, responsible for the management of special events and activities.

ii. Finance unit, responsible for the accounting of the funds released by the Government of Nepal for various restoration and cultural activities

iii. Engineering unit, responsible for the monitoring and supervision of the ongoing restoration work within the Palace complex and the Hanumandhokha Monument Zone.

**Hanumandhokha Palace Museum Development Committee**

The development of the museum was commissioned by the Palace authority until 2008 A.D. when the Hanumandhokha Palace Museum Development committee was established. The major responsibility of this committee is to ensure the regular maintenance of the Palace complex and daily museum activities.

The committee of 8 members is chaired by the secretary of the Culture Ministry and includes the following representatives from various authority and local community:

i. Secretary of Ministry, Chairman

ii. Director General, Nepal Heritage Department, Vice-Chairman

iii. Representative from Ministry of Finance, Member

iv. Representative from Kathmandu Municipality, Member

v. Cultural, Heritage and museum expert personnel nominated by Nepal Government, Member

vi. Two locally recognised social service personnel including one women nominated by Nepal Government, Member

vii. Director General, Member secretary

This committee has its regular income from rental as well as ticket collection money which amounts to approximately 6-7 crores annually. Hence, independently as per the requirement within the Palace complex, the regular maintenance activities can be easily performed through this committee.
Hanumandhokha Palace Complex is the centre of the tangible and intangible heritage which has been safeguarded and continued. However, very little documentation and research has been done and published in terms of the history of the Palace complex and the various intangible heritage linking the Palace and the local community as well as the larger community of the Kathmandu valley as well as other parts of Nepal. Still today, various ritual activities from various parts of the Kathmandu valley and Nepal has to conclude in this Palace complex considering its historic value despite of the relocation of the residence of the Royal family to Narayanhatti. This continued religious and cultural activity within the Hanumandhokha Palace Complex emphasises the importance of this site and the need of the detail research and documentation of this site.

However, one of the major shortcomings within this museum setup is the lack of the research and documentation unit. There is a library established with the collection of the books related to History and culture of Nepal which is accessible to the museum staffs. There is an annual publication with the articles related to Hanumandhokha Palace complex and the Hanumandhokha Monument zone from various experts.

One of the indispensible unit within the museum setup is the curatorial team who can be experts from various cultural and historic background and responsible for the research and curation of the exhibition. They are responsible for making the inventory of all the available Museological artefacts and for identifying the possible museum artefacts as per the need of the exhibition. However, within the museum setup in Hanumandhokha no such unit was established and the manual inventory of the objects were done without any photographic listing which makes it very difficult to identify the objects catalogued. Digital cataloguing was not used and neither the formats for the inventory was developed.

As the exhibition has never evolved, the objects which have not been displayed are stored and are rarely assessed for its condition. The other immobile artefacts within the Palace courtyards needs continued cleaning and occasional conservation work. The maintenance staffs are responsible for the regular cleaning and urgent repair work and whenever required the experts are hired as the consultants for the conservation work.

The museum gallery staffs are responsible for the security within the interior spaces and interior courtyards. Photography was strictly prohibited within the museum gallery and the Mohankali and Sundari Chowk. The use of CCTV within the museum premises was very limited.

Shardul Jung Gulma, the 165 member company of the Nepali Army garrisoned at the Kathmandu Durbar Square is responsible for the security of the Hanumandhokha Palace Complex and Hanumandhokha Monument zone. It was established within the premises of the Hanumandhokha Palace complex since the King Prithvi Narayan Shah’s time after the unification of Nepal as the band of soldiers marched along with him. In addition to providing security to the hanumandhokha monument zone they have become big part of the living heritage within the Kathmandu valley as the band is integral part of the marching in the various Jatras of the Kathmandu valley.
PART TWO – IMPACT OF 2015 EARTHQUAKE
Fig 57: Damage map indicating the damage caused in Hanumandhokha Monument Zone by the earthquake in 2015
Overall damage assessment of historic buildings within the Palace complex

The damage caused by the 2015 earthquake within the Hanumandhokha Palace complex was extensive with most of the historical buildings affected. Hanumandhokha Palace complex form an ensemble adjoining the buildings from different period with interlinking courtyard, the damage seen after the 2015 earthquake in different blocks is distinguishable with major impact at the connecting structures which indicates the need of detail assessment and close co-ordination between the different restoration projects. The courtyard formation is the most stable structure for the earthquake movement but with the evolution of the buildings over the time and changes the structural integrity of the courtyard building has been affected and it would be very important to do such structural analysis.

Among the 10 existing courtyards within the Palace complex, extensive damage was seen within the Lohan chowk with the collapse of two towers and major damage to the top floor level of the three storey building. This historic building block was renovated during the 1970s under the UNESCO/UNDP project. During this restoration work, major work was done in the towers and the third floor with seismic strengthening using the concrete beams and metal angles. One of these concrete beams nearby the Basantpur tower has failed with a major crack at its centre. Another major intervention seen on the Lalitpur tower is the use of metal angle frames used between the roof and the window. Addition damage to the lower projecting structure took place as the towers collapsed towards the courtyard. Additional damage to the building has been provoked by the leaking rain water into the structure through the cracks developed on the terrace level.

Fig 58 (top right): Damage caused in the Lohan Chowk north west corner
Fig 59 (bottom right): Collapse of the Basantapur tower top three floors
The building surrounding the Vayu chowk has 5 different phases of construction and in addition the courtyard formation is disrupted on the south west corner where a smaller chowk exists. The impact of this discontinuity is distinctly visible with major damage on the west wing and the south west block. Both of these structures have been partially renovated using the lime mortar which raises the question of the compatibility of the different materials within one structural system. Horizontal wooden tie has been used. The southern wing and the northern wing have been inclined towards the south which indicated the earthquake movement north south. In addition, the north wing has a part of the attic floor collapsed in the interior. The floor joist resting on the central wall of this collapsed floor has only 10-15 cm bearing which must be one of the main reason for the collapse. However, the metal showcase has supported the collapsed roof which prevented the complete collapse of the roof and the outer wall towards the Vayu chowk. The movement of the attic floor has pulled the central as well as southern outer wall as well resulting in major inclination of the entire longitudinal wall towards south.

Fig 60 (left): The south west corner damaged by the earthquake
Fig 61 (top): Collapse of second floor ceiling on the north wing of vayu chowk
Fig 62 (bottom): Collapse of the ceiling on the first floor connecting the south wing and Basantapur tower
Nuchhen chowk ia another courtyards with historic buildings from different centuries. Major renovation has taken place on the northern wing which dates back to the Malla period. With the terrace on its second floor the rain water has been one of the major issue in this building though very little damage has been caused by the earthquake. The east wing has evolved over the last 3 centuries and major damage is seen on this wing by the earthquake on its ground floor. The southern wing is Gaddi Baithak and very minimum damage is seen on its structure towards Nhuchen chowk. In contrary, the gateway building to the Gaddi Baithak has been severe crack on its northern and eastern wall. The temporary roof structure on the terrace was collapsed hence the accumulating rain water on the terrace has affected the wooden flooring structural elements and rain water leaking has been seen.

Fig 63 (left): The terrace has leakage problems on the north wing of Nhuchen chowk
Fig 64 (top): Gaddi Baithak was severly damaged by the 2015 earthquake
Fig 65 (bottom): The east wing of Nhuchen chowk has sever damages with most of the rooms not accessible
The western wing of the Masan chowk was restored under the UNESCO/UNDP project in 1970s and minimum damage has been seen on this wing from exterior. (Not accessed to the interior) The northern wing with Sweta Bhairab temple and Degutaleju had major impact during the 2015 earthquake with partial collapse of the roof projection and also the facing bricks.

Fig 66: The Bhagwati temple top floor has been damaged in Masan chowk; the Natyaswar temple was also extensively damaged
Fig 67 (right): Degutaleju temple and its lower structure extensively damaged by the 2015 earthquake
The elaborate stucco ornamentation on the building surround the Dakh chowk had major impact on the ground floor with collapse of the plaster. There is evidence of the re-plastering using the cement plaster which has caused the collapse of the facing brick during the earthquake movement. There has been major damage at the corner with hammering effect possibly. The Jingati tile laid on the roof has also collapsed at the valley and the rain water penetration has taken place to the building as no temporary protection has been provided. The eastern end of the southern wing has inclined towards the south and a major damage to the Gable wall of the north wing is seen.

Fig 68: Water leakage caused by the damaged roof tiles which has not been provided temporary protection from rain water
Fig 69 (right): Major damage has been cause on the west gable wall of the north wing of Dakh chowk
Nasal chowk is the largest courtyard within the Hanumandhokha Palace complex and is surrounded by the buildings with various architectural styles from the Traditional Newari architectural style of the eastern wing to the Tower structure developed during the early Shah period to the Mughal influence seen on the northern and western wings. The two storey north western wing towards the adjoining Mulchowk has been least affected by the earthquake. The northern wing had very less damage and the restoration plan for this wing along with the Panchamukhi Hanuman temple was already put in place before the earthquake. The southern east wing adjoining the Lohan chowk has major damage with collapse of the Basantapur Tower. The southern wing adjoining the Basantapur tower had a major impact with complete collapse of the southern bay and eastern gable wall. This building block also had partial restoration done in 2008 A.D. The white stucco plaster west wing also has been affected by the earthquake which is critical at the connection of different phase construction. Major collapse of the stucco plaster is seen on the ground floor which is the result of the moisture in the masonry wall and with the earthquake movements, these already weakened and detached plaster collapsed. Very minor cracks on the brick units of the masonry wall have also been noted which will require further structural assessment.

Fig 70 (left): South wing of Nasal chowk has collapsed along with the Basantapur tower
Fig 71 (top): The ground floor plasters have detached with major damage at the connection between different phase structure in Nasal chowk
Fig 72 (bottom): The South wing wall has inclined to sout with major gap
The two storey historic structure of Mul chowk from the Malla period has undergone many restoration since its origin and the 2015 earthquake has very little damage to it. The northern bay roof was affected by the collapsing bhaktapur tower.

Fig 73: Roof protection sheet in Mulchowk which had minor damage during the earthquake
Fig 74 (right): The south wing roof of Mul Chowk was damaged as the Bhaktapur tower collapsed
Mohankali chowk and Sundari chowk were the residential courtyard of the Malla King. The courtyard has been majorly restored in the early 19th century with change in the façade ornamentation. Two major tower temples structure was constructed during the Malla time which has restricted entry has not had major impact by the 2015 earthquake but the structure below was affected. The modest looking central tower has been highly affected by the earthquake with the cracks on the terrace.

Fig 75 (left): The west wing of Mohankali and Sundari chowk has been damaged by the earthquake
Fig 76: The Mohankali chowk structure shows major inclination of walls which was already present before the earthquake and has been again affected by the earthquake
The 16 smaller shrines surrounding the Taleju temple in Trishul chowk were damaged by the earthquake with major cracks on the facing brick. The Taleju temple had minor damage on its pinnacle however the gates with terracotta sculpture were highly affected. There are minor cracks on the raised plinth.

Shiva temple to the north of the Nag Pokhari is the only temple structure within the palace complex that had collapsed during the 2015 earthquake.

Fig 77 (left): The pinnacle of the taleju was affected by the earthquake along with the top gate and the shrines around
Fig 78: The Shiva temple to the north of the Nagpokhari has completely collapsed
The major damage took place along the Basantapur Square with partial collapse of the Gaddi Baithak, South wing of the Nasal chowk and Basantapur tower. The Lalitpur tower had major inclination towards the south and the roof of Bhaktapur tower collapsed. There was damage to some of the building even before the 2015 earthquake as per the assessment report of 2013, and the recommendation to do repair and regular maintenance to stop the water leaking into the building was not followed. The damage along the Basantapur square also indicates the impact of the vehicular movement along these building. Hence, it would also be interesting to do some assessment of the vibration caused by the vehicular movement nearby these historic buildings and its impact.

Fig 79 (left): The damaged façade along the Basantapur square
Fig 80: The Neo-classical Gaddi Baithak has also been majorly impacted towards its southern side along the Basantapur square
As most of the building blocks housing the museum collection were affected by the earthquake, the artefacts has been rescued and stored. Temporary stabilisation has been provided where the temporary protection from the rain water has not been considered which has let to further damage to the structure over the last 3 monsoon.

Temporary shelter for storage and office spaces were created to the northern part of the Mulchowk as most of the interior spaces were considered unsafe.

Fig 81: The leaking roof after the earthquake without temporary protection has caused further damage to the structure
Fig 82: (top right) Temporary shoring has been provided in various parts of the damaged structures
Fig 83 (bottom right): The temporary shelter built for the storage of the museum objects to the north of Nag pokhari
Visitor safety and rescue during the earthquake.

Hanumandhokha Palace Museum receives 600-1000 visitor per day and the figure increase during the weekends and public holidays. The 25th April 2015 earthquake was on a Saturday and the museum was open, but luckily there was no visitor casualty within the Palace complex considering the noon time when most of the people are out for lunch. One of the staff recalls that there were very few visitors at the time of the earthquake and stresses that if it would have been after 2pm, it must have been chaotic. The staffs on duty recall their memory of earthquake day as to be very scary hardly remembering how they made it to the courtyards from various museum block. They consider it to be a miracle that none of the staffs or the visitors had major injury or were trapped in the debris; it must be the protection from the various deities within the Palace complex. Among the two dead during the collapse of the south wing of Nasal chowk were an army personnel and his visitor. All the on duty staff was traumatised but safe.

The Basantapur tower which is one of the major attractions to the visitor which collapsed during the earthquake was closed for repair. Security issue become critical in a place like museum where the valuable objects are in display. Safety of everyone within the Museum complex was ensured however, they were not allowed to exit the premises for some time.

For the visitor safety the museum has been closed while the courtyards was made accessible after temporary shoring to the affected building.

Fig 84: Temporary shoring provided on the lower structure of Agamchen for visitor safety
Status of the museum objects

The extent of damage seen in the entire palace complex has also affected the museum collection and its salvage and safe storage after the earthquake. In such a disaster situation as well the museum staff came together the very next day to take on their responsibility of safeguarding the heritage. The rescue of the museum objects became the priority for the museum staff immediately even though no rescue plans were prepared in advance. The priority was to salvage the Coronation throne which was displayed on the second floor of the south wing of the Nasal chowk and the northern bay was collapsed. After various discussions with national and international rescue team, the museum staff along with the army personnel took the responsibility to salvage the Thrones.

Most of the artefacts displayed within the galleries which were not largely damaged were also salvaged and stored as there was the risk of rain water leakage within the building as the cracks on the roof and terraces were seen. In addition, the continued aftershocks for a month indicated the risk was not over.

Categorization of the existing museum objects as per the inventory developed post-earthquake:

1. Carpet
2. Showpiece in metal
3. Wooden artefacts, emblem, models,
4. Silver artefacts
5. Brass artefacts
6. Bronze artefacts
7. Bone artefacts
8. Animal head, legs lamps
9. Leather
10. Photographs with framing
11. Newspaper cutting
12. Historical records in paper, stone, wood
13. Flags
14. Paper maps
15. Woollen fabric
16. Dresses and uniforms
17. Embroidery
18. Musical instruments
19. Royal throne and Chair with metal cladding
20. Royal palanquin
21. Howdah
22. Paintings- thanka
23. Painting- portraits
24. Painting- scenic
25. Metal sculpture
26. Terracotta sculpture
27. Weapon
28. Books
29. Office setup objects
30. Heater, clock
31. Weaving machine
32. Models of temples
33. Medaillons
Fig 85: Salvage of the museum objects was a priority for the museum | Photo: HDMDC
Fig 90,91: Museum objects in display | Photo:HDMDC
Storage
One of the major problems after the salvage of the materials was its proper storage. With the most of the historic structure considered unsafe for the storage of the artefacts, temporary shelter was designed. The one storey historic building near the Dhukuti building used by the army personnel was identified as one of the possible storage space. One of the major problem with these historic building is the moisture content within the masonry wall which increases the humidity inside. After use for certain time as per the need the dehumidifiers were put into place.

Even with the additional temporary shelter, the space required to separate the various category of materials was not fulfilled. Most of the artefacts are piled together within the three storage rooms.

The paintings have been piled one over another without proper protection. The papers has been stored in a tin box where as the photographs are also piled together.

Fig 92: Museum objects stored together in a temporary shelter.
Fig 93: The written documents stored in tin boxes to avoid damage cause by damp
In addition to the salvaged artefacts from the museum collection, there was also the need to store the wooden, stone and terracotta artefacts salvaged from the damaged historic structures from within the Palace complex as well as the Hanumandhokha Monument zone. The wooden elements required large spaces to store, so the courtyards were used for the storage. Nasal chowk, Dakh chowk, Nhuchen chowk and Trishul chow as well as the open space nearby the Nag Pokhari was piled up with the wooden artifacts from various damaged structure.

The salvaged elements and museum artifacts were large in number and there was extensive damage to the historic building so without proper planning, the first year priority did not consider the museum objects. Before earthquake, there was no digital inventory of the artefacts and one publication was prepared with the important artefacts cataloguing.

One of the sections of the south wing to the Nassal chowk with the historical **mural painting** collapsed and the remaining painting within the partially collapsed section was salvaged and stored.

![Fig 94 (left): Mural painting on the south wing of Nasal chowk which has been damaged by the earthquake; the painting has been detached from the wall and salvaged into pieces.](image1)

![Fig 95 (top): Salvaged wooden elements from various damaged structure within the Durbar square safely stored in Nasal chowk during emergency period](image2)

![Fig 96 (bottom): Salvaged wooden struts and terracotta sculptures safely store in the Dalan of Lohan chowk](image3)
**Conservation**

Major object conservation work carried out post-earthquake are enlisted below:

i. Conservation and repair of the stone sculptures salvaged from the debris; example Gorakhnath statue

ii. Conservation of some textile from the museum collection

iii. Conservation of the Kali Daman statue and other stone sculpture in Sundari chowk and Mohankali chowk.

iv. Conservation of the wooden sculpture in Mohankali chowk.

v. Mural painting conservation of the east wing in Mohankali chowk.

vi. Cleaning of the wooden and metal temple models for the exhibition in Dhukuti

vii. Restoration of the damaged metal statue of Pratap Malla

As per the collection of the museum following **area of expertise** will be required for the safeguarding and understanding of the historic artefacts:

i. Archaeological science expert

ii. Forensic science expert

iii. Epigraphist

iv. Iconography expert

v. Cultural and historical experts

vi. Photograph conservator

vii. Paper conservator

viii. Textile conservator

ix. Wood conservator and wood carvers

x. Stone conservator and sculptors

xi. Metal conservators

xii. Painting conservator and artists

xiii. Art historians

Fig 97: Hanumandhokha Museum staff being trained by the experts for the wood conservation techniques
Fig 98 (left): Metal craftsmen using the traditional technique for the restoration of the statue Pratap Malla which was extensively damaged by the earthquake
Fig 99: Mural painting in the east wing of Mohankali chowk after restoration by the experts
Continuity of the living heritage

The resilience of living heritage site lies within the community who takes on their role for the continuity of various religious and cultural activities despite of the circumstances. The continued *Jatras* and *Pujas* within the Hanumandhokha Monument zone gives the notion that the traditional custodians system is the major factor for this continuity. Despite of the difficult circumstances, the responsible community has been undertaking their job considering their family tradition.

It is however clear from the discussion with the community that it is not financially sustainable and they have to find other means to support their life. Under the Guthi Sasthan established in 1956, the main resource for the continuity of the rituals and regular maintenance of the monuments was nationalised and a fixed amount of money was allocated for each activities. The amount has never been revised since its origin which questions the continuity of these activities in very near future.

Major Religious and cultural activities within the Hanumandhokha Monument zone are listed below:

i. Dumja Khat Yarta- Baisakh (April)
ii. Kumari Khat Jatra- Baisakh Asthami April
iii. Nuwakot Bhagwati Yatra- Baisakh Chaturthi (April)
iv. Kumarsasthi- May
v. Vayu Deval puja (June)
vi. Gai Jatra- Shravan (July)
vii. Changu Narayan Kalash Yatra- Twice in a year; Shrawan Dwadashi (July) and Poush Purnima (January)
viii. Indra Dhoj- Bhadra Ekadashi (August)
ix. Indra Jatra and Kumari Jatra - Aswin tritiya (August)
x. Pachali Bhairav Jatra- Aswin (August)
xi. Dashin – three main puja on Phulpati, Mahasthami and Khadga Jatra- Aswin ( September)
 xii. Guheswari Kalash Yatra- December
 xiii. Holi- Falgun asthami (February)
 xiv. Basanta Panchami- Magh Panchami( February)
 xv. Chaitra Dashin – Chaitra (March)

Along with these major events, there is daily puja in the shrine within the Hanumandhokha Palace complex including:

i. Narshimha
ii. Nasal dyo
iii. Mohankali chowk
iv. Mul chowk
v. Taleju
vi. Kumari in Nhuchen chowk
vii. Natyeswar in Masan chowk

Along with these religious activities, there were several dances performed annually in dabalis of various courtyards within the Palace complex. Some are enlisted below:

i. Swetakali nach- Once in 12 years (Trishul chowk)
ii. Kumar Nritya- During Dashin (Trishul chowk)

Most of these activities have been lost. But with proper research and consultation with the concerned communities these activities can be revived. Detail study of each of these festivals will help understand the significance of each of these activities and the community involved.
Fig 100 (top): Rehearsal for the Basanta Panchami event in Nasal chowk
Fig 101 (bottom): Changu Kalash puja under procession for the entry from the Simha dhokha of Taleju Bhawani
Fig 102 (top right): Phulpati rituals performed in Nasal chowk |Photo: Kantipur
Fig 103 (bottom right): Indra murti displayed at Nasal chowk during Indra Jatra festival |Photo: HDMDC
Fig 104 (top left): Community associated with Taleju Bhawani celebrating an event in Trishul chowk
Fig 105 (bottom left): Hanumandhokha Museum staff performing the Narayan puja at Narayan Pokhari
Fig 106: Priest performing daily ritual in Kumari temple in Nhuchen chowk
**Changes in circumstances**

The devastating earthquake of 25th April 2015, was a big disaster for the cultural heritage within the Kathmandu Valley with extensive destruction of the historic monuments. The damage within the Hanumandhokha Monument zone was the largest among the world heritage properties in Kathmandu valley. The entire Museum Complex was affected leading to the decision of closure of the museum considering the safety of the visitors and collection. Most of the building structure within the Palace complex survived the major earthquake of 1934 A.D. and over the last century there has been major restoration in some of the Palace structure. In contrary, some of the structures had partial repairs hiding away the cracks and gaps between the detaching wall and floor. There was an extensive study done in 2013 for the structural analysis of the Palace complex, but not many improvements could be done within the short time of two year when the devastating earthquake took place.

With the closure of the museum and the need to restore most of the historic building, this earthquake has given us the opportunity to have detail study of the historic monuments as well as a possibility of the improvement of the museum setup within Hanumandhokha. The restoration of the entire Palace complex will take many years with various restoration projects done in different phases. Hence, it gives us opportunity to prepare a comprehensive museum planning concept and the implementation can be done phase wise within the restored buildings.

The pre-existing museum setup was commissioned by the Royal Palace and emphasised on the life and political history of the Shah Kings. But Hanumandhokha being the cultural centre of the Kathmandu valley with its living heritage has much larger potentials to attract the international and national tourists as well as the local community who limit themselves visiting the Narshimha statue at the entrance. This is only possible if the local interests are included within the themes of the exhibition.

The theme of local culture and history can attract the community participation for the curation of the exhibition as well as key for local visitor attraction.

In the last one year with the new constitution put in place and federal system being formalised in Nepal, Local and regional development projects are expected as the local government will have more power with decentralisation. Safeguarding of the local cultural heritage and the history of the place should be one of the major agenda for the local government as community rights to their tradition and culture is being threatened. Museums are centre of learning and safeguarding the history and its continuity. Hence, during this crucial time of transition, Hanumandhokha Palace museum can bring together the local community and authority to work together for the safeguarding of the heritage.

The role of the Museums has changed over time, it is not only the testimony of the past but also plays a major role in reflecting the changes and the continuity in the cultural values relating it to the larger and ever-changing community over the time. With a multidisciplinary approach the socio-cultural issues as well as historic interpretations can be incorporated within the museum themes and the flexibility in the museum exhibition design can further help in the sustainable development for the future exhibits.
PART THREE – MUSEUM PLANNING

This section has been prepared after various discussion meetings with the stakeholders, museum expert historian and culture expert
Hanumandhokha Palace museum New Visions

**Hanumandhokha**, is one of the most important cultural and historic site within the Kathmandu Valley. With its rich living heritage and long standing urban, socio-cultural and political history, Hanumandhokha Monument Zone has been a major attraction for the national tourists. The number of international tourist has been substantial with the inscription in the UNESCO World heritage property. Despite of the large number of visitors every year, there is lack of information sharing related to the site, its origin and its development over the time. The various living traditions practiced within the area has evolved, most limiting to the oral history. Hence, Museum being the centre of learning can be an ideal place for the information collection and sharing to the wider audience.

**Proposed Museum vision:** The Hanuman Dhoka Palace Museum will become an institution of high quality, multi-disciplinary, community centred institution that is proactive and self-reliant, ensuring research and conservation of tangible and intangible cultural heritage.

**Proposed Museum mission:** The Hanuman Dhoka Palace Museum will be a centre collecting, researching, documenting, supporting, preserving, presenting and promoting cultural heritage of Kathmandu and for relating the stories of local communities. The Hanuman Dhoka Palace Museum will provide an informative and stimulating experience to the local and international visitors. The Hanuman Dhoka Palace Museum will arrange public events, ensure community engagement and create a platform for the local communities to tell their stories.

**Target audience:** National and international tourists, students, researcher, families and local community.
Hanumandhokha Palace Museum Rehabilitation Plan

Restoration of the historic monuments within the Hanumandhokha Palace Complex has taken a pace. Two major restoration works including the North wing of Nasal chowk and Dhukuti has been completed as per the project planned before the earthquake. Rehabilitation and reuse of the historic building for a new use will need integration of services and infrastructure as per the use. Hence, if planned ahead these services and changes can be easily accommodated into the restoration plan of each project.

With the extensive damages to the Palace complex, it has provided opportunity to have the detail analysis of the historic buildings and do the appropriate interventions and restoration work to safeguard our heritage for the future generation. Among the 2,28,75 sq.m. area of the Palace complex, the historic buildings occupy the 6,000 sq.m. of the ground area. As most of these building blocks need restoration, phase wise restoration will be appropriate which will also allow for the phase wise opening of the Museum to the visitors as well. However, the building blocks are adjoining to each other and have interlinking circulation, so it is very important to have an overall circulation plan put in place before the work begins.

The restoration project as per the scale of work will last 2-4 years as the implementation work starts on site. This time period will be appropriate to start working on the exhibition planning as per the museum vision plan. This then can be implemented and opened to public along with the restored building at the completion of the project.

During the discussion for this museum vision plan, the idea of phase wise opening of the museum blocks was put forward and Hanumandhokha Palace Museum Development Committee was committed to try this idea within the recently restored Dhukuti building. This led to the opening of the temporary exhibition space within the Dhukuti with the exhibition on the earthquake which was inaugurated on the 25th April 2018.

This successful endeavor has given us encouragement to work towards the overall museum plan. Hence, with the ongoing restoration project within the Palace complex, we have identified two major projects that will be completed by 2020; first one will be the Gaddi Baithak and second will be the historic building around the Lohan chowk. In case this museum vision plan gets adopted by the concerned authority, exhibitions can be prepared within the next two years.

Fig 108: Temporary exhibition in Dhukuti inaugurated on 25th April 2018
Fig 109: Phase wise post-earthquake rehabilitation allows us time for the preparation of the exhibits which can be opened to public along with the inauguration of the rehabilitation of these historic buildings.
Approach for the museum planning

**EXHIBITION**
- **THEMES**
  - Main story - museum mission
  - Content development along the theme
  - Narration linking various themes
  - Layout of the galleries in accordance to the narration
  - Temporary exhibition themes - intangible heritage (festivals)
- **EXHIBITS**
  - Selection of the exhibits according to the themes.
  - Technical design including layout, display design and lighting.
  - Flexibility in design to incorporate future changes in exhibits
  - Consideration of safety of artifacts and visitor in case of hazard like fire and earthquake

**MANAGEMENT**
- **CURATOR**
  - Documentation centre
  - Research on exhibition contents, inventories of the intangible heritage and artifacts
  - Identification, care and conservation of the exhibits and storage artifacts
- **SUSTAINABILITY**
  - Financial
  - Flexibility in exhibition

**SPACE AND ACCESSIBILITY**
- **EXTERNAL**
  - Approach to the building - entry/ticketing/exit
  - Use of immediate vicinity for social interaction
  - Outdoor exhibit, connection to the community
  - Services
- **INTERNAL**
  - Vertical circulation
  - Gallery allocation within different blocks and the public flow control
  - Limitation of access to old people and handicap
  - Continued use for traditional function
  - Services - multipurpose hall, toilets, office, storage
  - Visitor evacuation plan in case of emergency
1. EXHIBITION

Theme
In order to achieve the mission proposed for the Museum, four major Themes have been identified:

i. Urban and Architectural history of Kathmandu
Kathmandu has been inhabited since the 7th century B.C. as per the historical records and has evolved with changing socio-cultural as well as political scenario. The formation of the city, its expansion and its architectural evolution has been extensively studied by national and international experts but the Knowledge of the Place has not been disseminated to general public. “Knowing your place” would be a very interesting topic to get the community engagement for the preparation of the exhibition as well as increasing the local community visitor numbers. Hanumandhokha Palace complex with its diverse architectural styles represents foreign influences and its adaptation which helps in understanding the evolving architectural style in Kathmandu. A permanent gallery within this theme will help any visitor to orient themselves within the city of Kathmandu. Moreover, it can further be linked to the temporary exhibitions with the Changing Kathmandu.

ii. Political history of Kathmandu
Hanumandhokha has been the Royal seat since the Malla Period but the occupation of the site has historical records since the Lichhavi times, which sets a perfect background for presenting the Political history of Kathmandu and its influence on the socio-cultural activities within this Palace complex. The Palace complex has evolved during the different ruling dynasties and for each of the regime, one part or the other was more significant. Identification of significant places for each regime and development of the themes within these spaces will help the visitor relate to the place as well.

iii. Living heritage of Kathmandu
Living heritage is the continued expression of cultural, religious and traditional craftsmanship practices by a traditional community which is persistent within the Kathmandu Valley. As most of these practices are continued by the assigned community group or clan, very little has been documented. The oral histories are forms the basis for the continuity of these rituals and activities. However, with the changing socio-economic scenario the continuity of these activities is being threatened. Hanumandhokha is central to many of such activities within Kathmandu, so it would be very interesting to dedicate a large section of the museum to the intangible cultural heritage.

iv. Earthquake history of Kathmandu
The recurring major earthquake in Nepal had significant impact on the changing urbanscape and community. Traditional builders have improved their construction system with the learning from the earthquake where as with the changing circumstances; some of the cultural and religious activities have been lost and some continues which is due to the resilience among the community. Understanding the impact of these major earthquake helps to prepare for the future as well.
Exhibits of the movable objects within the galleries

Museum object is central for any exhibition and gives the background to create the narration. For any museum setup, museum collection management becomes important unit and the objects can be acquired either through donation or purchase or hiring the objects from private owners and other museums.

The new museum plan for Hanumandhokha has integrated varied themes related to the Socio-culture and political history of Kathmandu. Hence, a large part of the old collection from the Shah King can be reinstalled within the exhibition and other artifacts will need proper identification as per the themes and narration developed by the curators.

Various possible sources for the collection of the objects are enlisted below:

i. National Archive: Historical maps and written documents from the National archive can form a large part of the collection.

ii. Guthi Sansthan: The historical objects under the Guthi Sansthan can also be acquired for permanent as well as temporary exhibition

iii. Department of Archaeology: The displaced historic objects from various historic sites can form another collection which will also play a major role in the conservation of such objects.

iv. Private donors: There are many families (Guthis) in Kathmandu who possess the historical objects and documents related to various cultural and religious activities, and without proper storage and conservation these materials are being damaged.

If systematic and scientific collection system is developed and the concerned donors are convinced for the safety and proper care of their valuable objects, the collection acquiring will not be a big issue.

However, the major task lies after acquiring the objects which includes conservation and interpretation. Presenting the objects to the public will need detail information of the object and relate it to the themes for interpretation. Various supportive measures like graphic panels, audio, visual, images and illustrations, models, interactive etc. can be used for the interpretation.

Fig 110: Board with descriptive information, drawing, maps, timeline and historic photos used in museum
Fig 111: Display book for more information on the exhibits
Another important aspect is the **technical exhibition design for the display of objects and lighting plan.** There are international guidelines developed for the museum display and lighting which should be well incorporated by the design team while detailing the exhibition space. While designing the layout, display units and lighting, the **flexibility** to change the objects and contents over the time should be the basis to make the museum dynamic.

**Exhibits of the immovable objects in the courtyard**

The art and crafts of different centuries within the premises of the Hanumandhokha Palace complex needs better presentation to the general visitor with additional information. Images and illustrations can be used to display the important artefacts which cannot be accessed physically by the visitor.

Major concern has been raised for the conservation of the artefacts which are in constant deterioration.

**Exhibits of the immovable objects within the historic building**

Among the four mural paintings within the Palace complex, one has been completely lost during the earthquake. The remaining paintings will need to be analysed carefully and conserved as per the necessity. Provisions for the access to these rooms with the mural paintings will be indispensible for the visitor experience and its long term safeguarding. However, the narration of these paintings should be well interpreted for the audience. Related researchers should be identified for detail study of these paintings.
Exhibits of the intangible heritage

The various intangible activities performed within the Hanumandhokha Monument zone is anchor to the living heritage of this city. However, with very little documentation on these activities, their significance is limited to oral history. These oral histories should be documented and presented to the wider audience through this museum setup. The community engaged in making these events success would be key for discussion of the exhibitions related to the intangible heritage. Community initiated exhibitions should be encouraged. Various artefacts used during the festivals can be part of the exhibition.

Temporary exhibitions with the information of the major festivals can be done in preparation to the festival. This will be equally informative to the local community as well as the tourists. This ensures the proper documentation of the intangible heritage.

Fig 113: Festival as Community Empowerment exhibition in the Anacostia Community Museum in Washington DC

Fig 114: Day of Dead titled exhibition space created for the “Festival as Community Empowerment” exhibition in the Anacostia Community Museum in Washington DC
2. MANAGEMENT

The role of the two different management units within the Hanumandhokha Palace complex will be crucial in the post-earthquake rehabilitation. With the changing political situation in Nepal, the decentralisation of the power might influence how these units will be formulated. In any case, this historic site and its cultural and historical significance should be safeguarded having the national and regional importance.

Hanumandhokha Durbar Hercha Adda (Hanumandhoka palace management and conservation office)

One of the major responsibilities of this unit in this post-earthquake scenario is to prioritise the restoration projects as per the urgency within the Hanumandhokha Monument zone. Priority should be given to the monuments which are still standing and have been partially damaged rather than reconstruction of the collapsed monuments. This should include large part of the Hanumandhokha Palace Museum complex has been affected by the earthquake. Rapid assessment of all the damaged monuments must be done with the support of the technical team to prepare the priority list of restoration projects.

With the colossal damage in the Hanumandhokha area, many national and international agencies have extended their helping hands for the technical and financial support for the restoration of the damaged monuments. Hence, this unit also has an important role in providing the priority list to the interested agencies. In addition, for any projects implemented within the monument zone, the members of the engineering unit should be responsible monitoring and supervising these projects along with the project engineers.

With detail information collected from each of the restoration projects, regular and occasional maintenance plan should be put in place.

Some of the historic building within the Palace complex is under different authorities like the Gaddi Baithak and east wing of Nhuchen chowk under Home Ministry. The ground floor of the east wing of Nhuchen chowk has been used by Guthi Sansthan for storage of valuable objects. Maximum use of these historic buildings can be done if the management of the entire Palace complex comes under Hanumandhokha Durbar Hercha Adda which will ensure its regular maintenance.

Another major responsibility of this unit is to make arrangements for the continued cultural and religious activities within the Hanumandhokha Palace complex. Questions have been raised about the financial sustainability of these activities which will need to be further discussed with the concerned communities and authorities to ensure its continuity. With integration of Living heritage as one of the main themes for the new museum, the communication with the community can also be enhanced.

Hanumandhokha Palace Museum Development Committee

With this new museum vision plan put in place, this committee will have major role of setting up the new museum. Along with the existing board, there will be need of advisory and sub-working committees who will be responsible for the preparation of the guidelines, policies and management plan for the new museum setup.

Additional units to be established under the management of this committee are enlisted below:

i. Community outreach unit
ii. Research, documentation and publication unit
iii. Education and event management unit
iv. Collection management, conservation and storage unit
v. Curatorial and exhibition unit
In order to achieve the vision statement, the museum will need to start with information collection. Community outreach programs will be crucial in developing such repository as most knowledge is within the community and has not yet been documented. Integration of “Living heritage of Kathmandu” as one of the themes for the museum will be the vital in integration of the local community within the museum setup, which will be exemplary for museum in Nepal.

The important next steps to be taken by the committee if this vision plan is adopted are:

i. Co-ordinate with all project managers of the ongoing restoration work to integrate the plan within their project

ii. Meeting with the concerned authorities for management of Gaddi Baithak and its premises by the Museum Development committee

iii. Setup an advisory committee to conduct focus group discussion

iv. Collaborate with the universities and researchers for the research and documentation

v. Establish mechanism to support the community for the continuity of the intangible activities

vi. Collaborate with the national and international agencies managing the museums to develop Hanumandhokha Palace Museum Development Strategy Plan including museum management, sustainability plan, museum collection management and various community outreach programs.

This unit should also be responsible for developing the financial sustainability plan which will be majorly linked to the money collected from special events within the halls as well as the courtyards and the commercial rental spaces.

**Community outreach and Collection management**

One of the major focuses of this museum will be the community engagement and visitor participation in various events. Hence, it will be crucial to identify the key people in the community who can contribute in this new vision plan. For the living heritage section stakeholder consultation is primordial which then helps to identify the various possible sub-themes of the exhibition. With the participation of the communities in the focus group discussions, the community will feel the ownership and take their responsibility in implementation of the projects. However, certain guidelines need to be developed in consultation with the experts and the institutes with similar experience, in order to avoid any conflict that might arise in the future.

The present museum has the collection which has been donated by the Royal family. With the diverse thematic proposed for the new museum, there will be need for the procurement of the objects as per the need of the exhibition.

![Fig 115: Discussion program with the stakeholders and culture experts as a part of the conceptual museum master plan development.](image)
3. SPACE AND ACCESSIBILITY

Accessibility
The discussion on accessibility to various part of the Palace complex is a very critical issue. There are strict opinions that the customary restrictions for accessibility should continue and public access to all the spaces should not be allowed. In contrary, there are voices raised for the rights of the community towards accessibility to their heritage as well.

The decisions on accessibility should be rational. Customary restrictions should not be the only basis, but detail study for any such restrictions in the past circumstances should be done and analysed in today’s context. The use and significance of the courtyards have changed over the last centuries which should be understood before any decision is made.

Mul chowk was the main courtyard during the Malla period used for the major religious activities. In addition the coronation of the King and the appointment of the Prime minister were conducted in this courtyard. Though the coronation of the King discontinued since the Shah Kings, the tantric religious activities still continues. Similarly, Trishul chowk with the Taleju Bawani Temple has been one of the main religious courtyards of the Royal family where the religious and cultural activities continue. The significance of Masan Chowk (Kandel chowk) is still not verified. With its name, it is considered to be the place of funeral and customary restrictions have been put for its general access. Mohankali chowk, the residential quarter of the Malla dynasty is decorated with the magnificent historic artefacts in stone, terracotta, metal and wood indicting the appreciation of the Malla kings towards local craftmanship. Historically, it was the King who had the right to put restriction of any individual within this courtyard. When King Bhupatendra Malla had issues with his mother Riddhi Laxmi, she was relocated to other parts of the Palace. This indicates how power play was the basis for the restriction during the Malla dynasty.

Detail study of each of these courtyards referring to the historic writings will allow the concerned authorities and stakeholders to make decisions on accessibility based on the justification.

There are many spaces within the Palace complex which doesn’t have customary restrictions but the visitor access has not been planned due to management issues. Gaddibaithak, Old Dhukuti, Nhuchen chowk, Narayan Pokhari, Dakh chowk and Vayu chowk are the additional areas which would be very interesting in terms of its art and architecture to the visitors.

Hence, after identification of the spaces that would be indispenisible to understand the history and the evolution of this Palace, an accessibility plan has been proposed. This will furthermore allow the visual access of the three courtyards that has customarily restricted. Opening maximum spaces to the public, it will ensure the regular cleaning and maintenance of the spaces which in long term helps in safeguarding the historic monuments and in-situ artefacts.
Fig 116: Visitor access plan proposed for the new museum
Space requirement

Considering the adaptive reuse of the Hanumandhokha Palace Complex as the museum and its affiliated spaces, it is crucial to identify the space required for various purpose and its appropriate locations. The various space required for the continuity of the cultural activities as well as for the museum within the Palace complex are enlisted below:

i. Religious use spaces
ii. Museum Galleries- Permanent and temporary
iii. Audio-visual room
iv. Office space
v. Resource centre
vi. Storage
vii. Workshops
viii. Outdoor event spaces
ix. Services (Toilets/ café/ museum shop/ pause points)
x. Army
xi. Commercial use space

One of the major findings with the post-earthquake documentation within the Palace complex is that, a large part of the buildings were not in everyday use leading to the deteriorating conditions with moisture from capillary action as well as the leaking roof. As the rooms were rarely opened, the concerned authority was not aware of the degradation. And the 2015 earthquake under such circumstances leads to larger damages. The lesson to be learnt is to maximize the use of the spaces for everyday use. This will ensure the regular maintenance through proper ventilation as well as any urgent repair need will be immediately dealt.

The space layout and design should be done to maximize the natural lighting and ventilation in all the spaces.

Fig 117: Wooden workshop in a temporary shed in Hanumandhokha Palace complex.
Proposed plan for the museum

Access and facilities

- Main entry from the Golden gate
- Exit through the north wing of Dakh chowk
- Access to the building around Nasal chowk, Lohan chowk, Mohankali chowk, Sundari chowk, Dakh chowk, Vayu chowk and Nhuchen chowk.
- Access to the Nag pokhari and the Shiva temple to its north, Old Dhukuti and Narayan Pokhari.
- Army residents will be limited within the existing garrison premises to the north east of the Palace complex area.
- Three historic buildings have been proposed for the multiuse, occasional events and activities. Dhukuti, Gaddi Baithak and the Existing Tribuwan gallery hall; all of these three spaces can have a separate entry during the events. This will be critical for the financial sustainability plan of the museum.
- Toilet facilities for the public will be provided in two locations; nearby Nag Pokhari and in west wing of Nasal chowk.
- The existing commercial rental spaces will continue with no further additional except for the café and museum shop within the premises of the museum.
- Café and museum shop will be around the Dakh chowk from where the visitors are expected to exit.
- The café space has been proposed to the west of the Dakh chowk, within the footprint of the west wing which have been demolished. This will avoid any risk related to putting such facilities within the historic building. The design should be further discussed.

- The internal circulation will make maximum use of the existing staircases and some of the additional staircases are proposed to avoid congestion and for safety during emergency.
- Pause places will be created along with open dalan spaces of different courtyards

Fig 118: Tourist taking rest in Nasal chowk
Museum Gallery blocks

- The thematic galleries of the museum are planned in different blocks which makes its flexible for the visitor to visit particular gallery.
- Mall dynasty history is proposed on the second floor around Mohankali and Sundari chowk and the balcony surrounding the courtyard will give visual access to the historic artefacts in the courtyard.
- Shah Dynasty history is proposed along the west wing of Nasal chowk where still the Royal apartment exists and it can be part of the exhibition as well.
- Gaddi Baithak is emblematic to the Rana regime where the ground floor of this historic building is proposed for the gallery dedicated to the Ranas regime and the hall is proposed to be visited for its architectural marvel.
- The building around Lohan chowk with its significant towers is proposed for the urban history of the Kathmandu and for the intangible heritage.
- The south wing to Nasal chowk is proposed for the architectural and earthquake history.
- The northern wing of Dakh chowk is proposed for research.
- Dhukuti is proposed as the temporary exhibition space.

Fig 119: The Gaddi Baithak with its magnificent interior décor and the history of the place can be an important place to visit for the visitor
Fig 120: The Dhukuti, temporary exhibition space has been opened along with its audio-visual space
Fig 121: Museum gallery proposed in various blocks within the Hanumandhokha Palace Complex
Space use on ground floor

- Most of the internal spaces within the ground floor have been proposed to be used. However, only the ground floor of Gaddi Baithak and Dhukuti will be used as full fledge gallery spaces. Other spaces which have been marked in yellow in the plan will be used as museum support areas.
- The ground floor of the Mohankali and Sundari chowk, except the puja areas is proposed for the storage of the artefacts.
- The ground floor of the Lohan chowk and south wing is proposed for the conservation workshop which can also be part of the visitor experience.
- The army posts are located for the security reason in various parts of the palace but the residence will be limited to the garrison premises.
- Museum shop in the block between dakh chowk and nasal chowk will be central to the museum space.
- Dakh chowk proposed as the exit courtyard will also be the space for people to relax with a café and outdoor seating.
- The museum locker at the ground floor of the north wing of Dakh chowk will solve the congestion of people at entry/exit.
- The access to Nhuchen chowk will be through the south wing of Dakh chowk where existing wooden workshop storage is located.

Fig 122: Dakh Chowk which is proposed as the exist courtyard and sevices like museum shop, café, locker room and toilets will be located in vicinity

Fig 123: The Ground floor of Gaddi Baithak can be used as gallery space which can be directly accessed from the Nhuchen chowk connecting to the other part of the palace internally through the south wing of Dakh chowk
Fig 124: Proposed Ground floor plan for the new museum
Space use on first floor

- Most of the internal spaces within the first floor will be used for the museum use. There is the provision of the internal linking of the galleries.
- The northern wing to the Dakh chowk is proposed for the Research and library.
- Gadid Baithak has been proposed for the visitor access to appreciate the magnificent hall itself which will be accessed from Nhuchen chowk. And in case of special events it can be closed off for the visitor.
- The admin office space is proposed to the north of Vayu chowk having its separate access from the south wing dalan of Dakh chowk.
- The east and north wing of Mohankali chowk will be accessible to the visitor including the room with the Mural painting.
- The Nhuchen chowk mural painting will also be made accessible to the public which is accessed from the stone stair in Nhuchen chowk.
- The east wing of Nhuchen chowk will be used as a temporary exhibition space.
- The entire space around the Lohan chowk will be used as gallery space.

Fig 125: The mural painting on the first floor of the north wing of Nhuchen chowk has been proposed to be accessed by visitor

Fig 126: The independent staircase on the west side of the southern dalan of Dakh chowk will lead to the administrative offices
Fig 127: Proposed First floor plan for the new museum
Space use on second floor

- The second floor will be majorly used for the museum space and also the office.
- The entire second floor space around Mohankali chowk and Sundari chowk is proposed for the Malla dynasty history gallery. The balconies must be strengthened during the restoration project considering the heavy flow of visitors.
- A new stairwell to the west of the Panchamukhi Hanumand tower is proposed for the exit of the visitor directly to the Nassal chowk, which will also be a major part of the emergency exit.
- The second floor space around Lohan chowk will be dedicated for the galleries of living heritage.
- The south and central wing will have the museum gallery and a space to the east of the Vayu chowk is proposed for the gallery incharge offices.
- The west wing of Vayu chowk have admin offices with separate entrance from the Dakh chowk.
- The big hall on the northern wing of Dakh chowk will be used as the documentary room for the museum and if required be used for special events.

Space use on third floor

- The third floor of the central wing is proposed to be used as the office space for the engineering team.

Fig 128: The mural painting on the first floor of the north wing of Nhuchen chowk has balcony along the sundari chowk can be the point of visual access to the courtyard below
Fig 129: The hall on the second floor is proposed for the audio-visual room which can be used separately for the events as well
Fig 124: Proposed First floor plan for the new museum
Circulation within the gallery

One of the key elements in museum planning is the proper visitor circulation. The planning of various galleries should be done in such a way that the visitor with interest on certain theme can easily access and exit from particular gallery. Hence, the following circulation plan is proposed for the museum blocks:

- Additional two stairwells is proposed; one in the room to the west of the Panchamukhi Hanuman temple and another to the west block of the Nine storey tower.
- The stairwell to the west of Nine storey tower will provide the main entrance to the architectural and earthquake museum gallery and will link with the Shah dynasty gallery on the first and second floor and nine storey tower on the first floor.
- The new stairwell proposed to the west of the Panchamukhi Hanumandh will be used for the exit of the visitors directly to the Nasal chowk without entering the chowks inside.
- Open of the stairs from the north east corner of Lohan chowk is sealed off which can be opened to enhance circulation within this block during emergency as well.
- The grand spiral staircase of with the entrance towards Nasal chowk will lead to the research centre as well as the Shah dynasty gallery on the second floor. From the second floor of this gallery, either one can chose to take the stair to go down directly to the first floor of Shah dynasty or go to the architectural gallery to the south wing of Nasal chowk.
- Similarly the visitor has flexibility of going directly to Dakhchowk from the first floor using the staircase to the south east corner of Dakh chowk or got the architectural and earthquake history gallery on the south wing of the Nasal chowk and into the urban and cultural history section to Lohan chowk block.
- The administration office on the Vayu chowk will have separate access from the Dakh chowk and can be interlinked to the engineering office from the attic space if needed.
Emergency plan

The experience of the earthquake and difficulty in rescue of the historic artifacts has provided the basis for the need of the emergency plan for such disaster situation. The important factors to be considered for the development of the Disaster risk plan are indicated below:

- The visitor emergency exit plan
- While designing the display layout and showcases, the safety of the museum artefacts during the disaster situation like earthquake and fire must be considered.
- There should be a rescue plan developed within the museum with trainings to the staffs that play major role in rescue in such situation.

Fire can be another major problem in Historic buildings with wooden structural member; hence the fire fighting provisions should be planned.
ANNEX A
Notes of the Discussions
Hanuman Dhoka Palace Museum Master Plan - Discussion programmes
Museum Chalpal programme
21 December 2018

Initial discussions on planning for Hanuman Dhoka Palace Museum

The initial discussion on planning for Hanuman Dhoka was carried out with participation of numerous museum experts and members of ICOMOS Nepal. This first meeting was to get feedback on the initial planning concepts developed by the consultant team.

The artefacts from the three former galleries of Tribhuvan, Mahendra and Birendra were inspected together with Museum experts Jal Krishna Shrestha and Swosti Rajbhandari along with Museum Director Aruna Nakarmi. The need to develop related narratives to the artefacts was discussed. This was particularly linked to the planning of the Dhukuti Exhibition which would be carried out immediately as a temporary exhibition. The planning for the Dhukuti Galleries would need to take into account a concept for the entire Palace Museum and its phase-wise rehabilitation.

The initial concept for the Vision was to focus on specific themes which go beyond the biographical collections of the Shah Kings. There were five initial themes that were proposed and discussed.

i. The Hanuman Dhoka Palace complex which would require explanation of the history of the different sections, but also the extent of the palace in the past. Further research is required.

ii. The traditional technology and materials used to building the palace linked to the skills and knowledge of the artisans. The exhibition would highlight the traditional construction methods.

iii. The stories of the earthquake which includes artefacts, recorded experiences of the people along with the process of recovery, rehabilitation and restoration.

iv. The story of the Kings, but not only limited to the Shah Kings. The focus should also include the Malla Kings and possibly even go back further in history through research.

v. A Kathmandu City Museum which shows the intangible heritage of the local community which means the festivals, rituals, beliefs and possibly the local history and transformation.

The museum would require a new approach to interpretation and exhibits as well as presenting relevant narratives linked to history, the powerful and well as the local communities.

Some proposals were made for consideration when planning the museum. This would be the basis for the larger planning of the overall museum as Hanuman Dhoka.

- Presentation would need to include models of themes like architecture and other cultural objects and narratives.
- Different media of artwork that presents interpretations of various cultural activities and past historic scenes
- The combination of before and after photographs, particularly for the earthquake but also to show change over time.
• Critical is also the use of lighting in an appropriate manner which means experts in this field would be needed.

The process of planning the Hanuman Dhoka Palace Museum was also discussed. The overall timeframe might be four to five years with clearly defined procedure and targets. Considering the changing political landscape, it might be wise to have the museum planning be placed under the leadership of the provincial representative Rajesh Shakya, who is also a local community member.

A separate discussion was held with Prof Prem Nath Maskey, expert in traditional structures. The question was how to plan rehabilitation of the remaining parts of the museum complex. This also includes the monitoring of ongoing projects being carried out by the Chinese Government around Lohan Chowk, JICA and their team on Agamchen and the Mohankali Chowk as well as Miyamoto with U.S. Embassy funds on Gaddhi Baitak. The need to begin work on the Southern and Central Wings of the museum was also raised. This would need to be linked to the ongoing project of documentation. The parts that need to be dismantled would need to be done carefully following the Dismantling Protocol.
Hanuman Dhoka Palace Museum Master Plan - Discussion programmes
Museum Chalphal programme
12 January 2018
Discussion on New Vision for Hanuman Dhoka Palace Museum

The second Chalphal that was organized focused on discussing the New Vision for the Hanuman Dhoka Palace Museum. Province 3 MP for Hanuman Dhoka Area along with cultural experts including Mukunda Aryal, Milan Shakya, Sudarshan Raj Tiwari and other Culture Experts were invited. ICOMOS Nepal, relevant Hanuman Dhoka Museum staff, relevant Museum administrators and experts as well as the planning team was present.

Large parts of the Hanuman Dhoka Palace complex were damaged by the 2015 Gorkha Earthquake. The Hanuman Dhoka Palace Museum was shut and most of the artefacts were stored away. Some parts of the palace complex were in the process of being restored. Some ideas had been floated on how the overall museum might be re-established and possibly improved to reflect the changing circumstances. The rehabilitation of the overall palace complex depends on how the usage will be planned, which means the structural restoration must go hand in hand with planning the museum.

Accordingly appropriate people to discuss these themes had been invited to develop a basic vision for Hanuman Dhoka Palace and Palace Museum rehabilitation. Various discussions were carried out with the proposal to make the Hanuman Dhoka Palace Museum more closely linked to the political and cultural history of Kathmandu. This meant the themes that it would deal with might be the following: (points noted from discussions – need to be further verified)

i. Political History of Kathmandu

This included mainly the link between Malla, Shah as well as Rana

It was clearly noted that there is usually a reinterpretation of history depending on the circumstances and care was need to ensure all perspectives are presented as far as possible

ii. Architectural History including design and technology in Kathmandu

This section would also include the urban history of Kathmandu. The focus would also be of the different parts of the Hanuman Dhoka Palace including the style of the different parts. There was also the Kot area which would have signified a fortified area, an area of defensive structures, a Lakhu. There are many aspects of the palace that need further interpretation such as the fact that it is also a Vihara. The history of the palace including the various protagonists such as the Pratap Malla or the intrigues of Laxmi Narayan Joshi would be part of the stories to be told. The interpretation and history of the various part of the surrounding Hanuman Dhoka area also needs further research and presentation. For example the story of the Kal Bhariab Statue that was found in Rani Ban and brought and erected at Hanuman Dhoka. There is also the Biswarupa Bhairab in the Police Station area. The link between Buddha in the eastern section (Machhendranath) and Shiva in the western section (Indra Mahadev) also need to be better understood. Kasthamandap was initially a place where yogis stayed and was also known as Bhoot Sattal. Then there are the stories of the cremation areas for the Kings linked to the concept of “Valley of Death”.
This interpretation would also be linked to better understanding the city itself which includes the fact that it has walls, ramparts and gates which are all non-existent. The history of the various parts of the city would begin with Koligrama in the north which is more Mahayana and Dachinkoligrama to the south which is more Hinayana. The development of the third or central city around Basantapur was really only after the 15th century.

iii. Community and living heritage in Kathmandu
There is a need for outreach and inclusion of festivals and rituals in the overall exhibition linked to the museum. This would mean documenting the ongoing festivals and rituals while researching that which has been lost. It could be that some of the lost activities can be revived.

iv. Earthquakes impact and rehabilitation in Kathmandu
The rehabilitation stories linked to earthquake would focus particularly on the 1934 and 2015 earthquakes but if possible earlier changes and damage would need to be presented. The exhibits would also present the changes, the artefacts as well as the related research and lessons learned.

Further discussions on establishing the museum brought up some very important points that needed to be noted for inclusion in the overall Museum Master Plan.

- There is a need to develop a collection of artefacts. This could be linked to objects salvaged after the earthquake or other objects that might be procured from (or donated by) collectors and community. The information needs to be archived and objects restored and protected. The information should also include documents kept by the Guthis, information from the Pujarisi as well as books and documents on related themes.
- A research department or section needs to be established in the museum to collect information and prepare interpretation for the exhibits. This would be linked to a research committee that oversees the process. Research would need to be carefully planned with clear procedures as well as certain funding. Research need to be done on issues where information is lacking. The collected data and information would be directly linked to the museum artefacts. For this to function properly it would need to be linked to researchers, possibly from related universities, in this case possibly Tribhuvan University.
- The research would need to be exhibited and also published. This means that the museum, possibly together with research institutions would publish a journal regularly. This would then also be directly linked to the exhibitions. Particularly important would be temporary exhibitions that need to be regularly changed with new themes that are exciting and relevant.
- The research on the intangible heritage linked to the palace museum needs to be carefully carried out. Resource persons need to be identified. The possible support required for such activities would possibly be linked to the annual budget of the museum. This includes the possible support of priests and specific events and rituals.
- The actual planning of the museum need to begin. This would include the rehabilitation plan along with the visitor management. Accessibility to various parts of the palace complex would still need to be discussed with justification for why certain areas might need to be kept restricted. Certain parts of the palace complex would need to be used for offices and the research centre.
Hanuman Dhoka Palace Museum Master Plan - Discussion programmes
Museum Chalpal programme
14 February 2018

Introduction to discussions on museum organization

Overall museum function, circulation and extent of facilities were discussed. Participants were those involved with the museum buildings including previous museum directors, gallery in charge, army and representative from the Home Ministry (for the parts still under their ownership particularly the Gaddhi Baitak).

The previous galleries were biographical for the Shah Kings; Tribhuvan, Mahendra and Birendra. The Malla period was represented only by the older part of the palace along with the architecture and works of art. A large part of the palace building was also used to house solders, a situation which is something that needed to be changed. Important was also to focus on the circulation routes for the museum, particularly considering the required rearrangements within the given buildings.

The question on public access to various restricted part of the palace was raised: to Mul Chowk along with the Malla period palace around Mohankali and Sundari Chowks. Pratap Malla had brought Bajracharya priests to carry out puja in Mohankali Chowk. This was stopped during the Shah Period, but was revived after democracy.

How were the various parts of the palace to be adapted or changed to address new requirements and safety? This also included the involvement and placement of the army. For example the use of the upper floors of the building around Mohankali Chowk was discussed. How could the staircase leading up to Shisha Baitak be improved? There was also the problem of integrating toilets though certain facilities have been provided such as near Vayu Chowk. Further questions that were raised were concerning the entrance / exit, ticket counter and provisions for lockers for visitors.

In 2035 BS (1978/79) the museum was opened. As visitor numbers grew certain adaptations were necessary.

- There was need for proper ventilation in certain parts of the museum. The tendency to put showcases within the window niche should be stopped. This of course also needs to be coordinated with the lighting.
- Partitions needed to be removed to allow for easier monitoring.
- When there are up to a thousand visitors it was difficult to get up on the Nine-Storey Tower and the possibility of a second staircase (one way traffic) was proposed.
- The big hall on the top floor of the wing next to Hanuman Dhoka gate was used to show movies, which could be a place to show documentaries to visitors.
- Where should further visitor facilities be placed such as restaurants? There cannot be any cooking going on with the gas / fire hazard.
- Circulation of the museum will be critical including the need to have the main entrance and exit at the same point to manage visitors and ensure security.
How to deal with low doorways? This needs further discussion, whether required and if so what provisions are possible.

The possibilities of including the Gaddhi Baitak in the museum were discussed. The hall could be accessed from outside from a separate entrance when needed. The ongoing planning along with restoration has also taken into account sustainability, however this needs to be further discussed with the existing owner which is the Ministry of Home Affairs. Due to security reasons the functions on the ground floor of Gaddhi Baitak would need to be restricted. The Gaddhi Baitak hall would need to be used for official functions, particularly during Indra Jatra. However provisions for viewing the hall should be made along with possibly renting out the hall for appropriate functions. To organize this, a meeting between the Ministry of Home Affairs and the Ministry of Culture with the Department of Archaeology and the Hanuman Dhoka Museum Development Committee needs to be organized.

The various activities and changes to the Hanuman Dhoka Palace were discussed. The section that links between the South Wing and the Nine-storey Tower must have been regularly damaged, though this would probably not have been a gate. The point was raised whether elephants would have been brought in from this location. Generally this idea was rejected. The stables used to be where Bhugal Park is now located. There was also Hati and Ghora Puja during Dasain. There is a post outside the South Wing where supposedly this took place.

A longer discussion took place on security which was provided by the army spread out over the entire palace. This was however going to change and the army was going to be staying in one location around the Narayan Pokhari. When the army was spread out there was always a problem of controlling their activities including providing toilets etc. An overall plan for security along with positioning of the soldiers needs to be prepared.

Another important point was regular maintenance of the palace. This was particularly important for areas where there are flat roofs, the overall drainage and also areas used for storage which are often not regularly opened or used. All areas of the palace must be put to use so that there is regular monitoring and maintenance. The light and ventilation to all areas need to be ensured. Areas that might not be regularly used must have routine checking. This particularly also includes areas where there are shrines and only the priests are allowed to enter. Rituals and pujas must be arranged and carried out regularly in these areas ensuring that they are monitored and maintained.

Further points that were discussed would be summarized as follows:

- A proposal of beautification through greenery was also raised. This would of course need to be done by using potted plants. A plantation plan would be required along with the necessary care and maintenance.
- Restrictions of access and photography would also need to be reviewed. The situation with Mul Chowk and the Taleju Temple area will clearly be off limits to visitors. However other areas such as Vayu Chowk, Masan Chowk as well as Mohankali and Sundari still need to be reviewed and discussed.
- Interpretation for visitors needs to be seriously discussed and worked on which might require further research as well as design of how to provide information.
- Office areas need to be finalized including the use of Shisha Baitak
- The inclusion of activities in the police station area and Kot area where the army is stationed was also raised. These areas were always closely linked to the activities of the palace and might need to be reviewed.

The museum must be linked closely to the intangible heritage of the area which means particularly all the festivals and rituals. Should the museum become the Kathmandu City museum, then the customs of the local people would need to be reflected. The museum would be responsible for education, research and documentation of these aspects of cultural heritage. Interpretation of such activities as well as easier access to the community must be allowed. To ensure sustainability of these rituals and festivals, the priests and others responsible for the organization would need to be supported. The involvement of the museum in such activities would need to be considered. The support needs to be clearly defined, particularly the needs for rituals and the requirements of the priest, whether financial or by means of respect. The living cultural expression would also need to be documented, possibly linked to a library or documentation centre and presented regularly through temporary exhibitions.
Hanuman Dhoka Palace Museum Master Plan - Discussion programmes
Museum Chalchal programme
16 March 2018
Internal discussion with Department of Archaeology

Three main points were discussed during this meeting.

i. The overall vision was discussed specifically with the authorities. It was decided that the museum must go beyond the biographical exhibits of the three Shah Kings. The themes would include (1) the history of Kathmandu, (2) the history of architecture specifically related to the various sections of the palace, (3) the living heritage linked to the festivals and rituals and (4) the earthquake experience.

ii. The division between the museum exhibits and the ongoing living heritage might need clear differentiation which would also require different means of managing. This is of course critical when we discuss the need for proper support for living heritage. Should living heritage become an “exhibit”, the question of access for visitors becomes critical. However for rituals that are particularly sensitive, certain restrictions would still be necessary.

iii. The third point was the specific question of accessibility to various specific areas of the palace for visitors. Some areas were clearly off limits under normal circumstances. The differentiation between foreign and local visitors might also need to be clarified. Many of these restrictions were made under the monarchy justified and enforced through religious connotations. There have been certain changes since the removal of monarchy. However these would need to be reviewed.

The continued rehabilitation of Hanuman Dhoka Palace would need to be planned in phases as the various palace wings are restored. The various exhibits would need to be planned and prepared accordingly.

The sections that would be ready first would be

i. Dhukuti – a temporary exhibition has already been set up in Gallery 1. Further exhibitions are required. The building would also require further improvements particularly in respect to dealing with the damp and ventilation.

ii. Gaddhi Baitak – though a second phase is still required to prepare the building for proper use. The use of this building also needs to be clarified with the Ministry of Home Affairs.

iii. Lohan Chowk – the section being restored by the Chinese Government which includes the building around the chowk as well as the Nine-storey tower. This section would need to be included in the overall museum planning, requiring cooperation from the Chinese team.

iv. South Wing – this restoration / reconstruction of this section will begin soon and would be completed possibly within 2 years. The exhibits along with circulation will need to be carefully planned parallel to the implementation of building rehabilitation.
The rehabilitation of the buildings would need to take into account various aspects of Museum use, circulation and safety. This means emergency preparedness particularly for fire and earthquakes must be integrated into the design. This means the interior design of the buildings would need to be adapted to the requirements however without compromising on the original aesthetics. The planning of the Palace Museum world also need to take into account the planning of the entire Hanuman Dhoka Durbar Square Monument Zone, particularly when considering access and linkage to related intangible cultural activities.

A critical issue that has been regularly raised has been the linking unused parts of the palace to possibly revived / or appropriate activities and rituals. Research would need to be done on the original function of the various sections of the palace. It is critical that all parts are used to allow for regular monitoring and maintenance. Newly introduced activities would however need to be compatible to the general status and character of the location. This means that the activities would need to have the correct “essence” and possibly be linked to similar activities in the past. Particularly in respect to religious activities discussions would need to be held with the priests.
Hanuman Dhoka Palace Museum Master Plan - Discussion programmes
Museum Chalpal programme
18 April 2018
With focus on artisans on the occasion of the International Day of Monuments and Sites

Artisans working in and around Hanuman Dhoka were invited to a round of discussion at the Shisha Baitak. The discussions were to clarify the main issues facing the artisans in the rehabilitation process. The points raised were in respect to the status, training and livelihood of the traditional artisans.

The Silpakar Jat (Carpenter Caste) has over past centuries ensured continuity of the traditional knowledge and skills. The question that arises now is whether it is economically viable and socially agreeable to continue this system.

The first question that arose was linked to the motivation behind the work. Were the traditional crafts being carried out for purely financial reasons or was there pride and a sense of duty included. The system of only allowing registered contractors to work – particularly on government projects – has caused serious damage to the artisans’ position as well as the restoration of monuments. The question of alternative means of income was also discussed and the only possibility was to link the crafts to the tourism industry. The main Master Craftsman gets 1500 to 2000 Rupees a day. Particularly the government rates are not sufficient.

The second main question was how the skills were being transferred to the new generation. Considering changing social circumstances, there is a need to train people outside the family or clan, as well as get women to join. Some training has been provided through various organizations such as the Silpakar Samaj, however only half the trained persons remain in the profession. How would it be possible to motivate these people to continue with this profession?

To ensure the survival and continuation of the artisans and their trade, some critical measures need to be taken. Numerous question and points arose in respect to setting up a system that would allow traditional craft-persons to continue their trade.

- Setting pay-scales for such work is difficult since the quality is based on many years of training and experience. The talent of individual crafts-persons also differ which affects the outcome. How can such aspects be measured and a reimbursement standard established? How can artisans be categorized (Master / Standard / Apprentice?) and the difficulty of work (carving complex, carving simple, structural complex, structural simple?)
- Meaningful standards for daily wage rates need to be set. Quality work takes time and must be reimbursed sufficiently which means that payments are made not on contract basis but on daily wage basis. Standardization would need to be carefully worked out based on category of artisan and the difficulty of work carried out.
- The artisans do not have any papers showing their skill, training and experience. They do not have any certification, something the present system of tendering requires. The need to establish some system of certification is critical.
The loss of traditional knowledge over generations is quite apparent. Many complex structural systems, timber joints as well as the quality of carvings (depth / facial expression) are clearly deteriorating. Firstly the knowledge must be safeguarded through documentation which allows quality standards to be set and presented to the apprentices. That there were many monuments that didn’t get destroyed shows that the traditional buildings methods and construction systems are well adapted to the local circumstances and even withstand the large earthquakes. A most impressive example is the Five-tiered Nyatapola temple in Bhaktapur which withstood both the 1934 and the 2015 earthquake with only minor damage to the top tier (there is a book on the renovation of Nyatapola temple by Jay Hari and Janakman Baidya). Even traditional buildings when maintained properly with the use of chukuls (pegs) perform well during earthquakes.

The knowledge in such cases is learned from childhood by being involved with the father. The entire culture surrounding the artisan caste contributes to ensuring quality, support for one another as well as safeguarding the knowledge. There are old books to teach apprentices (thia sanphu [?]). The Agamghar is where these books are kept along with the god of artisans, Bishwakarma. There must be more efforts made to salvage such books and ensure that these are republished or new books are written. Furthermore examples of timber joints and carvings need to be used to set standards and make sure the new generations learn accordingly.

One of the big problems is how to ensure quality. Quality would be linked to not only workmanship but also the materials that are used and the technology. The pegs that hold the various parts of the building together must be made of the best wood, which means it has to be from the wood near the base of the trunk. For example when metal elements are used for timber joinery, it is much easier but it quickly gets damaged by water. During an earthquake the connection between the timber element and the metal element loosens, damaging both elements. This is very different when the same material is used for the entire joint. The traditional joints tighten even more in the case of an earthquake. Furthermore if documentation isn’t carried out within the next 15 to 20 years all the skill and knowledge for traditional construction will be lost.

Expectations are however always there that work gets done fast which doesn’t allow proper traditional techniques to be used. Furthermore there is lacking in supervision. Even materials are often being compromised on with hard woods from Malaysia being used. The quality as can be noted on Nyatapola is difficult to achieve today.
Motivation could be improved through making the artisans compete against each other.

The discussion on remuneration for the artisans has been a very critical part of the discussions which requires classification and evaluation of the work. How can the wages be standardized? How can the wages be calculated? How can the wages be negotiated? These are the critical questions that need to be answered. The simple versions would be the following categorization:

**Work:** Simple *Kora*, complex *Kora* or *Buta* (ornament)
**Category:** Master or Junior artisan

Some further points that were brought up by the participants:
- Drawing need to be prepared of the various parts, components and details however there is still additional knowledge required which cannot be documented properly.
- One of the biggest problems faced by the artisans, particularly after the earthquake was that only those who could register as contractors could get work.
- The project run by the Chinese Government provides direct funding for the artisans. One must keep in mind that all the work is being carried out by local artisans with Chinese supervision. However some work such as dismantling of windows was done without numbering and it was difficult to put the parts together again. Only experienced artisans – or *Naikes* – would understand the overall system and be able to take apart and put together complex windows. Brickwork has also been done by labourers who have no idea of local methods and technology.
- Training has also included ladies that are interested; however the *Sanga* needs to further support such initiatives.
- The question of how best to pass on the knowledge and skills still need to be worked on better. Categorization and possibly certification of levels of skill need to be introduced.
- Artisans need to be registered in a roster to be able to get them organized. The roster would also need to identify the skills and experience of the artisans.
- There is a need not only the train but provide the necessary tools. In most cases the individual artisans don’t have a chance to get started so there would need to be further support by establishing workshops.
- How can artisans achieve some kind of security linked to livelihood and possibly insurance. How is it possible to get such facilities?
- Coordination is required between the artisans working with wood (carpenters and wood carvers) and those working with other materials (brick masons, stone masons, different metal workers, etc.) Most projects would require a set of artisans which also are able to deal with all the different materials and sections of the monuments.
- The various chariots built in the Kathmandu Valley undergo much higher stress levels than during an earthquake and they still survive. The traditional construction of buildings, even when they are deformed, sometimes as much as 45 degrees, it still holds and people survive.
- Apprenticeship begins withdrawing grids, then details – *Hat Basni* – that their hands become stable, then work on the wood begins and last would be statues and carving particularly of the faces and expressions of the gods.
Particularly important would be the different types of timber joints, the assembly of windows with hundreds of pieces as well as the required tools that are used. The Silpakar Samaj also has 15 Agamdeutas for Carpenters in Bhaktapur, for their clan deity Bishwakarma. They are trying to save a 920 year old building housing one of their deities in Bhaktapur. This is linked to numerous festivals and rituals. Even when work is being carried out there are regular rituals that are important. For example the *Dristi Kholni* or “opening of the eyes” of statues requires special pujas.

Planning possibilities to support and establish a means to improve the situation for the artisans must be started. The existing Silpakar Samaj (Carpenters Association) might be the basis to begin with. A proposal need to be prepared that can be presented to the government at all levels. Workshops were also proposed where work is presented and discussed.
Hanuman Dhoka Palace Museum Master Plan
Discussion programmes

Short Workshop on Museum Planning
18 - 19 June 2018
With Smithsonian Institute, ICOMOS Nepal and Hanuman Dhoka Palace Museum Development committee

Day 1 – Draft Museum Master Plan and Community Based Museum

The two day workshop was held at Shisha Baitak of Hanuman Dhoka Palace with the Smithsonian Institute represented by Elizabeth Kirby, Director of Strategic Partnerships and Communication and Brian Daniels Director of research and programs, Penn Cultural Heritage Centre, University of Pennsylvania Museum.

Since 2008 Hanuman Dhoka has changed from a palace with functions linked to the monarchy to a facility that houses a museum and is the location for numerous rituals. This has allowed the change of vision and concept of the museum as well as allowing for expansion. This goes hand in hand with the restoration work that is required for the buildings damaged after the earthquake. This is also linked to additional stories that are to be told.

The biographical stories of the Shah Kings would be extended to include the Rana period as well as the Malla Kings. Additionally the architectural history of the palace complex along with the history of Kathmandu City would be presented at the museum. This would be further expanded to include the intangible heritage and the earthquake experiences.

The Smithsonian also started as a museum for the diplomatic core and the presidents and then went on to include natural history. The Louver is also a palace museum which focuses on high art and culture. For Hanuman Dhoka Palace Museum there is a proposal to put “participation” as the basis for the new museum concept. This means that community and stakeholder interests need to become the basis for planning. Furthermore the location and position within the World Heritage property, the city and community provide the close linkage to rituals and community activities. The idea of “continuity” becomes central in dealing with the usage and values linked to the museum.

The museum would then use its space and the programme to tell the entire story, the story of continuity. The museum would then become a destination museum which means that people come to specifically visit the museum.

- For example the Museum of African American History and Culture provides space for contemplation, for gathering and has artefacts that link emotionally to the history and identity.
- A collection plan was set up and a collection of four million objects was achieved in a decade with the help of the communities.
- Sometimes collections also need to be created which could be linked to community creative expression. This creative
expression must be one of the pillars of Community involvement in the museum.

- Contemplative space can be provided to enhance the experience at the museum, though rituals are often considered being off-limited, though provisions could be made outside. This would of course be very different at Hanuman Dhoka where there are festivals and rituals that are still ongoing. However care should be taken to make sure that new rituals that might not be appropriate are not allowed.

- Objects can also be linked to oral history, skills and knowledge which are endangered and would need to be documented, often from elderly citizens and religious figures. The risk of loss of things that are important to the community would need to be safeguarded in a manner that the communities begin to also invest in the museum.

Community based Objects are linked to stories that are important to the community. For example in the NMAAHC collected pillows which had a lock of hair of the mother’s sown into it of slave children who were sold off. The emotional link to this object also provides the basis to tell the story of children being separated and sold off. This is of course very different from objects that go through an absolute curation which breaks the link to community and there is loss of the relevance of the story.

The integration of the community into the World Heritage space is another issue to be dealt with through planning. For example there is a World Heritage site in the U.S. where the Pueblo people live within the site and are also the ones who show visitors around ensuring direct continuity.

Reference collections are also an important part of the museum linked to research and studies. These could include objects but also oral documentation and audio-visual archives. Museums could become the nation’s attic, where everything that cannot be thrown away is kept. However research is required to better understand these objects.

As mentioned above, the process of setting up a museum is to link up with a community that can participate and help develop the artefacts and displays. This could be something along the lines of artisans creating objects (timber joints) that will present the knowledge, skills, craftsmanship and related customs of the specific form of craft. The ongoing work itself can be presented as a living exhibit.

There is a thin line between continuity and revival, though this distinction needs to be made. The question of replication, documentation, virtual presentations would need to be linked to the associative value of the objects and exhibits. The interpretation must create a better understanding however in itself would be based on finding consensus on how the stories would be told.

There is a need for exhibitions that are rapidly rotated around. The repeating exhibitions ensure that people are confronted with certain topic allowing for better understanding. For example annual events would be annually presented such as festivals.

The curation must bring out the related stories. Interpretation becomes critical, particularly in respect to issues with various conflicting understanding. Furthermore the stories might also have personal links to communities. Historic objects might also have contemporary links or interpretations. To present this quite often artist are required who can visualize such interpretations. There are also examples of festivals
beyond walls linked to museum centres that are present on web, organize culture labs and events.

Certain themes are highly political or come with a history linked to ethical issues. These must be dealt with taking particular care. The participation of visitors in rituals is another issue that requires careful handling. For example should there be provisions for offering fresh flowers?

Establishing youth advisory committees can also be a way of targeting different age groups. This might require some changes in the way museums function. For example after-hour viewing parties which has become a place to be seen (Minneapolis Art Museum). There are other examples of focusing on a specific topic where people come together to listen to lectures and do something interactive (E.g. Asia after Dark sponsored by a beer company).

Centre Piece Objects (“Old Friends”) attract people to visit. This could also be mixed with ritual based exhibits. This combination of permanent and rotating / temporary exhibits becomes very important. The point would also be to create hype about an exhibition using “Anchor Objects”. For example the exhibition of artisan, their work, the timber joints and linking this to original examples would be one such theme. This could be linked to a “Centre of Excellence” or a Master Apprenticeship Programme.

How active can a museum be? Who would be involved?

i. Rituals and intangible aspects – community, priests and other stakeholders
ii. Apprenticeships – together with artisan associations
iii. Research – fellowships with institutions
iv. Documentation / recording - linked to colleges?

v. Reconstruction process – ongoing process to be presented

The mission / vision for the museum would need to be linked to understanding what partnerships can be made and where the motivation lies in getting these things implemented (“involvement of the willing”). For example initially the ongoing festivals can be supported and then more complicated activities such as the possible revival of discontinued festival sand rituals can be tackled.

A vision or plan for 3 to 5 years is required which is linked to a strategic plan for funding and implementation. Realistic possibilities for the future need to be considered. This means that which is implemented today should ensure the correct direction and that future possibilities are kept open. There are often decade long discussions before any changes are carried out to museums. New relevance is needed linked to new innovations. If the museum is static, it is dead, which the makes it useless (George Brown Goode, 1895, The principles of museum administration)

The situation in Hanuman Dhoka is special since there is still cultural continuity with the community and communities still carry out rituals and festivals. The question would be how to stage this as an exhibition, since it is already an existing ongoing activity. There would need to be some specific smaller projects that are picked to begin with. These must remain more than just ‘festivals’.

The status of the museum after the earthquake has changed. The earthquake itself as well as the impact on Kathmandu would need to be presented. This is also closely linked to the changing political situation. The ongoing rehabilitation of the buildings of the museum would also be part of the exhibition as such. The hype of getting visitors back to a museum after it has been closed for a decade would
be the means used by the Reiksmuseum in Amsterdam which ensured that during the entire process continued interest on “the night watchman” was ensured.

The presentation of difficult stories needs to be carefully considered. For example access to the sacred sites of Bear Lodge Butte / Devil’s Peak could not be legally stopped so it was voluntarily requested of everyone. The negotiation of such things becomes important even if legally it is difficult to enforce.

Presentation of the draft Master Plan was done by Anie Joshi (refer separate section)

Discussion:

The Hanuman Dhoka Palace Museum would need to go beyond being a biographical museum and become a Cultural and Historical Museum of Kathmandu. The themes must also be linked to the target audience. As mentioned in the draft Master Plan, the different exhibits would be as follows:

i. Malla period around Sundari Chowk and Mohankali Chowk
ii. Shah period along Central Wing
iii. Rana period under Gaddhi Baitak
iv. Earthquake in South Wing
v. Community themes around Lohan Chowk
vi. Research in Entrance Block towards Degutale
vii. Temporary exhibits in Dhukuti

The Development Committee would be responsible for administration, finance, research and documentation as well as storage. The maintenance office would look after finance and engineering. It must be assured that all parts of the palace are used and maintained. Changes might be required in usage. Army would need to be fully moved to their camp to the east. The establishment of workshops could be done in the many ground floor rooms that do not interlink.

DOA Director General agreed with the draft Master Plan for Hanuman Dhoka Palace Museum. He agreed to discuss the issue of integrating Gaddhi Baitak into the museum organization with the Home Minister. Access to various part of the museum would need to be reviewed, keeping in mind security, particularly of the artefacts found in such places. The point of possibly moving all exhibits linked to the Shah period other than that which is directly related to Hanuman Dhoka was also mentioned. It was clear that the community has to be included in the planning and this might be possible through the link with the provincial government and the representative, Rajesh Shakya.

Planning would need to consider various areas of specialization or themes:

i. Security planning which is closely linked to the positioning of the army. Accessibility is also closely linked to security planning, both in respect to entrances to the museum and access to the various part of the palace.

ii. Disaster Risk Management would need to be added, particularly in respect to emergencies, evacuation and related circulations needs. This would have to assess hazards and related vulnerabilities and develop mitigation measures. Particularly important would be to have plan for fire fighting closely linked to mitigation of fire hazards.

iii. Services for visitors as well as museum staff needs to be planned carefully since such areas are areas that impact the
buildings. The most obvious requirement is toilets and related plumbing, water supply and drainage/sewage system.

iv. Research must become a central focus of the museum, on both tangible and intangible cultural heritage. This would be the basis for the exhibits, both of better understanding and interpreting fixed exhibits as well as regularly creating temporary exhibits. This would also be linked to preparing inventories and documentation.

v. Work is required on staffing and training which would be closely linked to the various galleries

➢ Presentation by the Smithsonian team
Day 2 – Intangible Heritage, Disaster Risk Management and Safeguarding Artefacts

Community and Intangible Heritage

Discussion began on change in concept and approach. The earthquake was the cause of great damage but also gave an opportunity to improve the situation. However detail planning is required which will clearly show how this rehabilitation will take place over time. A step by step process will need to be presented.

Some of the main topics that need to be considered in connection with intangible heritage would be how this can be supported / safeguarded, how it will be presented to the visitors and how to ensure security on all sides.

Various issues were raised concerning past difficulties dealing with the Guthi Sansthan as well as restrictions established by the royal administration. A lot of these restrictions need to be removed or justified under the changed circumstances. Some activities were also stopped during the Shah period which might need to be revived.

The understanding of the Masan Chowk as a cremation place for Malla Kings and the ashes being dropped into the well needs further verification. What would the justification be for not allowing visitors into this area? How would the stories of the Licchavi Period be told without any artefacts? The concept of Open Museum particularly linked to the surrounding areas and monuments needs to be considered. Responsibilities for some of these site is not clear, whether DOA, KMC or the Guthi Sansthan. The issues of land ownership linked to specific temples and the misuse and mismanagement of the Guthi Sansthan will need to be reviewed.

The need of the museum seems to be clear. Now the question would what form it should take. Comparative studies could be made to other palace museums in the world. To get work started various committees might need to be established and they would need to meet regularly.

Information that was collected in the past was always linked to the King and his family, telling their personal story. Now this would change and therefore research is required to allow for a wider perspective in interpretation of history and the specific artefact.

Further considerations for exhibits:

i. Licchavi period – only some inscriptions are available, artefacts in DOA
ii. Malla period – how to present stories when there are not artefacts
iii. Wood carving – this would be linked to the architecture of Kathmandu
iv. Traditional use of Gaddhi Baitak – get ambassadors and others activities to revive
v. Mohankali Chowk has many statues that need protection which could be viewed from the upper floor veranda
vi. Degutale and Taleju shouldn’t be made accessible to visitors
vii. Daily intangible activities in and around Hanuman Dhoka need to be documented
The vision of including community in the City Museum would be to link with Newari Arts. Furthermore there needs to be information, awareness building and education of the communities on the heritage for them to participate. Pride and satisfaction would be developed, however the sensitivities of the community must be taken into account, and then their voice could be used. This could also be linked to creating a collection of community artefacts.

The overall outcome would be summarized as follows:

- The concept is OK and acceptable to everyone
- Some aspects that still need to be dealt with are:
  - Gaddhi Baitak integration into museum
  - Access to Sundari and Mohankali Chowk to be clarified – from balcony is acceptable
  - Security, safety, disaster preparedness to be work into design of museum
  - Research is required for each section which requires experts
  - Process of collaboration with communities still needs to be established
  - They are the bearers of intangible heritage and partaking in activities
  - How can communities and the intangible be presented
  - Personalization of stories – oral history programmes
  - How does living heritage get “curated”? 
  - Links to revival of heritage? How would this work
  - Can all these points be summarized in visions statements?

Discussions on exhibits and disaster risk management

Further discussion and suggestions were made on activities and approaches.

i. Calendar of events linked to festivals and rituals
ii. Photographs and development of photography
iii. Music and video recordings of traditional music, dance and related rituals
iv. Collections of “normal things” from the past with interpretation
v. Activities such as well cleaning / roof cleaning etc as rituals
vi. Listing of intangible heritage using UNESCO format?
vii. Stories linked to specific gods such as Hanuman – his stories and details
viii. Festivals such as Indrajatra, Gaijatra etc to be brought into Palace museum

Since income source from land has been lost, other income need to be arranged for the festivals and maintenance of monuments. Revival of certain rituals needs to be considered, such as the Tuladhar Dance at Taleju which has stopped. Can the museum get involved?

Presentation on object conservation by Griha Man Singh

Discussions that followed the presentation were linked to whether objects should be conserved in situ or be brought to the museum. There is still no clear policy on this. The question of protecting objects during disasters was raised. Furthermore the question of conserving objects that have religious significance and are still used for rituals was raised. The application of power, foodstuff and other offerings
impact the statues. The problem of restoration of statues lies not only in the conservation techniques but also the required artistic qualities.

Smithsonian Culture Safeguarding Campaign

This is linked to a global perspective on disaster risk management. This includes security, natural disasters, response systems, evacuation of visitors, theft, museum security, etc. Ensuring detailed registers are available of all the objects would be a start.

Basic response would be to clarify who to contact, a phone tree. This might mean management but could also be the priest or caretaker.

Gradation of object evacuation, for example A, B and C can be given to objects to be moved to safer location, to be protected in situ or then just be left.

Dealing with long-term slow disasters requires regular maintenance. This could also be considered in respect to the wear and tear of regular use or exposure however would be contextual.

The local communities and first-responders must be sensitized on how to deal with the situation within the Golden Hour immediately after the disasters.

Notes on final discussions on 20 June 2018

Meeting between Museum Director, Smithsonian Team and Consultant Team

1. Linkage between Museum and Community needs to be developed. This could be done in many ways including by providing space for the community.

2. Concept needs to be nailed down. There has been broad acceptance of the draft master plan but would need to continue dialogue to detail out the plan.

3. Strategic planning is then needed to ensure implementation. This would need to be a plan over time with priorities and possibly pilot galleries to try out things.

4. Realistic means of financing is required which would be linked to prioritization and planning linked to rehabilitation as well as exhibit development.

5. Vision statement (what we want to achieve) / Mission statement (how this is done – public events, community engagement, events, stories) / Principles (openness, sharing, respect) / Objectives (response to issues – 3 year plan) to be developed and adopted based on draft overall plan for the Museum rehabilitation. What steps are required to ensure success? Ongoing intangible heritage can be used as a start requiring only documentation.

6. To prepare a 3 year plan with easy win projects and get buy in from all relevant parties. Focus needs to be also on developing collections – different means of telling stories (e.g. dolls)

To continued dialogue with Smithsonian – to submit report with project proposal for collaboration and broker introduction with other possible partners.
ANNEX B
References to the museum objects inventory
DEPARTMENT OF ARCHEOLOGY
Ramshahpath, Kathmandu

ESTABLISHING
HERITAGE IMPACT ASSESSMENT (HIA)
IN NEPAL

1 July 2021
BACKGROUND

Taking note of the rising threat to the World Heritage properties, the World Heritage Committee needed to strengthen its tools to address these issues. The two main tools that have been promoted have been the State of Outstanding Universal Value (SOUV) and Heritage Impact Assessments (HIA). The SOUV provides the basis or reference point for monitoring, periodic reporting, reactive monitoring missions, danger list and even deletion from the list. The SOUV summarized what the World Heritage property is, why it has OUV and what attributes convey OUV. It can therefore be used for protection, management as well as impact assessments.

There has been no systematic method of assessing the impact of activities and events that have affected the heritage property. The Environmental Impact Assessment (EIA) was considered an inadequate tool to assess impact on heritage attributes and their expression of OUV. After a workshop in Paris in 2009, ICOMOS prepared a guidance document that was finalized in 2011 (refer to Annex B: ‘Guidance on Heritage Impact Assessments for Cultural World Heritage Properties’).

The HIA process was to become part of the EIA process, to become a requirement for development affecting a World Heritage property. It was to focus on OUV and attributes that convey OUV. At the thirty-ninth Session of the World Heritage Committee in Bonn in 2015, it was decided to further develop the ICOMOS guidance notes (as well as the IUCN guidance notes for natural heritage). A new document has been prepared by ICOMOS, ICCROM, IUCN, WHC and the International Association of Impact Assessment, which is, however, still in draft form (refer to Annex A: ‘Guidance on Impact Assessments for World Heritage Properties’).

Despite guidelines and efforts to standardize the HIA system, things are still not clear, particularly considering that the conditions and circumstances vary from country to country. In any case, the World Heritage Committee has been requesting Heritage Impact Assessments to be prepared for proposed activities that could threaten the OUV of a World Heritage property. Considering the growing need to find a means of communicating between heritage protection efforts and development activities, the HIA process provides this tool. It provides a clear procedure to identify and analyse the potential impacts of human-induced threats on cultural heritage. This also links to the finding compatible means for sustainable development to go hand-in-hand with heritage conservation.

This report is the outcome of numerous years of discussions, along with the experience from numerous HIAs which include the following: Pashupati Electrical Crematorium (January 2013), Tilaurakot Bus Park and Footpath (February 2014), Bagmati River Basin Improvement Project - PROJECT 1: Pashupati and Guheshwori Temple areas - River bed management, Ghats rehabilitation, New construction and PROJECT 2: Erosion protection and Watershed management of Mrigasthali and Sleshmantak Ban hillside areas (September 2018), Sewer Rehabilitation in the Core City Area of Lalitpur Metropolitan City (September 2018), International Convention and Meditation Centre project in Lumbini (February 2019) and Façade Lighting and Electrical fitting on Janaki Temple, Janakpur, (November 2020). After gathering experience from numerous HIAs, it was found to be essential that the system of carrying out HIA be formalized. This meant that HIA needed to be linked to the national legislation and appropriate procedures be adopted.
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Establishing Heritage Impact Assessment (HIA) in Nepal

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Prepared by
Ateliers Anie Joshi Pvt. Ltd.
Anie Joshi and Kai Weise
1. Executive Summary and Introduction

Heritage Impact Assessment (HIA) can be a strategic means of ensuring that development and conservation activities in and around heritage properties do not cause an unacceptable degree of negatively impact. For HIA to be an effective tool, it must have legal justification and be integrated in official procedures. This proposal provides an overview of how HIA can be established as an official procedure in Nepal. This would additionally require the formats and procedures for carrying out HIA.

Justification

There are no standard procedures for assessing the impact of development and conservation works on cultural heritage. Till present, this task has been dealt with by a component of an Environmental Impact Assessment (EIA). This has not been satisfactory particularly since the EIA procedure is not linked to the governance system of heritage. To address this disparity HIA has been promoted particularly by the World Heritage Committee and the advisory bodies ICOMOS and ICCROM. The HIA procedure once established would of course not only cater to World Heritage, but can be used as standard procedure for all identified cultural heritage sites.

Legislation

HIA needs to be embedded in the legislation of the Department of Archaeology. This means that in the sixth amendment of the Ancient Monument Preservation Act (AMPA 1956), the provision for HIA needs to be included. The Act would only mention the establishment of HIA, leaving the details to be formulated separately. This would give the Department of Archaeology the authority to demand HIA wherever found necessary and defined by respective regulations.

Procedures and components

The HIA procedure needs to be clearly defined within a set of regulations adopted by the Department of Archaeology. The regulations would identify under what circumstances HIA would be applied, as well as clarifying the format and process of implementation. This would then be linked to a system of monitoring to ensure that the agreed provisions are followed. The entire Heritage Impact Assessments process has three main components, which would be (1) defining the need for the HIA, (2) carrying out the HIA and (3) monitoring and enforcing the HIA. This proposal intends on providing recommendations for the detailed regulations for HIA to be established in Nepal.

Objectives

The HIA procedure is being established with the following objectives to safeguard heritage in the broad categories of heritage sites, monuments, historic buildings and cultural objects:
1. To provide a permit system to control impact of proposed projects and activities on heritage.
2. To mitigate the impact of past or ongoing projects or activities through assessments and recommendations for rectification.
3. To plan measures to control risk of future projects or activities that could potentially impact heritage.
**Involved parties**

The involved parties in the HIA process include:

**Actor** the person or legal body that carries out actions that could impact heritage

**DOA** Department of Archaeology (Focal Authority) under the Ministry of Culture, Tourism and Civil Aviation. The DOA will be represented by the HIA Committee chaired by the Director General.

**Consultant** professional with adequate experience and training to carry out HIA to be listed in a roster prepared by DOA

**Advisory Body** a body of experts to advise the authorities on HIA which could be represented by ICOMOS Nepal

Separation must be guaranteed between those intending to carry out a certain action which might impact heritage and those assessing the possible impact. The coordination would be done by the Department of Archaeology as the official focal point and authority for the process.

Within the Department of Archaeology, a HIA Committee will be established, chaired by the Director General and with representation of each section within DOA. The HIA Committee of DOA will be the official authority taking the final decisions based on the recommendations of the HIA consultants and the advisory body.
2. Defining the need for HIA (Component 1)

HIA process provides this tool to facilitate communicating between heritage protection efforts and development activities. It provides a clear procedure to identify and analyse the potential impacts of human-induced threats on cultural heritage. This also links to the finding compatible means for sustainable development to go hand-in-hand with heritage conservation.

**HIA for mitigation, response and planning**

This means that HIA can be used as a tool for mitigation measures, for response measures or for planning measures. Depending on circumstances, either one of these justifications can be used to require a HIA to be carried out.

1. To provide a permit system to control impact of proposed projects and activities on heritage (*mitigation measures*).
2. To mitigate the impact of past or ongoing projects or activities through assessments and recommendations for rectification (*response measure*).
3. To plan measures to control risk of future projects or activities that could potentially impact heritage (*planning measures*).

**HIA for various categories of heritage**

The HIA procedure is being established as a tool to safeguard heritage in the broad categories of heritage sites, built structures and cultural objects. Furthermore, these categories can be also extended to the natural context and the associated intangible heritage. Should any activity threaten the value, authenticity or integrity of the heritage, a HIA can be considered necessary to find a means of halting or adapting the activities to bring the impact to an acceptable level.

Initiation of HIA Process

The HIA process can only be initiated through the decision of the HIA Committee of the Department of Archaeology, and it is up to this committee to take the final decision on whether or not to have an HIA prepared. However, the HIA Committee can be informed on planned activities or ongoing activities that might impact heritage.

1. HIA can be requested by the Actor, whether a private person, institution, government agency or international organization, in respect to planned activity in or around heritage that might be affected through their actions.
2. HIA can be based on information provided by any person with sufficient justification of planned or ongoing activities that might impact or might be impacting heritage.
3. HIA can be required by the courts for any legal case in respect to the protection of heritage, particularly related to private or community heritage.
3. Process for carrying out HIA (Component 2)

Once the need for HIA has been identified, a clear process needs to be followed which is integrated into the system of governance and justified by legislation. During the process of carrying out the HIA, a full moratorium must be enforced on any activities linked to the given case. Such notification will be made to the Actor when requesting for detailed information on the planned or ongoing activities.

**NEED FOR HIA DECIDED (Component 1)**

The “Actor” is notified of the need for HIA and is requested to submit detailed project reports along with a request for HIA.

“DOA” assesses the size and complexity of the project based on given indicators and the indicated fee is paid by the “Actor”.

“DOA” selects a “Consultant” from a roster to carry out the HIA fulfilling specific selection procedures and providing a TOR / HIA category.

The chosen “Consultant” prepares the HIA as per the TOR / HIA category and based on defined HIA formats and submits it to “DOA”.

“DOA” sends the HIA to an “Advisory Body” that reviews the HIA and approves or provides comments / recommendations.

Based on the HIA Report and the comments / recommendations, “DOA” prepares the final decision and sends official letter to the “Actor”.

**CARRYING OUT HIA COMPONENT 2**

**MONITORING AND ENFORCING THE HIA (COMPONENT 3)**

**Note for emergency HIA**

When carrying out HIA, one of the complicated issues that arise is deciding who pays. As with EIA, it is clear that the ‘Actor’ should pay, however, there are numerous complications related to this that still needs to be resolved. This is particularly the case when the Actors are not cooperating, or is a government authority. For such circumstances, it is advisable for the government to provide the Department of Archaeology with a yearly budget for emergency HIAs.
For the establishment of a Heritage Impact Assessment in Nepal the following processes will be required. Draft processes are being provided in this report. These would still need to be discussed with experts and site managers. Only after several trial runs on practical Heritage Impact Assessments can these be finalized and adopted as standard formats.

**Required processes:**
- Process for Submitting the Detail Project Report for the HIA
- Process for Selection of Consultant by DOA
- Process of preparation and review of HIA
- Recourse process for Actors
3.1 Process for Submitting Detail Project Report and request letter for HIA

Once the need of the HIA is decided, the Department of Archaeology notifies to the Actor. The actor then submits detailed project reports and the Department of Archaeology assesses the project / activity based on indicators. The Actors then need to pay the indicated fees for carrying out the HIA. This then becomes the basis for selection of Consultants by DOA.

### NEED FOR HIA DECIDED
(Component 1)

The “Actor” is notified of the need for HIA and is requested to submit detailed project reports along with a request for HIA.

### 3.1.1 Detailed Project Report (DPR)

The report shall include all relevant information required to assess the impact of the project on the heritage. This would mean include the following considerations:

(i) **The report shall have detailed explanations of all project components and activities** to allow for heritage to be safeguarded as per the three objectives of the HIA procedure. The detailed report shall provide all legal justification such as land ownership papers and other permissions.

(ii) **Activities linked to direct impact**: All project activities and project components need to be identified and documented, especially those that have direct impact on heritage. These could have physical impact, but could also have social, economic, chemical or other categories of impact on heritage.

(iii) **Activities linked to indirect impact**: All project activities and project components that could lead to indirect impact on heritage need to be identified and documented. These could be linked to activities that are indirectly generated out of the primary activities that would have impact later on.

(iv) **Activities linked to impact over time**: All project activities and project components shall be documented that would take place during preparation, implementation or during future operations.

(v) **Activities linked to impact over location**: All activities and project components would need to be provided with reference to their exact location relevant to the heritage.
3.1.2 Request Letter

The actor shall submit with the Detailed Project Report a request letter addressed to the Department of Archaeology. The letter shall follow the format with the contents as defined below.

(i) Addressed to Director General, Department of Archaeology
(ii) Subject of the letter shall be “Request for Heritage Impact Assessment for (Project / Activity Title)”.
(iii) Short description of and reason for project / activity
(iv) Request statement for HIA
(v) Agreement to pay standard expenses for getting HIA done
(vi) Agreement to follow standard procedures for HIA
(vii) Signature of authorized person with certification

Standard format - HIA F-1 2021: Draft Letter from Actor to DOA
HIA F-1 2021

Draft Letter from Actor to DOA

Please remove highlighted instructions and insert relevant information

[LETTERHEAD]

[Name of Director General]
Director General,
Department of Archaeology,
Ramshahpath,
Kathmandu, Nepal

Date: dd/mm/yyyy

Subject: Request for Heritage Impact Assessment

Dear [Name of Director General],

I/We, [legal entity or person] are planning on carrying out a project/activity [title of project/activity] which could impact the heritage site of [name and detailed location of heritage site/monument/object]. This is located at [..°..′."N, [..°..′."E].

The project Detailed Project Report (DPR) has been submitted along with this letter. The DPR includes detailed explanations of all project components and activities, activities linked to direct and indirect impact on heritage, and activities linked to long-term impact, along with indication of physical extent of impact.

I/We request the Department of Archaeology (DOA) to get a Heritage Impact Assessment (HIA) prepared for the project. I/We agree to cover standard expenses for the HIA, calculated as per DOA standards. I/We agree to accept the outcome of the HIA.

Thanking you,

Yours sincerely,

[Signature]

[Name of authorized person]  [stamp]

Attached:

1. Project DPR

Certification letter of authorized signature
3.2 Process for Selection of Consultant by DOA

As per the overall process the Actor submits detailed project reports and the Department of Archaeology assesses the project / activity based on indicators. The Actors then need to pay the indicated fees for carrying out the HIA. This then becomes the basis for selection of Consultants by DOA.

The “Actor” is notified of the need for HIA and is requested to submit detailed project reports along with a request for HIA.

“DOA” assesses the size and complexity of the project based on given indicators and the indicated fee is paid by the “Actor”.

“DOA” selects a “Consultant” from a roster to carry out the HIA fulfilling specific selection procedures and providing a TOR / HIA category.

For the Department of Archaeology to choose the Consultant who will carry out the HIA, a consultant is chosen from a roster while ensuring capability to carry out the HIA as per the project indicators (especially in respect to the complexity and the required expertise).

Establishment of Consultant Roster

The Consultant Roster shall be prepared based on the parameters indicated in the Consultant Roster format (Report Part One 2.3) which includes eligibility, information provided in the registration form (curriculum vitae / company profile attached with information relevant to heritage conservation and the preparation of HIAs. Legal registrations along with PAN and/or VAT registrations shall be submitted). The Consultants are then categorized based on expertise, capacity and experience.

Choice of Consultant

When choosing the consultant for any specific HIA, the requirements in respect to expertise, capacity and experience shall be considered. Should any specific expertise be required, this will be negotiated with the consultant before finalizing the TOR and signing the contract. The consultant shall not have any conflict of interest when carry out the HIA.

The choice of the consultant shall be in rotational basis with the next appropriate Consultant on the Roster List being approached to carry out the HIA. This might mean skipping Consultants at the top of the list who might not be appropriate for the given task. The chosen Consultant may decline the task if an acceptable justification is provided. The consultant who has carried out an HIA then joins the list at the bottom again.

TOR

Based on the DPR and request letter submitted by the actor, DOA will prepare the TOR for the consultant.
3.2.1 Project Indicators (DOA)

The project / activity report that is submitted by the Actor will need to be first assessed first for its legitimacy. Once that is ascertained, then the project / activity will be assessed for it scale and complexity in respect to preparing the HIA.

The project indicators are the required considerations for assessing scale and complexity of the project / activity to determine the timeframe and cost for the preparation of the HIA:

A. The HIA would generally have three components: (cost based on scope)
   (i) Assessment of proposed project / activity and recommendations for providing permit or for modifications
   (ii) Assessment of past projects and interventions and recommendation for rectification
   (iii) Assessment of future threats and recommendation for planning mechanisms

B. Complexity (cost based on required expertise and team members)
   (i) Simple project / activity in a simple context requiring straightforward assessment by a single consultant
   (ii) Requiring higher level of expertise with multiple consultants involved
   (iii) Requirement of additional specialized consultants for special circumstances

C. Scale (cost based on size of the project and required time for assessment)
   (i) Individual activity – activities other than major construction which could include temporary structures
   (ii) Small project – individual buildings or interventions
   (iii) Large project – large complexes, and infrastructure projects like roads, etc.
   (iv) Special circumstances

D. Location (rough calculations done as per cost to reach site including time)
   (i) Kathmandu Valley
   (ii) Accessible by flight
   (iii) Accessible by road plus up to half day walk
   (iv) Accessible by walking (max 7 days)
   (v) Very remote accessible by helicopter or walking more than a week

The calculations for time and cost shall be done based on the considerations as stated above. Standards shall be developed for each of these points to ensure that they correspond to the actual costs. These calculations shall be shown to the Actor when requesting payment for implementing the HIA.

Standard format- HIA F-2a 2021: Project Indicators and Cost Calculations
Standard format- HIA F-2b 2021 Payment request letter DOA to Actor
### Project Indicators and Cost Calculations

**Project Title:**
**Location:**
**Date:**

<table>
<thead>
<tr>
<th>Component Factor</th>
<th>Y/N Factor</th>
<th>IF YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Component Factor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1 Assessment of proposed project / activity and recommendations for providing permit or for modifications</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1.2 Assessment of past projects and interventions and recommendation for rectification</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1.3 Assessment of future threats and recommendation for planning mechanisms</td>
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**Total factor for 1: F1**

<table>
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<tr>
<th>Complexity Factor</th>
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<tbody>
<tr>
<td>2. Complexity Factor</td>
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<tr>
<td>2.1 Simple project / activity in a simple context requiring straightforward assessment with single consultant</td>
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</table>
| 2.2 Requiring higher level of expertise with multiple consultant Type* and number of expertise required [n] | 1+
0.5n |
| 2.3 Requirement of additional specialized consultant for special circumstances | Special calculations required |

**Total factor for 2: F2**

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<tr>
<td>3. Scale Factor</td>
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<td></td>
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<tr>
<td>3.1 Minor activities and small project – individual buildings or interventions</td>
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<tr>
<td>3.2 Large project – larger complexes, roads, etc.</td>
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**Total factor for 3: F3**

* Indicate which expertise in which field is specially required

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<tr>
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<td>Archaeology</td>
</tr>
<tr>
<td>Environment</td>
<td>Engineering</td>
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**A. TOTAL REMUNERATION**

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<tr>
<th>Base Amount inclusive of VAT</th>
<th>xF1</th>
<th>xF2</th>
<th>xF3</th>
<th>Sub-Total A NRS</th>
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<tr>
<td>NRS. 25,000.00</td>
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</table>

**B. TOTAL EXPENSES (only for travel outside Kathmandu Valley)**

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<tr>
<th></th>
<th>*persons</th>
<th>numbers</th>
<th>cost</th>
<th>amount</th>
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</thead>
<tbody>
<tr>
<td>B1 Travel (flight/car)</td>
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<td></td>
<td></td>
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<tr>
<td>B2 DSA</td>
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<td></td>
<td></td>
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<tr>
<td>B3 Special expenses to be described separately</td>
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</table>

**Sub-total B inclusive VAT NRS**

**C. ADMINISTRATIVE COST**

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<tr>
<th></th>
<th>15% of A+B</th>
<th>5% of A+B</th>
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<tbody>
<tr>
<td>Review cost</td>
<td></td>
<td></td>
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<tr>
<td>Admin cost</td>
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</table>

**Sub-total C inclusive VAT NRS**

**TOTAL amount to be paid by Actor A + B +C inclusive VAT = NRS**

*In words:*
Payment request letter DOA to Actor

Please remove highlighted instructions and insert relevant information

[DOA LETTERHEAD]

[Name of authorized person for Actor]
[Official address of Actor]

Date: dd/mm/yyyy

Subject: Request Payment for Heritage Impact Assessment

Dear [Name of authorized person for Actor],

The HIA Committee of the Department of Archaeology has reviewed the submission of your project and request for HIA.

[please delete section which does not apply]

The Committee has not found it necessary to carry out an HIA.

[or]

The Committee has found it necessary to carry out Heritage Impact Assessment. Please find attached a copy of the filled HIA F-2a 2021 form: Project Indicators and Cost Calculations which provides the assessment of required expertise and costing.

Please make the payment of the indicated total amount to the Department of Archaeology so that we can begin the assessment project.

Thanking you for your kind consideration,

Yours sincerely

[Signature]

Director General [stamp]

Attached:
1. Filled HIA F-2a 2021 form: Project Indicators and Cost Calculations
2. Methods of making payment to the Department of Archaeology
3.2.2 Consultant Roster (DOA)

Once the project indicators have been defined and the Actor has paid the cost for the implementation of the HIA, the Department of Archaeology will choose the Consultant who will carry out the HIA. This requires a consultant roster of appropriate consultants who are capable of carrying out the HIA as per the project indicators (especially in respect to the complexity and the required expertise).

The Consultant Roster and choice of contractor shall be done considering:

A. Eligibility
   Individuals that have experience in working on heritage conservation are eligible to register. The registration shall however be reviewed by the relevant office in the Department of Archaeology.

B. Registration Form
   Candidates shall register by filling out a registration form with a detailed curriculum vitae attached with personal PAN and information relevant to heritage conservation and the preparation of HIAs. Related company with VAT registration shall also be submitted.

   The registration form shall be prepared to include names, photos, contact details, short explanation on expertise and experience.

C. Categorization based on expertise and capacity
   The consultant (expert individuals or companies) once registered shall be categorized based on type of expertise, capacity and experience.

D. Choice of consultant for specific
   When choosing the consultant for any specific HIA, the requirements in respect to expertise, capacity and experience shall be considered. Should any specific expertise be required, this will be negotiated with the consultant before finalizing the TOR and signing the contract. The consultant shall not have any conflict of interest when carry out the HIA.

E. Required training
   All consultants shall attend at least one training course every year to be allowed to renew their registration. Training courses on HIA shall be provided twice a year by the Department of Archaeology. Such training course would need to be closely linked to the gathered experience in implementing HIA in Nepal and taking into account international trends in HIA.

F. Removal of consultant from roster
   Consultants shall be removed from the roster should they not perform as per the TOR and contract, not join the required training, carry out a HIA despite conflict of interest or be involved in any inappropriate activity for personal gain.

Standard format: HIA F-3a 2021: Registration of HIA Consultants
Standard format: HIA F-3b 2021: Acceptance to roster letter DOA to Consultant
The consultants will need to prove their interest and involvement in the protection of cultural heritage to be able to take the lead role in carrying out a Heritage Impact Assessment.

Name (Surname in Capitals): ........................................... Preferred title: ............

Contact Details: email: ........................................ phone: ........................................

address: ........................................................................................................

PAN Registration: ..............................................................................................

Registered Consultancy: .....................................................................................

VAT Registration: ...............................................................................................  

Academic qualifications: .......................................................................................  

Relevant Field of expertise: □ Architect □ Archaeology □ Environment □ Engineering

□ ........................................

Relevant experience in years: .................................................................

Language for reports □ Nepali □ English □ ........................................

Heritage Impact Assessment Compulsory Training
(to be updated annually with month and year)

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<th>mm/yyyy</th>
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*Heritage Impact Assessment Experience
(list successfully completed HIA to be updated annually)

Attached: Detailed Curriculum Vitae
HIA F-3b 2021  
Acceptance to roster letter DOA to Consultant  
Please remove highlighted instructions and insert relevant information

[DOA LETTERHEAD]

[Name of Consultant]  
[Official address of Consultant]

Date: dd/mm/yyyy

Subject: Acceptance to HIA Consultant Roster

Dear [Name of Consultant],

The HIA Committee of the Department of Archaeology has reviewed your draft registration and request to be included on the HIA roster of consultants.

[please delete section which does not apply]

The Committee has not found your application acceptable due to lack of:

☐ Training
☐ Experience
☐ Qualifications

[or]

The Committee has found your application acceptable and has included you on the HIA Consultant Roster for the year [..............]. Please note that your registration will need to be renewed yearly and your registration is condition to your successfully completion of the annual HIA training carried out by the DOA. We request you to carry out the task of preparing HIAs with due diligence, integrity and confidentiality.

Thanking you,

Yours sincerely

[Signature]

Director General

[stamp]

Attached:

Filled HIA F-3a 2021 form: Registration of HIA Consultants
3.2.3 TOR for HIA preparation (DOA)

As per the Project Indicators and with the choice of consultant, a contract shall be signed between the Department of Archaeology and the consultant to carry out the Heritage Impact Assessment. The consultant TOR shall contain at least the following points. (The TOR can be standardized with parts that would need to be filled as per the specific conditions of the project / activity)

A. Short description of project
   What type of project / activity with short description as per Detailed Project Report and Request Letter from the Actor.

B. Scope of work
   The TOR shall indicate the scope of the assignment in respect to the three possible components responding to the objectives of the HIA process. These would be whether the HIA would need to assess
   - proposed project / activity and recommend permit or modification;
   - assess past projects and recommend interventions for rectification;
   - assess future threats and recommend planning mechanisms

C. Complexity of project / activity
   The TOR shall indicate the complexity of the project based on the requirement of experts and the organization of the team members. The categorization will be based on the following categories used to calculate the remuneration.
   - Simple project / activity in a simple context without specialized expertise.
   - Requiring higher level of expertise but in standard fields of cultural heritage
   - Requirement in additional specialized fields such as technical or social fields

D. Scale of project / activity
   The TOR shall indicate the scale of the project which can be categorized depending on the size but also the extent of the intervention.
   - Individual activity or small project – individual buildings or interventions
   - Large project – larger complexes, roads, etc.
   - Special circumstances requiring detailed investigation.

E. Location
   Categorization based an ease of access to the location
   - Kathmandu Valley
   - Accessible by flight
   - Accessible by road plus up to half day walk
   - Accessible by walking (max 7 days)
   - Very remote accessible by helicopter or walking more than a week

F. Standard Conditions of Contract
   - Time frame
   - Remuneration and mode of payment
   - Standard contract requirements

Standard format: HIA F-4a 2021: Consultant’s TOR for HIA

Standard format: HIA F-4b 2021: HIA request letter DOA to Consultant
The Department of Archaeology requests the consultant to carry out a Heritage Impact Assessment as per the standard procedures and format provided herewith. The Consultant shall carry out at least one site visit.

Short description of Project:

Scope of expertise:
- proposed project / activity and recommend permit or modification;
- assess past projects and recommend interventions for rectification;
- assess future threats and recommend planning mechanisms

Required expertise:
- Simple project / activity in a simple context without specialized expertise.
- requiring higher level of expertise but in standard fields of cultural heritage
- Requirement in additional specialized fields such as technical or social fields

Scale of project / activity
- Individual activity – small project – individual buildings or interventions
- Large project – large complexes, infrastructure project like roads, etc.
- Special circumstances requiring detailed investigation.

Timeframe:
The HIA shall be completed and submitted to the Department of Archaeology in soft and hard copy within .......... days* of signing the contract. Should additional information be required, or detailed investigations be carried out, the time can be extended by mutual agreement, but only to a maximum of double the days indicated.

Remuneration:
For the successful implementation and submission of the HIA, the consultant shall be provided the remuneration and where relevant the expenses as calculated based on the entry in the HIA F-2 2021 form: Project Indicators and Cost Calculations.

* the required time will be calculated based on the size and complexity of the project, as well as, if outside the Kathmandu Valley, the time required for one visit to the site. The time will be roughly calculated taking 14 days as the base and multiplying it with the factors from Section A of the HIA F-2 2021 form, adding the days required for the site visit SV.

Total Days = (14 x F1 x F2 x F3) + SV
**HIA F-4b 2021**

**HIA request letter DOA to Consultant**

*Please remove highlighted instructions and insert relevant information*

[DOA LETTERHEAD]

[Name of Consultant]
[Official address of Consultant]

Date: dd/mm/yyyy

**Subject: Request for preparation of a Heritage Impact Assessment**

Dear [Name of Consultant],

The HIA Committee of the Department of Archaeology requests you to take the lead role in carrying out an HIA.

Attached are the following documents that will provide you with information on the project:

- DPR provided by the Actor

Attached are the documents that will provide you with information on carrying out the HIA:

- Filled HIA F-2a 2021 form: Project Indicators and Cost Calculations
- Filled HIA F-4a 2021 form: Consultant’s TOR for HIA

On acceptance of the conditions, including details concerning arrangements for site visits and timeframe, a contract will be prepared and signed between the two parties.

We request you to carry out the task of preparing the HIA with due diligence, integrity and confidentiality.

Yours sincerely

[Signature]

Director General

[stamp]

**Attached:**

As noted above
3.3 Process of preparation and review of HIA

As per the overall process the Consultant is selected and a TOR is prepared as per the required HIA for the proposed project / activity. The Consultant would then need to carry out the HIA based on standard formats. These would then be reviewed by the Advisory Body.

```
“DOA” selects a “Consultant” from a roster to carry out the HIA fulfilling specific selection procedures and providing a TOR / HIA category

The chosen “Consultant” prepares the HIA as per the TOR / HIA category and based on defined HIA formats and submits it to “DOA”

“DOA” sends the HIA to an “Advisory Body” that reviews the HIA and approves or provides comments / recommendations
```

Preparation of HIA by the consultant

The TOR would define the overall requirement as per the Project Indicators. The project indicators are the required considerations for assessing scale and complexity of the project / activity to determine the timeframe and cost for the preparation of the HIA. These include Categories, Complexity, Scale and Location.

The HIA would any one, two or all three components: (for each of these components detailed content formats would need to be prepared.

(i) Assessment of proposed project / activity and recommendations for providing permit or for modifications

(ii) Assessment of past projects and interventions and recommendation for rectification

(iii) Assessment of future threats and recommendation for planning mechanisms

The consultant will be required to:

- **Visit the site** and study the circumstances as they are on location
- **Define its values** and determine the most important attributes and elements of the heritage site, monument, historic building and/or cultural objects
- **Determine the impact and threats** to the attributes and elements that express the value of the heritage

Review by the Advisory body

The HIA report that is submitted by the Consultant shall be reviewed by the Advisory Body. DOA then takes the decision based on the report submitted by the consultant and recommendation provided by the advisory body.
3.3.1 HIA categories and submission by the consultant

The HIA categories are based on the three objectives of the HIA procedure. These would be:

1. **proposed project / activity and recommend permit or modification**
   The project / activity that the actor is proposing to carry out near a heritage site, monument, historic building or cultural object must be assessed in respect to its possible impact. According to the assessment a recommendation is formulated by the consultant for action to be taken by the Department of Archaeology.

   The assessment outcome should either provide a recommendation to allow for the project / action to be carried out (with justification) or if not, detailed recommendations for modifications to the project / activity need to be provided. The Department of Archaeology will need to be able to either allow the project / activity to move ahead as proposed or then should provide specific recommendations to be adopted by the Actor to be allowed to continue.

2. **assess past projects and recommend interventions for rectification**
   Should there be previous projects / activities that have been carried out in the same area impacting the same heritage site, monument, historic building or cultural object, the Consultant shall assess the impact of these. These might be directly linked to the proposed project or might only be linked by location, but all that which is impacting the specific heritage must be assessed.

   Should there be any impact caused by these previous projects / activities, recommendations need to be provided by the Consultant to the Department of Archaeology on what kind of interventions would be required for the rectification. These rectifications might not have anything to do with the Actor which would then require a different approach and means of rectification.

3. **assess future threats and recommend planning mechanisms**
   The assessment of a proposed project / activity in a given heritage site, monument, historic building or cultural object would be the right opportunity to assess future threats and begin putting in planning mechanisms.

   If existing plans or management systems have been established, these can be assessed in respect to their effectiveness. If there are no plans in place, proposed interim measures need to be provided. These would include at least basic buffer zones and control mechanisms for threats that could be implemented by local authorities.

Any assessment can consist of any one, two or all the components depending on the circumstances.

<table>
<thead>
<tr>
<th>Standard format</th>
<th>HIA F-5a 2021: HIA submission format</th>
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</thead>
<tbody>
<tr>
<td>Standard format</td>
<td>HIA F-5b 2021: HIA submission letter format Consultant to DOA</td>
</tr>
</tbody>
</table>
Establishing Heritage Impact Assessment (HIA) in Nepal

HIA F-5a 2021

HIA submission format
Please remove highlighted sections and insert relevant information

Name of Lead Consultant: .................................................................

Name of Consultancy: .................................................................

Name and location of Project: .................................................................

Contract period from: Submission HIA: .................................................................

1. Executive Summary with overall recommendations

Overall recommendations: □ acceptable □ with conditions* □ not acceptable

*conditions to be fulfilled:

2. Justification for recommendations

Clarification of impact of project/actions on specific cultural attributes

Note: For World Heritage properties special consideration needs to be made for the impact on attributes that express outstanding universal value (OUV).

3. HIA components

Ensure all components are addressed as defined in the TOR and identified in the ‘HIA F-2a 2021form: Project Indicators and Cost Calculations’.

3.1 Proposed project / activity and recommend permit or modification

To assess impact based DPR and any other materials that are provided. The final outcome will be recommendations to permit project/activity, suggest conditions to be fulfilled before providing permission, or rejection of the proposed project.

3.2 Assess past projects and recommend interventions for rectification

To assess impact based DPR and any other materials that are provided, as well as investigating status on site. The final outcome will be recommendations for possible rectification to reduce impact as applicable.

3.3 Assess future threats and recommend planning mechanisms

This component requires planning for the given site in a broader context, particularly considering long-term impacts, and impacts that might not be directly or immediately visible.
HIA F-5b 2021
HIA submission letter format Consultant to DOA
Please remove highlighted instructions and insert relevant information

[LETTERHEAD]

[Name of Director General]
Director General,
Department of Archaeology,
Ramshahpath,
Kathmandu, Nepal

Date: dd/mm/yyyy

Subject: Submission of Heritage Impact Assessment

Dear [Name of Director General],

Please find attached the Heritage Impact Assessment report on [name of project] and Site Visit report.

The assessment has been carried out as per the instructions provided in the HIA F-2a 2021 form: Project Indicators and Cost Calculations, the HIA F-4a 2021 form: Consultant’s TOR for HIA and the HIA F-5a 2021 form: HIA submission format.

[please indicate here if there are any issues or comments]

Thanking you,

Yours sincerely,

[Signature]

[Name of authorized person] [stamp]

Attached:

1. HIA report- 1 hard copy + soft copy in pdf

Site visit report, (including copies of all receipts if applicable)
3.3.2 Recommendation by the Advisory Body

The HIA report that is submitted by the Consultant shall be reviewed by the Advisory Body. The advisory body shall ensure that the basic requirements of the TOR have been fulfilled while reviewing the overall assessment in respect to the three components.

The Advisory Body shall carry out a desk review and only if there are major conflicting issues will someone be sent to assess the site.

The main points that the Advisory Body will check:

1. **Overall process and content**
   The Advisory Body shall check the process of preparing the HIA report by the Consultant which would also include legal and ethical issues. The Advisory Body shall check the content of the HIA report prepared by the Consultant based on the TOR and discussions.

2. **The assessment and recommendations for each HIA category**
   The Advisory Body shall check the assessments carried out by the Consultant, especially whether they are correct and acceptable within the prevalent understanding of conservation practice. Closely linked to this is also the checking of the relevance of the recommendations made by the Consultant.

The Advisory Body shall provide a note and recommendation which will include the outcome of their review of the Consultant Report. The points that would make up the Advisory Body note and recommendation:

1. **Note on process and content**
   The Advisory Body shall provide notes to the Department of Archaeology on the process and content of the Consultants preparation of the HIA. This would include the assessment of legal and ethical issues.

2. **Note on assessment and recommendations**
   The Advisory Body shall provide notes to the Department of Archaeology on the assessments done by the Consultants and particularly comment on the recommendations. This would especially focus on whether the assessments and recommendations are based on the prevalent understanding of conservation.

3. **Recommendation on Consultants report**
   The Advisory Body may recommend the adoption of the Consultant report, the adoption with amendments, the return of the report to the Consultant for further clarifications and detailing or the total rejection of the Consultant report.

---

Standard format- **HIA F-6a 2021: HIA comment request letter DOA to Advisory Body**
Standard format- **HIA F-6b 2021: Advisory Body Comment Format**
Standard format - **HIA F-6c 2021: HIA comment submission letter format from Advisory board to DOA**
HIA F-6a 2021

HIA comment request letter DOA to Advisory Body

Please remove highlighted instructions and insert relevant information

[LETTERHEAD]

[Name of Advisory Body]
[Official address of Advisory Body]

Date: dd/mm/yyyy

Subject: Request for Comments on Heritage Impact Assessment

Dear [Name of Advisory Body],

Please find attached the HIA submitted by the Consultant for the [name of project]. I request you to review the HIA and provide comments within ten days of receiving this letter as per HIA F-6a 2021 form: Advisory Body Comment Format. Attached are also project documents for your reference.

Thanking you,
Yours sincerely,

[Signature]

Director General [stamp]

Attached:

1. HIA submitted by Consultant
2. DPR provided by the Actor
3. Filled HIA F-2a 2021 form: Project Indicators and Cost Calculations
4. Filled HIA F-4a 2021 form: Consultant’s TOR for HIA
HIA F-6b 2021
Advisory Body Comment Format
Please remove highlighted sections and insert relevant information

<table>
<thead>
<tr>
<th>Project:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Consultant:</td>
<td></td>
</tr>
<tr>
<td>Advisory Body Lead:</td>
<td></td>
</tr>
</tbody>
</table>

The HIA was received on:        dd/mm/yyyy  Submission of Comments:     dd/mm/yyyy

Overall suggestion  □ adoption      □ adoption with modifications       □ rejection

Proposed decision:         □ agree             □ disagree
Comments on consultant’s decision on the impact of the project on the cultural heritage

Proposed recommendations: □ agree       □ reservations       □ disagree
Comments on the consultant’s recommendation on how to mitigate the impact

Process and Content:         □ agree             □ reservations       □ disagree
Comments on the process, including legal and ethical considerations
HIA F-6c 2021
HIA comment submission letter format Advisory Body to DOA
Please remove highlighted instructions and insert relevant information

[LETTERHEAD]

[Name of Director General]
Director General,
Department of Archaeology,
Ramshahpath,
Kathmandu, Nepal

Date: dd/mm/yyyy

Subject: Heritage Impact Assessment comment submission

Dear [Name of Director General],

Please find attached our comments and recommendations on the Heritage Impact Assessment of the [name of project] prepared by [name of consultant].

Please do not hesitate to contact us if there are any further questions on the project or the HIA. We remain at your disposal.

Thanking you,

Yours sincerely,

[Signature]

[Name of authorized person] [stamp]

Attached:
1. HIA Comment format - 1 hard copy + soft copy in pdf
3.3.3 Official letter from DOA with decision to the Actor

The Department of Archaeology will determine the outcome of the HIA based on the Consultant’s report and the Advisory Bodies recommendations. Once this process has been finalized the Department of Archaeology will formulate and send to the Actor a letter with the final decision. This letter would be a legal document that would be legally binding.

The Official Letter that is sent by the Department of Archaeology to the Actor shall contain at least the following points:

1. **Final Decision**
   - The Department of Archaeology shall formulate the final decision as a response to the application for a HIA submitted by the Actor. The final decision can be in short any of the following three options:
   - (i) acceptance of proposal as submitted
   - (ii) acceptance of proposal but with amendments
   - (iii) rejection of proposal

2. **Justification**
   - The Department of Archaeology shall provide a justification to the decisions that has been taken. This would need to be linked to appropriate legal provisions as well as the assessment carried out by the consultant and review by the advisory body.

3. **If applicable required amendments to the project**
   - If applicable, the Department of Archaeology shall provide detailed information on the required amendments to the project which shall be binding if the Actor would want to continue with the project / activity.

4. **Notes on related decisions on rectifications and planning**
   - The Department of Archaeology shall provide information related to the assessment and rectification of past projects and activities as well as planning recommendations to safeguard the site from potential threats. This information will become part of the overall guiding principles for the implementation of the proposed project.

5. **Validity of decision**
   - The Department of Archaeology shall provide exact dates for the validity of the decision, which means the project / activity would need to be completed and be ready for final assessment by a given date of expiry of permission.

---

<table>
<thead>
<tr>
<th>Standard format:</th>
<th>HIA F-7a 2021: Final decision format from DOA</th>
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</thead>
<tbody>
<tr>
<td>Standard format:</td>
<td>HIA F-7b 2021: Final letter format from DOA to Actor</td>
</tr>
<tr>
<td>Standard format:</td>
<td>HIA F-7c 2021: Final letter format from DOA to Consultant</td>
</tr>
<tr>
<td>Standard format:</td>
<td>HIA F-7d 2021: Final letter format from DOA to Advisory body</td>
</tr>
</tbody>
</table>
Establishing Heritage Impact Assessment (HIA) in Nepal

HIA F-7a 2021
Final HIA decision format from DOA
Please remove highlighted instructions and insert relevant information

[DOA LETTERHEAD]

Name of Actor (Applicant): .....................................................................................................................
Name of Project: ....................................................................................................................................... 
Location: ............................................................................................................................................... 
Date of application: dd/mm/yyyy  Date of decision: dd/mm/yyyy

Overall recommendations: □ acceptable □ with conditions* □ not acceptable

Justification and related legal provisions

*conditions to be fulfilled:

Required rectification (for Category 2 - Assess past projects)
Required planning (for Category 3 – Assess future threats)

[Signature]

Director General  [stamp]

28
HIA F-7b 2021
Final letter format from DOA to Actor
Please remove highlighted instructions and insert relevant information

[DOA LETTERHEAD]

[Name of authorized person for Actor]
[Official address of Actor]

Date: dd/mm/yyyy

Subject: Final decision of Heritage Impact Assessment

Dear [Name of authorized person for Actor],

The HIA Committee of the Department of Archaeology has come to the final decision on the project [name of project]. The decision has been based on the Heritage Impact Assessment received from the competent consultant, with the additional comments from the advisory body.

Please find attached the filled ‘HIA F-7a 2021: Final HIA decision format’.

Please keep us informed on any further progress or changes to the circumstances of the project. Please note that should the project be accepted for implementation, regular reporting and monitoring will take place and a completion certificate will need to be obtained after successful completion ensuring compliance with the decisions provided on the attached form. Thanking you for your cooperation.

Thanking you,
Yours sincerely,

[Signature]

Director General

Attached:
HIA F-7a 2021: Final HIA decision format
[Name of Consultant]
[Official address of Consultant]

Date: dd/mm/yyyy

Subject: HIA completion

Dear [Name of Consultant],

Thank you for your contribution to the preparation of the HIA of the [name of project]. Please submit your payment request letter.

We request you to provide your continued services should there be further issues that arise from this project.

Thanking you for your continued collaboration.

Yours sincerely

[Signature]

Director General

[stamp]
HIA F-7d 2021  
Final letter format from DOA to Advisory Body  
Please remove highlighted instructions and insert relevant information

[DOA LETTERHEAD]

[Name of Advisory Body]
[Official address of Advisory Body]

Date: dd/mm/yyyy

Subject: HIA completion

Dear [Name of Advisory Body],

Thank you for your contribution to the preparation of the HIA of the [name of project]. Please submit your payment request letter.

We request you to provide your continued services should there be further issues that arise from this project.

Thanking you for your continued collaboration.

Yours sincerely

[Signature]

Director General  
[stamp]
3.3.4 Recourse process for Actors

As per the overall process an official letter is sent by the Department of Archaeology to the Actor with the final decision in respect to the HIA. Should the Actor not be agreeable to the decision, recourse is possible.

Based on the HIA Report and the comments / recommendations, “DOA" prepares the final decision and sends official letter to the “Actor"

Recourse process if necessary for “Actor” against the decision of “DOA"

“Actor” implements as per decision with reporting to “DOA” as indicated in the official letter while allowing for necessary monitoring by “DOA"

The Official Letter that is sent by the Department of Archaeology to the Actor contains at least the following points:

1. **Final Decision:** (i) acceptance of proposal as submitted, (ii) acceptance of proposal but with amendments or (iii) rejection of proposal
2. **Justification:** justification to the decisions that has been taken linked to appropriate legal provisions as well as the assessment.
3. **If applicable required amendments to the project:** detailed information on the required amendments to the project.
4. **Notes on related decisions on rectifications and planning:** information related to the assessment and rectification of past projects and activities as well as planning recommendations to safeguard the site from potential threats.
5. **Validity of decision:** exact dates for the validity of the decision, which means the project / activity would need to be completed.

Refer: HIA F-7a 2021: Final HIA decision format DOA

For any of these points recourse can be taken with a clear justification for the Department of Archaeology to reconsider. The recourse would be submitted as a written document with the necessary references and justification (reasoning and legal provisions) to back up the recourse claim.

This would then be discussed with the Consultant and the Advisory Body taking into account the justification provided by the actor. A revised Official Letter will then be sent to the Actor with the response to the recourse. Recourse can be taken repeatedly, however no work may begin without the dispute being finalized.
4. Monitoring and enforcement of the HIA (Component 3)

The third phase of the HIA is to ensure that the outcome of the assessment is agreed upon and followed. Reviewing the past HIAs that have been carried prepared, enforcement and compliance has been an issue. This has particularly been the case when a certain development has been agreed upon, however, only if certain conditions were met. In most cases, the development was carried out, while the conditions were not adequately fulfilled. This means, both monitoring and enforcement procedures need to be improved.

CARRYING OUT HIA
(Component 2)

“Actor” implements as per decision with reporting to “DOA” as indicated in the official letter while allowing for necessary monitoring by “DOA”

Process of legal action if necessary against non-compliance to decisions of “DOA” by “Actors”

On completion of project/action by “Actor” a final review is carried out by “DOA” with the “Consultant” and “Advisory Body” to provide a certification of compliance

Note

Procedures for legal recourse to non-compliance need to be carefully planned within the legal provisions of the country. This aspect is critical to ensure that the HIA becomes an effective tool to protect heritage, while finding appropriate means for development activities to take place.
4.1 Processes for Monitoring and enforcement of the HIA

For the third components, the Monitoring and enforcement of the HIA the following processes will be required. Draft processes are being provided in this report. These would still need to be discussed with experts and site managers. Only after several trial runs on practical Heritage Impact Assessments can these be finalized and adopted as standard formats.

**Required processes:**
- Reporting by Actor
- Monitoring by DOA
- Process of legal action by DOA
- Process of final review by DOA / Consultant / Advisory Body
4.1.1 Reporting by Actor

As per the overall process when the Actor receives the official letter and all disputes are clarified and agreed upon and if permission is given, the Actor will start the project / activity. During the entire process the Actor shall provide the Department of Archaeology with detailed reports as defined in the Official Letter.

Based on the HIA Report and the comments / recommendations, “DOA” prepares the final decision and sends official letter to the “Actor”

Recourse process if necessary for “Actor” against the decision of “DOA”

“The Actor” implements as per decision with reporting to “DOA” as indicated in the official letter while allowing for necessary monitoring by “DOA”

The reporting by the Actor to the Department of Archaeology shall be done based on the conditions defined in the Official Letter. The reporting shall include progress as well as any changes or new insights into the circumstances. Any new information on the heritage site would be passed on to the Department of Archaeology.

4.1.2 Monitoring by DOA

As per the overall process, if found necessary, the Department of Archaeology may carry out monitoring of the project / activity at any time.

“The Actor” implements as per decision with reporting to “DOA” as indicated in the official letter while allowing for necessary monitoring by “DOA”

Process of legal action if necessary against non-compliance to decisions of “DOA” by “Actors”

On completion of project/action by “Actor” a final review is carried out by “DOA” with the “Consultant” and “Advisory Body” to provide a certification of compliance

Should the reporting by the Actor not seem sufficient, the Department of Archaeology can establish its own monitoring of the project / activity? This means that any supervisor can be deputed to oversee activities. This can be full time or at specific intervals as found necessary.
4.1.3 Process of legal action by DOA

As per the overall process, should there be any part of the project implementation that does not comply with the Official Letter, the Department of Archaeology may stop work and take legal action against the Actor.

"Actor" implements as per decision with reporting to "DOA" as indicated in the official letter while allowing for necessary monitoring by "DOA"

Process of legal action if necessary against non-compliance to decisions of "DOA" by "Actors"

On completion of project/action by "Actor" a final review is carried out by "DOA" with the "Consultant" and "Advisory Body" to provide a certification of compliance

During the course of the Project / Activity if there is any concern about the on-going process, the Department of Archaeology may stop the work, request rectification or if necessary take legal action. This would then revert to the courts; however a stay order must be issued to ensure that the project / activity halts.

4.1.4 Process of final review by DOA / Consultant / Advisory Body

As per the overall process once the project / activity is completed, a final review shall be carried out by the Department of Archaeology in consultation with the Consultant and the Advisory Body in the presence of the Actor.

"Actor" implements as per decision with reporting to "DOA" as indicated in the official letter while allowing for necessary monitoring by "DOA"

Process of legal action if necessary against non-compliance to decisions of "DOA" by "Actors"

On completion of project/action by "Actor" a final review is carried out by "DOA" with the "Consultant" and "Advisory Body" to provide a certification of compliance

Should compliance be found with all points mentioned in the Official Letter, a certificate of compliance shall be awarded to the Actor which allows for full legal recognition of the Project / Activity.
4.2 Certification of compliance (DOA)

On completion of the project / activity or latest by the final date of expiry of the permission the Department of Archaeology shall assess the project. This assessment shall be carried out in consultation with the Consultant and the Advisory Body in the presence of the Actor.

The requirements that need to be fulfilled for issuance of the Certificate of Compliance are as follows:

1. Final Decision

   Compliance to final decision as stated in the Official Letter sent by DOA which could be either (i) acceptance of proposal as submitted; (ii) acceptance of proposal but with amendments or (iii) rejection of proposal.

2. If applicable required amendments to the project

   Compliance to required amendments to the project where relevant as stated in the Official Letter sent by DOA

3. Notes on related decisions on rectifications and planning

   Compliance to related rectifications and planning provisions defined in the Official Letter sent by DOA

4. Validity of decision

   Compliance to timeframe as defined in the Official Letter sent by DOA

Should the assessment of the project / activity show that there was no or not sufficient compliance, legal steps would need to be taken to rectify the situation. In the meantime if any cultural heritage is irreversibly affected, more severe consequence must be ascertained.

Standard format- **HIA F-8 2021: Certificate of compliance from DOA to Actor**
HIA F-8 2021
Certification of compliance from DOA to Actor
Please remove highlighted instructions and insert relevant information

[DOA LETTERHEAD]

[Name of authorized person for Actor]
[Official address of Actor]

Date: dd/mm/yyyy

Subject: Certification of Compliance

Dear [Name of authorized person for Actor],

This is to certify that the project [name of project] has been carried out as per the decisions of the HIA Committee of the Department of Archaeology dated: [date of DOA decisions].

The status of the project has been reviewed and documented by the Department of Archaeology, with the HIA Consultant and representative of the Advisory Body has witness. Any further changes may only be carried out after obtaining separate permission from the Department of Archaeology.

Thanking you for your continued collaboration.

Yours sincerely

[Signature]

Director General[stamp]
ANNEX A
Guidance on Impact Assessments for World Heritage Properties
ICOMOS DRAFT 2019

ANNEX B
ICOMOS GUIDELINES 2011

ANNEX C
DISCUSSION ON THE FORMAT AND GUIDELINE FOR HIA
26th April 2021
Guidance on Impact Assessments for World Heritage Properties

This document is based on and expands the 2011 ICOMOS *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*. It has been integrated with the 2013 *World Heritage Advice Note on Environmental Assessment & World Heritage* published by IUCN. This revised edition has been updated in the context of the *World Heritage Leadership* programme with contributions from ICOMOS, ICCROM and IUCN as Advisory Bodies to the World Heritage Convention, in partnership with the UNESCO World Heritage Centre and the International Association of Impact Assessment.

Please note that although there are many upgrades to this revised Guidance, such as a clearer suggested assessment process and more integrated reflection on the management system, there are other areas which will necessarily need upgrading again in the future. For example, other modules in the World Heritage Leadership programme are producing results that will positively influence many of the topics discussed in this document, such as heritage values, resilience, and sustainable development.

This document has been shared with you to invite your comments for its improvement and your suggestions for additional case studies and sidebars that can help the reader. We look forward to receiving your feedback and thank you in advance for your contribution.

DRAFT FOR COMMENT
Version: 12 November 2019
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1.2 How to use this Guidance
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Acknowledgements
PART 1: INTRODUCTION

This Guidance document is intended to help to States Parties, heritage managers, decision-makers, communities or others in managing World Heritage properties in circumstances where some form of change – in particular development, resource extraction and mass tourism – may affect the Outstanding Universal Value of those heritage places. This first section of the document explains the need for such Guidance and orients the reader to its content and how it might be used. It offers some background on impact assessment as an approach that can promote better evidence-based decision-making in advance of planning for change at or near World Heritage properties. There is also information on the World Heritage system so that impact assessments can be carried out effectively within the specific requirements of that context.

1.1 The purpose of this Guidance

The purpose of this document is to offer guidance on the process of carrying out impact assessments for World Heritage properties in order to support good decision making. The Guidance can help to evaluate effectively the positive or negative impacts of potential development project in order to retain Outstanding Universal Value. While there are many approaches to impact assessment, when World Heritage is concerned this is done by specifically assessing the impacts of change on a property’s Outstanding Universal Value. It should be noted that the methodology should also be suitable for adaptation to other heritage places as well.

Figure: core logic of the Guidance [placeholder - to be upgraded]

The World Heritage Convention recognizes properties of ‘Outstanding Universal Value’ which are inscribed on a list as part of the ‘world heritage of mankind as a whole’ and deserve ‘protection and transmission to future generations’.1 States Parties to the World Heritage Convention have made a commitment to ensuring the identification, protection, conservation, presentation and transmission to future generations of these cultural and natural heritage places.2

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1 Convention Concerning the Protection of the World Cultural and Natural Heritage https://whc.unesco.org/en/conventiontext/
2 Articles 4-6, Convention Concerning the Protection of the World Cultural and Natural Heritage https://whc.unesco.org/en/conventiontext/
However, in recent years it has been noted that increasing numbers of World Heritage properties are facing pressure from various forms of large-scale development. These developments include resource extraction; roads; bridges; tall buildings; ‘box’ buildings (e.g. malls); inappropriate, contextual or insensitive developments; renewals, demolitions and new infrastructure typologies, such as wind farms; as well as land-use policy changes and large-scale urban frameworks. Situations are also arising where excessive or inappropriate tourism is having a negative impact on World Heritage properties. The World Heritage Committee has seen the impacts of these factors in considerable numbers of State of Conservation Reports related to adverse impacts on attributes that contribute to the Outstanding Universal Value of World Heritage.

In order for the World Heritage Committee to evaluate proposed projects satisfactorily, there is a need for a clear and defendable assessment of their positive and negative impacts, specifically on how these might impact on Outstanding Universal Value. Impact assessment is one such approach that has been long used by countries for evaluating significant project proposals in advance. However, while an impact assessment can focus exclusively on heritage or include chapters specifically on heritage, these seem less reliably used in the World Heritage context. Therefore, this Guidance has been written for those in the process of commissioning or carrying out impact assessments for World Heritage properties in order to evaluate effectively the impact of potential change on the Outstanding Universal Value.

The impact assessment may have been requested by the World Heritage Committee or it may be a heritage chapter within an impact assessment carried out within national statutory requirements. In both cases it is expected that this Guidance will usefully illustrate how impacts on World Heritage and its Outstanding Universal Value might be considered.

The Guidance can assist with project design, impact mitigation and good decision-making through:

- relating values to attributes in a systematic and detailed manner;
- reassessing the role of attributes in relation to values and to Outstanding Universal Value when these are threatened;
- identifying the documentation and sources needed to establish a baseline and to assess values and threats;
- documenting the logic of the decision-making process and its internal consistency;
- separating impact identification from impact evaluation; and
- avoiding, reducing or compensating for adverse impact on Outstanding Universal Value.

The intended audience for the Guidance includes:

- managers;
- developers;
- consultants;
- government agencies;
- decision-makers;
- the World Heritage Committee;
- Advisory Bodies to the World Heritage Convention (ICOMOS, ICCROM, IUCN); and
- States Parties.
This Guidance has been revised to bring together previously separate documents for cultural and natural heritage. It has also been updated in the light of experience gained of applying impact assessments to World Heritage in a variety of contexts. It is therefore intended that this publication is relevant to all World Heritage properties.

1.2 How to use this Guidance

This Guidance can be used by different readers for different purposes. Ideally the reader will read through all the sections of this document in order to understand how impact assessments can help support better decision-making within the context of World Heritage. However, some readers with more urgent needs may wish to refer immediately to specific sections of this document.

Part 1 provides some background to this Guidance, both in terms of a short introduction to impact assessment, as well as summarising the World Heritage system and its requirements for States Parties.

Part 2 offers a set of principles that can be applied to impact assessments when carried out in the context of World Heritage.

Part 3 outlines a suggested process for undertaking an impact assessment, which can be adapted to the particular situation affecting a specific World Heritage property.

Part 4 then explores the wider heritage management context in which impact assessments take place for World Heritage. It suggests that impact assessment can help better decision-making within ongoing management for a heritage place, as well as suggesting that impact assessment can be used at a strategic level to plan proactively for the future.

For those readers who are already familiar with carrying out impact assessments in other non-World Heritage contexts, they are advised to pay more attention to sections 1.3-1.4 below which focus on how impact assessment needs to be applied to the World Heritage system. They can also review the process outlined in Part 3, noting where World Heritage concerns might modify the assessment process.

Readers who are involved in managing World Heritage where there is a proposal for a project that might impact on the property, but who are unfamiliar with impact assessments, might want to read Part 3 immediately on the impact assessment process. Part 4 is also useful for illustrating where impact assessment thinking might contribute to strategic and management planning.

Finally, those readers who are perhaps not involved in carrying out the actual impact assessment but who might be part of the broader decision-making process will find Part 2, on the principles of impact assessment for World Heritage, helpful as a background against which to consider the findings presented to them.

Accompanying the main text are short text-boxes offering more illustrative material on key issues. Short summaries of relevant aspects from case studies are offered to illustrate points

3 This document is largely based on the 2011 Guidance on Heritage Impact Assessments for Cultural World Heritage Properties published by ICOMOS, together with the 2013 IUCN Advice Note on Environmental Assessment and World Heritage.
made and provide practical examples. Some tools are suggested. Further reading and other resources are referenced throughout at each point of the text [to be completed].

1.3 Impact assessments: the evolving international context

Recent decades have seen increased interest in managing the decision-making process for development better so that the consequences of a planned action can be understood in advance and so that change can take place in harmony with the environment and with human society. Currently more than 180 countries have some form of impact assessments, often known as Environmental Impact Assessments, which means that it is a tool that can be used in over 90% to the world’s countries to improve decision-making for the planet. Impact assessment has emerged as a particularly powerful process as they can help identify, evaluate, avoid and mitigate the potential negative impacts of development proposals and suggest enhancements of positive impacts before a decision on their funding or implementation is taken.

The benefits of impact assessments include:

- Early consideration of environmental, social and economic issues in the project design and planning processes;
- Greater certainty for local communities and developers over future development, and greater opportunities for local communities to participate in consultation and decision-making processes; and
- The capacity to achieve better environmental and social outcomes and address cumulative impacts.

Impact assessments are also intended to consider alternatives to development proposals, including the ‘no project’ option, in order to identify the least damaging, and most sustainable, option for decision-makers. It is important to note that very often economically viable and feasible alternatives can be found to development proposals with undesirable negative impacts. A detailed consideration and evaluation of alternatives can enable the identification of these economically viable options. For this reason, it is important to involve a range of specialists early on in the assessment process, as they can work together with project proponents to find solutions.

It is also useful to note that the scope of impact assessments has broadened over time, with assessment being regularly taken of a much wider range of issues and this will require the contribution of specialists from additional knowledge areas (e.g. those with knowledge of World Heritage, protected areas, biodiversity, landscape and urban planning, indigenous knowledge, health, socio-economics, etc.). In fact, there exist a number of impact assessment tools addressing these different areas with different names and differing legal requirements. All of these assessment tools are broadly similar in purpose and scope and throughout this Guidance, they are collectively referred to impact assessments. However, one difference has been made, this Guidance mainly focuses on the type of assessment that applies to an individual project (e.g. Environmental and Social Impact Assessments, Heritage Impact Assessments, etc.). Instead assessments that apply to policies, plans and programmes (i.e. multiple or very large projects) are considered to be Strategic Environmental Assessments and are discussed in section 4.2 below.
For many years Environmental Impact Assessments were requested by the World Heritage Committee as a way to understand the consequences of project proposals at or near World Heritage properties. However, a number of difficulties arose relating to a rigorous assessment of impacts on the property's significance, as understood through its Outstanding Universal Value, and this was particularly acute at cultural heritage places. For this reason, in recent years Heritage Impact Assessments have been requested for cultural heritage properties facing change, using an adapted methodology that focuses on Outstanding Universal Value.

However, it continues to be difficult to ensure that a Heritage Impact Assessment is carried out early in the project process, before irreversible decisions are made, particularly because there is often no national regulatory framework within which they can operate. The assessment of impacts on Outstanding Universal Value of natural heritage properties has also remained a continuing challenge.

For this reason, this Guidance represents an evolution in impact assessment practice within the heritage sector and is part of a wider movement to reconnect the conservation of both natural and cultural heritage. By returning to an assessment methodology that can be applied to all heritage places, the full range of interlinked values of World Heritage properties can be recognized and protected. In addition, by re-inserting impact assessment for World Heritage back into the wider Environmental Impact Assessment context, it is again possible to take advantage of stronger environmental systems that provide a legal basis for impact assessment in many countries and which simply need World Heritage better integrated into those existing processes.

Sidebar: Decision 39 COM 7 [to be completed]

1.4 World Heritage basics

Sidebar: ‘The most significant feature of the 1972 World Heritage Convention is that it links together in a single document the concepts of nature conservation and the preservation of cultural properties. The Convention recognizes the way in which people interact with nature, and the fundamental need to preserve the balance between the two.’

This Guidance is a tool to encourage managers and decision-makers at World Heritage properties to make evidence-based decisions for the future of that heritage within the framework of the 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage.4

States Parties to the World Heritage Convention nominate heritage places for inscription on the World Heritage List. These internationally recognized properties rank amongst the world’s most important natural and cultural places. The World Heritage Convention, ratified by 193 countries, provides a unique framework for securing the conservation of these exceptional places, recognized as being of Outstanding Universal Value to humanity. These properties include many household names such as the Serengeti, Galapagos, the Great Barrier Reef, Venice, the Great Wall of China, Machu Pichu, and Timbuktu. Some are often a last refuge for threatened species, for example the mountain gorilla, giant panda and orangutan; others are considered living heritage for communities who continue a long-term

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4Convention Concerning the Protection of the World Cultural and Natural Heritage
https://whc.unesco.org/en/conventiontext/
Establishing Heritage Impact Assessment (HIA) in Nepal

connection with a particular place. There are well over 1,000 World Heritage properties covering over 371 million hectares, which equates to less than 1% of the Earth’s surface and over 8% of the planet’s protected areas (in ha).

They represent a commitment to future generations that the international community has a duty to uphold, as embodied in Article 6(1) of the World Heritage Convention which states that ‘such heritage constitutes a world heritage for whose protection it is the duty of the international community as a whole to cooperate.’ However, many of these unique places are increasingly faced with threats such as mining, major infrastructure projects, poaching, illegal logging, agricultural encroachment and climate change and approximately 5% of World Heritage properties have been placed on the List of World Heritage in Danger.

States Parties to the Convention therefore have a duty to protect and manage their World Heritage in accordance with the Operational Guidelines for the Implementation of the World Heritage Convention. These obligations include reporting on the state of conservation of World Heritage and informing the World Heritage Centre in advance of any proposed developments that may affect a property before any irreversible decisions are made.

1.5 Outstanding Universal Value as the basis for impact assessment for World Heritage

The concept of Outstanding Universal Value underpins the whole World Heritage Convention and all activities associated with properties inscribed on the List. It is defined in the Operational Guidelines as ‘significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity.’ This Guidance sets out a methodology to allow impact assessments to respond to the needs of World Heritage sites, through considering them as discrete entities and evaluating impact on the attributes of Outstanding Universal Value in a systematic and coherent way.

When States Parties ratify the World Heritage Convention, they agree ‘to ensure that effective and active measures are taken for the protection, conservation and presentation of the cultural and natural heritage situated on its territory’ which are considered as having Outstanding Universal Value. Their Outstanding Universal Value is determined by the World Heritage Committee at the time of a property’s inscription on the World Heritage List and since 2007 this has been encapsulated in a Statement of Outstanding Universal Value. Outstanding Universal Value thus defines the thinking at the time of inscription and is non-negotiable: it can be found on the World Heritage Centre website on the site description page. A Statement of Outstanding Universal Value should assist management and protection by setting out clearly the attributes that reflect Outstanding Universal Value and the links between them.

Sidebar: Article 4 of the Convention on States Parties obligations [to be completed]

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5The Operational Guidelines for the Implementation of the World Heritage Convention
https://whc.unesco.org/en/guidelines/

6Article 4, Convention Concerning the Protection of the World Cultural and Natural Heritage
https://whc.unesco.org/en/conventiontext/

7Operational Guidelines, paragraphs 154-5.
Its three components are values, integrity and authenticity, and protection and management. These are summarized below, illustrated in Figure X, and set out in full in the Operational Guidelines.

Values: There are currently ten criteria which embody the values of World Heritage properties and a heritage place must meet at least one of those criteria to be considered for nomination to the World Heritage List.

Sidebar: WH criteria with illustrative examples e.g. authenticity of a ruin, or an associative landscape [to be completed]

Integrity: Integrity is a measure of ‘wholeness’ and requires assessment of the extent to which the property: i) includes all elements necessary to express its values; ii) is of adequate size to ensure the complete representation of features and processes which convey its significance; and iii) is not affected by developments and/or neglect.

Authenticity: Authenticity is the other key concept that has implications for management. It refers to the truthfulness or the credibility of attributes that reflect the Outstanding Universal Value. This only applies to cultural World Heritage.

Protection and management: Protection and management is intended to ensure that the site’s values and the conditions of integrity at the time of inscription are maintained and enhanced in the future. The key elements of protection and management are; i) long-term legislative, regulatory, institutional and/or customary protection; ii) delineated and appropriate boundaries; iii) buffer zones and/or wider protection of the site from threats outside its boundaries and iv) effective management systems.

Figure: [placeholder - to be upgraded]
In any proposal for change there will be many factors to be considered. Balanced and justifiable decisions about change depend upon understanding who values a place and why they do so. This leads to a clear statement of a place’s significance – in the case of World Heritage, this would be the Statement of Outstanding Universal Value – and with it the ability to understand the impact of the proposed change on that significance.

An impact assessment for a proposal with the potential to affect World Heritage is intended to ensure that the proposal’s likely impacts on the Outstanding Universal Value are fully considered in planning decisions with the objective of preserving these exceptional places. All development proposals, whether they are located within or outside the boundaries of a World Heritage property, should be considered in terms of whether they are compatible with the long-term preservation of the Outstanding Universal Value. The assessment should also consider the property’s links with the surrounding landscape, including but not limited to visual connections, as World Heritage cannot be considered in isolation. Those proposals that are not compatible with this objective should not be permitted in or near these places.

Where developments affecting World Heritage are under consideration, these should be subject to a rigorous impact assessment, in line with the Principles in Part 2 and following the methodology suggested in Part 3. In particular, reasonable alternatives to the proposal should be identified and assessed with the aim of recommending the most sustainable option to decision-makers, including in some cases the ‘no project’ option at World Heritage.

World Heritage properties need to be seen as single entities that manifest Outstanding Universal Value. Their Outstanding Universal Value is reflected in a range of attributes, and in order to sustain Outstanding Universal Value it is those attributes that need to be protected. Thus the impact assessment process needs to consider the impact of any proposed project or change to those specific attributes, both individually and collectively. Change may be adverse or beneficial, but both need to be assessed as objectively as possible, against the stated Outstanding Universal Value as reference point.

Every reasonable effort should be made to eliminate or minimise adverse impacts on significant places. Ultimately, however, it may be necessary to balance the public benefit of the proposed change against the harm to the place. It is therefore also important to know who benefits from the proposed change and for what reasons. In such cases impact should be considered in relation to Outstanding Universal Value but also other values that might be recognized as national or local levels.

Where change may affect a World Heritage property, consideration of the attributes contributing to Outstanding Universal Value should be central to planning any proposal and should be presented early on in any general assessment (such as an Environmental Impact Assessment). Managers and decision-makers should consider whether the heritage conservation needs should be given greater weight than competing uses and developments. A key consideration is the threat or risk to the World Heritage status and this should be clearly addressed in the final report resulting from the impact assessment.

Sidebar: World Heritage Policy for the Integration of a Sustainable Development Perspective into the Processes of the World Heritage Convention [to be completed]
PART 2: PRINCIPLES FOR CARRYING OUT IMPACT ASSESSMENTS FOR WORLD HERITAGE

This part of the Guidance provides some principles agreed upon by the Advisory Bodies to the World Heritage Convention. These principles should provide the professional and ethical framework in which impact assessments take place.

The principles found in this section can be applied to all types of impact assessments, including Strategic Environmental Assessments, Environmental and Social Impact Assessments and Heritage Impact Assessments. The step-by-step guidance provided in Part 3 provides support to States Parties and specialists undertaking impact assessments in applying these principles. Assessments which do not meet these basic principles are unlikely to constitute an adequate basis for decision-making.

**Principle 1:** All proposals with the potential to affect a World Heritage property should undergo a rigorous impact assessment early on in the decision-making process, whether they are located within or outside its boundaries.

This assessment should take place as early as possible in order to provide timely and effective input to decision-makers. Assessments that take place late in the decision-making process or after an irreversible decision has been made cannot adequately inform decision-makers.

**Principle 2:** The likely environmental, social and economic impacts – including direct, indirect and cumulative effects – of the development proposal on the property’s Outstanding Universal Value and other values must be assessed.

This assessment should consider all the property’s values with a particular emphasis on the Outstanding Universal Value, authenticity (where appropriate), integrity, protection and management, as well as its connection to the wider landscape, and should be based on adequate information and data.

**Principle 3:** Impacts need to be assessed for their effect on both tangible and intangible attributes which embody Outstanding Universal Value and other values.

Intangible heritage needs to be taken into consideration as much as tangible heritage. Intangible heritage should be protected from negative impacts when it contributes to the significance of the property and Outstanding Universal Value in particular.

**Principle 4:** Reasonable modifications to the proposal or alternatives should be identified and assessed with the aim of recommending the most sustainable option to decision-makers.

The different options should be clearly communicated to decision-makers, and those that are least damaging in relation to the property’s Outstanding Universal Value should be highlighted, including in some cases the ‘no project’ option. Very often, economically viable and feasible alternatives can be found to development proposals that may be damaging to a World Heritage property’s Outstanding Universal Value. Detailed and early consideration of alternatives can also help to ensure that resources are not wasted in developing proposals that are incompatible with World Heritage status (for example, extractive projects).
Principle 5: Mitigation measures should be identified in line with the mitigation hierarchy, which requires first avoiding potential negative impacts and secondly reducing unavoidable residual impacts through mitigation measures. The impact assessment should outline how any minor residual negative impacts on Outstanding Universal Value that cannot be avoided will be mitigated and monitored through a budgeted management plan, indicating how the mitigation measures will be implemented, who will implement them within what timeframe, and what resources are secured for their implementation. Compensation actions and offsets might also be appropriate in some cases.

Principle 6: When a full Environmental Impact Assessment is being carried out for a proposed project affecting a World Heritage property, a separate section on World Heritage should be included.

This section should present clear conclusions to decision-makers on the proposal’s potential impacts on a property’s Outstanding Universal Value, and should be reflected in the non-technical summary. It should also be able to stand-alone for consideration of the World Heritage Committee.

Principle 7: The assessment process should be transparent. It should take place in consultation with stakeholders, in particular with traditional owners and other associated people. The report should be publicly disclosed and subject to thorough public consultation at different stages.

All relevant stakeholders should be involved, including local communities, indigenous peoples, scientists, relevant government agencies, and non-governmental organizations. In some cases it might be appropriate to give more weight to the contribution from connected communities. Consultation should take place at many stages of the process, starting with the scoping phase, and feedback from consultation should be fully reflected and documented in the assessment. The final report should be made public.

Principle 8: Specialists with knowledge of World Heritage, natural and cultural heritage should be closely involved in the assessment process in order to identify the issues that will need to be assessed.

Specialist skills related to heritage and World Heritage are needed to help find alternative solutions to proposals that may adversely affect a World Heritage property’s Outstanding Universal Value.

Principle 9: An impact assessment, if it recommends that a project can take place, should also propose that a plan be drawn up which will ensure that the entire project lifecycle is monitored.

The impact assessment can provide indications for a plan, often known as an Environmental Management Plan, which should detail operating, monitoring and restoration conditions in relation to the property’s Outstanding Universal Value. The developer must set aside funds from the outset to cover the costs of independent auditing of the implementation of the plan at regular intervals.
PART 3: THE IMPACT ASSESSMENT PROCESS

This part of the Guidance provides a description of the impact assessment process and how that is ultimately used to make better decisions regarding heritage. Although every project proposal requiring an impact assessment will be different and will be informed by different national and institutional contexts, the following steps can be adapted to the requirements of each case. Some steps may be carried out in a different order or even omitted in some situations. However, good practice should ensure a logical, transparent and evidence-based approach.

3.1 Screening process: is an impact assessment needed?

Screening is the process of deciding if an impact assessment is needed or not. Early consideration of a project proposal is needed to understand if it is likely to affect a World Heritage property, including proposals located outside property boundaries, and if an impact assessment is required.
Many countries have national environmental or heritage assessment regulations which specify different categories of projects requiring appraisal. There will then be criteria by which the regulatory body decides if an impact assessment is requested, as well as the level of detail required. In the case of World Heritage, all proposals which may adversely affect a property, whether they are located within or outside its boundaries, should be subject to a comprehensive and rigorous assessment process prior to considering whether to grant consents and licenses.

In addition, the World Heritage Committee requires similar reassurance that potential impacts of a proposal are assessed in advance. All development proposals and/or concessions that could lead to projects which may affect the Outstanding Universal Value of a property should be submitted by States Parties to the World Heritage Centre, as the Secretariat of the World Heritage Committee. Proposals should be submitted before a decision on their funding, permitting or implementation is taken by the State Party, in line with Paragraph 172 of the Operational Guidelines. At times the World Heritage Centre receives information from a third party on potential threats to a World Heritage property which might affect its Outstanding Universal Value and will take steps to verify the report. In either case the State Party will be asked for further information. On the basis of that reply, the Centre might submit a State of Conservation report to the World Heritage Committee, including a suggestion for the Committee to take as an official decision, this may include requesting an impact assessment. All proposals that may adversely affect a World Heritage property will require early and rigorous assessment. On the other hand, there are many types of project which do not necessarily require an impact assessment and it may be agreed that they can proceed through normal planning permission processes.

Sidebar: OG Para 172 and 174 [to be completed]

Development proposals located outside the boundaries of a World Heritage property may have serious negative impacts on Outstanding Universal Value depending on the nature and scale of the proposals. For example, a mining proposal located 30km away from a property may, depending on the terrain, have significant and long-term implications for the hydrology of a property and also cause secondary effects, such as demographic changes leading to unsustainable natural resource use (e.g. illegal hunting). In other cases, a proposed project in the setting of a World Heritage property might bring compatible benefits and be considered to enhance Outstanding Universal Value. World Heritage properties, like other protected areas, are integral to the wider landscape and cannot be considered independently from wider ecosystem processes.

It is not only big developments that need an assessment of impact. World Heritage properties may also be vulnerable to changes of policy which could have significant consequences – for example changes in land use and urban planning policies. Tourism infrastructure and increased visits may have unintended consequences. Major archaeological excavations could also adversely affect the Outstanding Universal Value of properties, though possibly compensating by the gaining of knowledge. All of these should be brought to the attention of the World Heritage Centre and the Advisory Bodies.

Early notification is important as this offers an early and effective opportunity for engagement and provides timely and effective input to decision-makers. Assessments that take place late in the decision-making process or after the decision has been made cannot adequately inform decision-makers. Proposals notified under Paragraph 172 of the Operational
Guidelines should be submitted together with the documentation that is available at the time of submission, in particular the project proposal. A State Party should not delay and should contact the World Heritage Centre as early as possible with the information available.

The process of notifying the World Heritage Centre aims to avoid the possibility that Outstanding Universal Value is negatively impacted, with the consequent risk of the World Heritage property being placed on the Danger List and, in the worst cases, removed from the World Heritage List entirely.8

### 3.2 Initiating an impact assessment

An impact assessment for World Heritage might be initiated by a developer, an institution or other organisation, by a community group or other interest group. Depending on whether the impact assessment is being carried out as one element of a broader Environmental Impact Assessment or as a specific requirement of the World Heritage Convention the national institutions involved may change but the State Party will be responsible for communicating the results of the impact assessment to the World Heritage Centre.

Institutional, organisational and community capacities will determine whether the impact assessment can be carried out in-house or external consultants will be involved. In some cases it may be the project proponent who is responsible for the assessment, and a proponent might be either a private developer or a government agency of some type. What is important is that the methodology, including consultation and reporting, and the final decision-making is carried out transparently so that bias can be avoided and oversight by a neutral body, such as the heritage authority, might be desirable.

Whether or not the impact assessment is carried out in-house or commissioned out to external specialists, it is important that there is an interdisciplinary team. Even in very small teams, additional specialist input can be obtained on specific areas of the assessment to ensure a robust methodology.

Most of the costs of Environmental Impact Assessments are paid for by the project proponent, as part of their much greater development costs. However, in the case of World Heritage sometimes other budgets are identified by the State Party for the impact assessment. Where there are concerns that a developer can influence the results of the assessment process when they commission a report, various solutions have been found. For example, the heritage authority might take a supervisory role during the impact assessment process or the developer might provide the financial resources for the assessment while the heritage authorities commission it out directly.

There is no precise timeframe within which an impact assessment should be carried out because there are too many variables that will affect timing: the scale of the proposed development, the number and types of potential impacts, the heritage typology, the associated community, the amount of existing data, the organisational ability to commission an assessment, etc. What is important regarding timing is that the impact assessment is considered as early as possible during planning for a potential development, so that its findings can be taken on board at an early stage before irreversible decisions are taken. It is also important that the process not be compromised by inappropriate arbitrary timeframes.

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8Operational Guidelines Para 177-198.
Sidebar: capacity building

Training of managers and staff at World Heritage properties and in the approvals agencies of all levels of government within a country will be important in order to ensure that the commissioning process for impact assessment is appropriate and that full and effective use is made of the output. The backgrounds and professional skills of those who conduct impact assessment are diverse, but training and capacity-building will often be needed. Single professionals cannot always do a complete impact assessment – there is most often a need to bring together an impact assessment team with the specific analytical skills needed for a particular project or site.

States Parties can ‘invite an Advisory mission by the relevant Advisory Body(ies) or other organizations to seek advice on necessary measures to reverse deterioration and address threats’ and in some case International Assistance is available for such purposes. Among the Advisory Bodies, ICCROM has a particular mandate for capacity building and various initiatives for mid-career practitioners are organized each year on heritage management themes, including impact assessment.

3.3 Stakeholder identification and contact

Sidebar: participation in World Heritage (OG)

11. States Parties to the Convention are encouraged to ensure the participation of a wide variety of stakeholders, including site managers, local and regional governments, local communities, non-governmental organizations (NGOs) and other interested parties and partners in the identification, nomination and protection of World Heritage properties.

39. A partnership approach to nomination, management and monitoring provides a significant contribution to the protection of World Heritage properties and the implementation of the Convention.

40. Partners in the protection and conservation of World Heritage can be those individuals and other stakeholders, especially local communities, indigenous peoples, governmental, non-governmental and private organizations and owners who have an interest and involvement in the conservation and management of a World Heritage property.

Sidebar: World Heritage and Indigenous Peoples [to be completed]

Thorough public consultation is key to a successful impact assessment and should take place throughout the process. Impact assessment often serves as a catalyst for greater participation at World Heritage places even where the management system has not been strong in this area.

The fact that the impact assessment is taking place should be publicly disclosed as early as possible and subject to thorough public consultation via appropriate means, including public meetings, online, in local languages as appropriate, including at the scoping stage, during research, at the draft report stage and for later monitoring processes. The impact

9Operational Guidelines Para 176.
10Operational Guidelines Para 223-57.
11Operational Guidelines Para 33.
Establishing Heritage Impact Assessment (HIA) in Nepal

assessment report should clearly document how stakeholder views were taken into account within the assessment.

However, it is not enough to make public announcements about the impact assessment. Stakeholders need to be identified and contacted to inform them directly about the process. Simple matrix tools can help locate stakeholders in different categories so that it is clearer which individuals and groups need to be contacted at different stages. It is important to note that some key stakeholders, such as traditional owners and other associated people, will need to play a greater role throughout the assessment process.

It is particularly important that consultation begins at the scoping stage and the scoping document should be made publicly available because stakeholders can support the identification of issues that should be included in the assessment. These stakeholders may include government agencies, such as the agency responsible for World Heritage and/or protected areas, as well as non-governmental organizations, the site management team, community groups, etc.

Potential social and cultural issues that could impact on Outstanding Universal Value and local communities should also be carefully assessed. These must be identified in close consultation with local communities. In some cases communities are now commissioning their own impact assessments when they feel that their perspectives are not being fully taken into consideration by the assessment carried out by the project proponent or national authorities.

Sidebar: links to other resources/tools for public consultation, e.g. stakeholder management matrix, EoH stakeholder tool or adapted version of it? [to be completed]

3.4 Scoping: what should be assessed and who should be involved?

The starting point for any impact assessment, once an initial development proposal or change of use is identified, should be to set out the scope of work so that the assessment is ‘fit-for-purpose’ and will enable decisions to be made. Scoping looks at which issues relating to Outstanding Universal Value and other values should be assessed and who should be involved in the assessment. If the scoping phase is done well it can save both time and money, and ensure that the impact assessment is more effective.

Consultation should begin at the scoping stage and the scoping document should be publicly available. Stakeholders should be consulted at the scoping stage as they can support the identification of issues that should be included in the assessment. These stakeholders may include government agencies, such as the agency responsible for World Heritage and/or protected areas, as well as non-governmental organizations, the site manager, community groups, etc. Very often scoping studies for Environmental Impact Assessments are produced by a project proponent and it is usually appropriate that they cover the costs related to scoping. However, a scoping report should be agreed with all relevant parties – the State Party, regional or local government or its agencies, heritage advisors or managers, any statutory consultees and local communities or others as necessary. In some cases, it may be also desirable to consult with the World Heritage Centre or the Advisory Bodies.

On the basis of discussion among all parties, the scoping report can then make clear what is to be done, why and how, when and what are the expected outputs. As a result of identifying
what should be assessed, it can also be agreed who should be involved, making the consultation an iterative process. Additional stakeholders are likely to be identified once the heritage values and attributes are identified and the potential impacts begin to emerge. In addition, the scoping stage will highlight which specialist contributions might be necessary in order to assess the particular nature of the heritage and the proposed changes.

A World Heritage impact assessment undertaken as part of a wider Environmental Impact Assessment is not additional to normal Environmental Impact Assessment requirements, but uses a particular methodology which focuses on Outstanding Universal Value and attributes that convey that Outstanding Universal Value. Where statutory impact assessments apply, the sections relating to a World Heritage property must take account of this Guidance. These requirements should be made clear at the scoping stage.

A scoping report for a World Heritage impact assessment should give (as far as is practicable) a clear indication of what knowledge exists about the site and the proposed project and where gaps exist in the data. The scoping report should cover the following areas:

a. The World Heritage property, its values and attributes

The report should provide the Statement of Outstanding Universal Value, which provides an outline description of the World Heritage property and sets out its Outstanding Universal Value. Other national or local values can also be summarised if they might also be impacted by the proposal. Values can then be associated with attributes that convey those values (for more detailed discussion of values and attributes see section 4.5 below). By mapping both values and attributes, a study area(s) can be identified that needs consideration in the impact assessment; this should include the core and buffer zones of the World Heritage property but it might extend much further into the wider landscape or setting. There should also be a summary of information already available on the conditions present on the site and its environs, which can serve to understand baseline conditions. Where such information is missing, details of the baseline information to be collected should be given, including methods and appropriate study areas, likely sensitive heritage receptors and proposed survey and assessment methodology.

Sidebar: graphic example of mapping attributes e.g. Angkor [to be completed]

b. The project proposal

The proposed change or development needs outlining, including the need for such change or development. As much information as is available at the time of writing and can usefully help to inform planning of the impact assessment should be provided. If there is not enough information available to carry out an impact assessment properly the project proponent should prepare it before any further actions or decisions are taken. This should also include the identification of any possible alternatives that should be considered in the impact assessment, including the ‘no project’ option and the least damaging options in relation to Outstanding Universal Value. Very often, modifications to a project or economically viable and feasible alternatives can be found to development proposals that may be damaging to a World Heritage property’s Outstanding Universal Value. A detailed consideration and assessment of alternatives, together with support from World Heritage, protected area and biodiversity experts, can enable the early identification of these economically viable alternatives.
c. Identification of potential impacts
A scoping report should be used to identify impact in various categories that might potentially affect the World Heritage property and its setting (for more detailed discussion of types of impacts see section 3.7 below). This will be related to the nature of the proposed project but also on an understanding of the World Heritage property’s values and attributes.

d. Evaluation of potential impacts
A preliminary evaluation of whether the potential impacts identified will affect the World Heritage property should take place (for more detailed discussion of assessing impacts in section 3.8). When it is judged that a potential impact of the proposal will not be significant, this should be justified and a statement written of why they should be ‘scoped out’ of the impact assessment. Instead where types of impact are considered to be potentially significant, spatial and temporal boundaries should be stated for measuring them. This should further inform the details of the baseline information to be collected and the assessment methodology. Potential social issues that could impact a site’s Outstanding Universal Value and local communities should also be carefully assessed; these should be identified in close consultation with associated people.

e. Methodology
The suggested methodology can refer to this Guidance document with regard to assessing impact on World Heritage. The approach outlined should be tailored to the type of property, its Outstanding Universal Value and other values, the project proposal and the potential impacts that may affect the property. It may also be useful to indicate particular skills and competencies required from the team that will carry out the impact assessment, with the identification of areas where specialist input will be needed.

f. Stakeholders and rights holders
The scoping report should include a statement of who needs to be involved in the impact assessment process. This preliminary mapping of stakeholders should note that it is often appropriate to treat different individuals and groups differently according to their relationship with the heritage. For example, rights holders and associated heritage communities related to the property should be involved throughout the process from the scoping stage, whereas visitors might be consulted on specific issues. The team later carrying out the full impact assessment should use this stakeholder mapping as a base but should be expected to check it and expand it further where necessary.

g. Calendar
A negotiated calendar covering the whole process should be given, including deadlines for reporting and consultation.

The scoping report should be submitted as early as possible to the World Heritage Centre as it offers an early and effective opportunity for engagement and can help ensure that resources are not wasted in developing proposals that are incompatible with the long-term protection of the World Heritage property.

Finally, in a few cases, it already becomes evident during the scoping process that a proposed project is either incompatible with World Heritage or that it will not have any negative impacts on Outstanding Universal Value. In these cases, the scoping report should lay out the case clearly for this conclusion and is submitted to the World Heritage Centre for review.
3.5 Commissioning

It may be useful to adapt a successful scoping report as a briefing document or terms of reference when commissioning the impact assessment. Having set out the areas which need assessing and identifying the necessary specialist input, the right team to carry out the assessment can be sought. This might be an internal team within the heritage authority or external consultants – or indeed a combination of both. In any case it is important that there is a multidisciplinary group with the right professional experience who together can cover all aspects of the impact assessment. Where it is difficult to find the right people to create such a team, the Advisory Bodies to the World Heritage Convention can provide suggestions for appropriate consultants.

It is usually appropriate that the project proponent covers the financial cost of the impact assessment. However, the commissioning process and any necessary contractual arrangements can be carried out in a variety of ways. While there are sometimes advantages to a heritage authority carrying out the impact assessment them or through directly contracted consultants, it may sometimes be necessary for the project proponent to carry out this role. In this case it is important to guarantee neutrality by giving the heritage authority an oversight role for the impact assessment team and their work.

3.6 Understanding the heritage: values and attributes

When working at World Heritage properties, it is essential to start by fully understanding Outstanding Universal Value and describing its attributes. When a good scoping report has been carried out, this will have already begun the work of analysing Outstanding Universal Value, understanding other values and identifying attributes. At this stage the impact assessment team should depart from this base, checking it and expanding on it to ensure that all relevant values and attributes are identified. Broad consultation at this stage will help ensure that all values and attributes are taken into consideration.

World Heritage properties are special places containing features of high value. Values are the qualities of a heritage place that make it special and a particular combination of values – or its significance – will identify it as different from other places. Attributes are those elements which embody values and which in practice need protecting. In the nature sector they are also commonly called ‘features’. They might be physical elements, such as the fabric of a building, a species, a landscape feature, a view or the distinctive layout of a historic town. However, they might also be intangible, for example, religious ceremonies associated with the heritage place or natural processes. It is the attributes that will be the focus of management and conservation activities. When assessing impacts, this is done by measuring how different impacts affect attributes, so it is important for this step of identifying values and attributes to be presented clearly.

Sidebar: Types of attributes: illustrations with commentary [from OG Para 82 – to be updated with input from nature colleagues!]

- form and design;
- materials and substance;
- use and function;
- traditions, techniques and management systems;
- location and setting;
- language, and other forms of intangible heritage;
In the case of a World Heritage property, those values that are considered to be exceptional and ‘of importance for present and future generations of all humanity’ are considered to be the Outstanding Universal Value of that property. A Statement of Outstanding Universal Value is written to encapsulate this and analysing this statement, including the criteria and statements of integrity, authenticity, protection and management, is a crucial part of the impact assessment process. It should be noted that Outstanding Universal Value is defined at the time a World Heritage property is inscribed on the World Heritage List and cannot be changed without a re-nomination which goes through a full evaluation process.

However, while the Statement of Outstanding Universal Value is an essential starting point, most are not detailed enough in terms of attributes to be directly useful to impact assessment work and many early Statements were written without the broader and evolving definition of heritage that exists today. Each property will need to be assessed and where necessary, the attributes may need to be more specifically defined during the impact assessment process. Such definition of attributes should not seek to re-define the Statement of Outstanding Universal Value but to describe the attributes in a way which assists decision-making on the proposed change. It might also be necessary to identify those attributes that embody other values, in addition to Outstanding Universal Value.

Sidebar: Retrospective SOUVs [to be completed]

This Guidance concentrates on identifying impact on attributes that convey that Outstanding Universal Value. However, an impact assessment should collect and collate information on all aspects and attributes of the cultural heritage within the agreed study area, so that the geological, biophysical and/or historical development of the property, its context, setting and where appropriate other values (for example, national and local) can be fully understood. This is the ‘baseline data’ against which impacts must be measured, and includes both tangible and intangible aspects. It is therefore important that the baseline covers a wide range of relevant environmental (including the conservation of heritage attributes), social and economic variables.

The collection of information during an impact assessment should consider all potential sources of data. Techniques will include desk study or historical research, and site visits to check condition, authenticity and integrity, sensitive viewpoints and so on. They may include terrain modelling, or inter-visibility modelling to predict impacts on heritage assets, all requiring the contribution of specialists with relevant skills. It is necessary to explain in clear text evidence of how values are linked to both tangible and intangible heritage attributes. The data collection must enable the heritage attributes to be quantified and characterised, and allow their vulnerability to proposed changes to be established. It is also necessary to look at the interrelationship/s between discrete heritage resources, in order to understand the whole. There is often a relationship between a material aspect and an intangible aspect which must be brought to the fore.

Once a full analysis of Outstanding Universal Value and other values, and their attributes has been carried out, it is useful to provide a summary table. This allows quick communication of complex material. It also allows the later assessment of impacts to be correlated clearly to specific attributes.
Sidebar: example of values and attributes table [to be completed – possibly the Great Barrier Reef]

This list of attributes can also be mapped when appropriate in order to understand if the study area defined in the scoping report fully covers the geographical area which contains all the attributes. If necessary, the extent of the study area should be expanded to ensure that the effect of the proposed project is considered for all attributes that convey Outstanding Universal Value.

Sidebar: Data and documentation. A series of short thematic boxes on: surveys, field evaluations, 3D modelling, inventories, GIS, thematic maps, spatial rendering, etc. [to be completed]

Once all relevant values and attributes have been identified, in preparation for measuring impacts (see section 4.8 below), the level of recognition of those values can be stated. Impact assessments for World Heritage properties will need to consider their international heritage value and also other local or national values, and priorities or recommendations set out in national research agendas. They may also need to consider other international values which are reflected in, for example, international heritage designations. Whilst this method should be used as objectively as possible, qualitative assessment using professional judgement is inevitably involved. The heritage can be categorized by the context in which it is recognized:

- Heritage recognized locally
- Heritage recognized at national level
- Heritage recognized at international level
- World Heritage

Table: examples of heritage recognized at different levels [to be updated from table in 2011 Guidance]

3.7 Understanding the heritage management system

The values and attributes of heritage places are protected by a heritage management system for present and future generations; ideally these systems will also deliver wider benefits for society (see the sidebar in section 1.4 on the World Heritage Sustainable Development Policy). Heritage management systems vary considerably from country to country. Some may have the responsibility for managing heritage in a particular area or they might have responsibility for a particular type of heritage (natural, built, archaeological, etc.), or even just for a single heritage place.

‘Rarely will this primary management system at national or regional level be adequate for effective management, for instance for historic urban centres or cultural landscapes. In those cases management might require working with public authorities, private owners and other stakeholders, drawing upon a variety of legal instruments and combinations of institutions and resources. Planning controls may depend on quite different legal systems, for example municipal authority regulations that embody planning constraints and development strategies for entire regions, possibly combined with tax incentives or grants for private owners and tenants.

This is particularly true of World Heritage properties. The buffer zone of a property, for example, will usually be subject to legislation from non-heritage sectors and is
likely to be the responsibility of multiple public and private organizations and owners. As another example, a cultural property which has been the object of traditional management practices for generations may have to meet new management requirements resulting from its World Heritage inscription or when exposed to the adverse effects of economic development. Similar scenarios can arise in the case of cultural landscapes where land use practices have never been formalized.\(^\text{12}\)

Although Environmental Impact Assessments have not traditionally included an analysis of heritage management systems, it is an area of research that can greatly improve the outcomes of a World Heritage impact assessment. Simple tools for analyzing the management system and its effectiveness can help understand the context in which the new development is being proposed. The advantages include:

- Identification of all relevant stakeholders (institutions, groups and individuals) – not just the most obvious ones – who hold heritage values, contribute to heritage management, and should gain benefits from the heritage. These can then be involved in various ways in the impact assessment process.
- Facilitated decision-making based on a greater understanding of the World Heritage property and consensus building thanks to the participation of these stakeholders.
- Application of the correct statutory processes and considerations as a basis for decision-making that complies with local laws and guidelines.
- Understanding of the weaknesses of the management system that might allow increased negative impacts on World Heritage, so that recommendations in the impact assessment report might indicate where these can be reduced, compensated for or mitigated against.
- Appreciation of the strengths of the management system that might help eliminates or reduces negative impacts and which might help enhance positive impacts on World Heritage. Recommendations in the impact assessment report might then include suggestions for gaining benefits from the project proposal.
- Identification of management mechanisms that might help successfully implement the recommendations of the impact assessment report and monitor the subsequent situation.
- Proactive improvement to the management system on the basis of this analysis, which can potentially reduce threats from future project proposals.

Sidebar: tools for analysing the management system [to be completed]

* Nine-component framework for assessing management systems (p.118 of ‘Managing Cultural World Heritage’)
* ‘Enhancing Our Heritage’ toolkit for assessing management effectiveness

3.8 Understanding the project

In addition to examining the heritage place in detail, it is equally important to carry out a complete study of the proposed project or development. The project proponent should provide full and detailed documentation, including but not limited to reports and technical drawings for the proposed project, and any other form of impact assessment or evaluation that has already taken place. If early plans are shared with the impact assessment team,

then any necessary modifications can be taken on board in a timely and cost-effective manner before any irreversible decisions or actions have been taken.

**Sidebar: information required to understand a proposed project [Source: Glasson & Therivel 2019 p.95-6]**

- Purpose or rationale
- Location and layout
- Design (i.e., drawings, visualisations, schedules etc.)
- Description of life cycle of activities
- Description of physical characteristics of the project (for all phases of the life cycle)
- Characteristics of the operational phase of the project (e.g., energy requirements, labour requirements, nature of materials used, natural resources required, etc.)
- Estimate of residues and emissions
- Potential for accidents and hazards
- Associated policies or projects (e.g., associated transport infrastructure, tourism strategies, housing for workers, etc.)
- Main alternatives considered and reasons for proposed project

Identifying, assessing, and communicating alternative development proposals are one of the most important steps in the impact assessment process. The scoping report should have outlined potential alternatives to the proposed development project and each of these (and any others that emerge during the impact assessment process) should be fully considered at this stage. The different development options should be clearly communicated to decision-makers, and those that are least damaging in relation to Outstanding Universal Value should be highlighted, including, the ‘no project’ option. As has already been stated, often there are economically viable and feasible alternatives to development proposals that can avoid damaging to a World Heritage property’s Outstanding Universal Value and these need serious consideration.

In cases where the impact assessment for World Heritage takes place within an Environmental Impact Assessment there is likely to be a significant overlap between what is considered on the wider environmental issues and Outstanding Universal Value, which should minimize the need for additional data collection. However, it may sometimes be necessary to collect additional data in order to adequately assess a proposal’s likely impacts on Outstanding Universal Value. It should be noted that when an Environmental Impact Assessment takes place at a World Heritage property, Outstanding Universal Value should be a primary consideration and should not be subject to compromises with other factors.

In many cases a complex and technical project will require the impact assessment team to ask for extra input from a specialist(s) to ensure that all details are understood. Specialists with World Heritage, urbanism, protected area and biodiversity knowledge, etc. can provide valuable support in identifying the issues that will need to be assessed and additional data needs. The team should ask for additional information where the project documentation is not clear and should note in the impact assessment report where that information is missing and where additional data is needed.

### 3.9 Identifying potential impacts

Having fully examined the details of the proposal, the next step is to assess its likely effects on all attributes, especially those attributes which give the property its Outstanding Universal
Value, including direct, indirect and cumulative effects. It should be remembered that effects on cultural heritage attributes from development or other changes may be adverse or beneficial and both should be measured.

The assessment should consider effects on values, integrity and protection and management as described in the property’s Statement of Outstanding Universal Value. The relationship between attributes of Outstanding Universal Value, authenticity and integrity needs to be understood and needs to be shown to be understood in the impact assessment report. Authenticity relates to the way attributes convey Outstanding Universal Value and integrity relates to whether all the attributes that convey Outstanding Universal Value are extant within the property and not eroded or under threat. Proposals should be tested against existing policy frameworks and the management plan for the property and surrounding area. The compatibility of the scale, pattern, use, etc. should be tested according to the attributes of the property that convey Outstanding Universal Value and other assets. Issues such as sight lines, architectural type, volumes and surface appearances, settlement form, functional uses and persistence through time, etc. might be relevant. In all this, it is necessary to match the attributes of the development to the attributes of the site, so that development is complementary and even enhancing to the property. The final impact assessment report should present clear conclusions for these three topics and for Outstanding Universal Value overall.

In assessing impacts on Outstanding Universal Value it is important to note that World Heritage properties, like other protected areas, are integral to the wider landscape and cannot be considered independently from wider ecosystem processes. Potential social issues that could impact on the site’s Outstanding Universal Value should also be carefully assessed.

There is sometimes a tendency to see impacts as primarily visual. While visual impacts are often very sensitive, impacts take many forms: physical, social and cultural, even economic. They may be direct and indirect; cumulative, temporary and permanent, reversible or irreversible. Impacts may arise at each stage of the project lifecycle, from construction through operation to project closure; each needs to be considered for its relevance to the impact assessment.

Sidebar: issues to consider when assessing impacts
- Direct or indirect?
- Geographical extent?
- Beneficial or adverse?
- Duration?
- Reversibility?
- Permanent or temporary?
- Cumulative?
- Probability?

Direct impacts are those that arise as a primary consequence of the proposed development or change of use. Direct impacts can result in the physical loss of part or all of an attribute, and/or changes to its setting - the surroundings in which a place is experienced, its local

13 A landscape approach is needed as outlined in the ICOMOS Xi’an Declaration on the conservation of the setting of heritage structures, sites and areas.
context, embracing present and past relationships to the adjacent landscape. In the process of identifying direct impacts care must be taken of the development technique of gaining approvals by just avoiding direct impact - impacts which just ‘miss’ physical resources can be just as negative to a single resource, a pattern, ensemble, setting, spirit of place, etc.

Direct impacts resulting in physical loss are usually permanent and irreversible; they normally occur as a consequence of construction and are usually confined within the development footprint. The magnitude of these impacts will depend on the proportion of the attribute affected, and whether its key characteristics or relation to Outstanding Universal Value would be affected.

Direct impacts that affect the setting of an attribute may occur as a consequence of construction or operation of the development scheme and may have an effect some distance from the development. Assessment of impacts on setting refers to perceptible visual and aural (noise) effects that can be appreciated at a given time. Such impacts may be temporary or permanent, reversible or irreversible depending on the extent to which the cause of the impact can be removed. Impacts may also be transient where occurrence is sporadic or of limited duration, for example, related to hours of operation or the frequency of passage of vehicles.

Indirect impacts occur as a secondary consequence of construction or operation of the development, and can result in physical loss or changes to the setting of an asset beyond the development footprint. For example, construction of related infrastructure such as roads or powerlines that are required to support the development. Facilitated impacts should also be considered which may be further actions (including by third parties) which are made possible or facilitated by the development. World Heritage properties are also very vulnerable to the impacts of increased tourism which may arise as an indirect impact of a new development project.

**Sidebar: direct, indirect and cumulative effects**

For detailed guidance on assessing direct, indirect and cumulative effects for please see the Environmental Impact and/or the Ramsar Impact Assessment Handbook.

Positive impacts or benefits need to be as carefully considered as adverse effects. There are a range of benefits and dis-benefits, and the question of who receives the benefits (or misses out on the benefits) is important. Often the property itself and the associated communities do not receive the benefits flowing from development. Financial consequences of the assessment are also important and often directly influence decisions. The analysis needs to reveal rather than disguise these complexities. The conservation of the property should be counted within the benefits of a project, so that projects that are supportive of conservation can be weighted more than those that do not. In addition, impacts which potentially increase or decrease disaster risk preparedness and resilience should be highlighted.

**Sidebar: assessing negative impacts and lack of positive impacts for groups who can be disproportionately affected** (e.g. indigenous people, gender, etc.) [to be completed]

**Sidebar: impacts which may increase risk or resilience** [link to DRM work] [to be completed]

### 3.9 Assessing positive and negative impacts
After identifying the potential types of positive and negative impacts that a proposed project might cause, it is important to be able to communicate clearly to what degree they will affect specific attributes. This step involves assessing the how much change will take place with the project, compared to a situation without that project. There are many techniques used for assessing impacts that can be used but for the purposes of World Heritage, the methodology chosen must clearly demonstrate how impacts will affect the Outstanding Universal Value and other values of the World Heritage property.

The magnitude of impacts should be judged taking into account their direct and indirect effects and whether they are temporary or permanent, reversible or irreversible. The cumulative effect of separate impacts should also be considered. The magnitude of impact, either positive or negative, can be ranked as:

- Major change
- Moderate change
- Minor change
- Negligible change
- No change

There are a very large number of tools and techniques that can be used for measuring the magnitude of specific types of impact, from intuitive ones to mathematical models. When necessary, qualitative and quantitative methods can be selected according to the specific heritage typology, the nature of the proposed project, and the type of potential impacts identified. For cases that require more complex consideration, a range of specialist literature exists for guidance. However, in some cases it is the magnitude of a change can be positioned on a spectrum from neutral to major impact – positive or negative – from examination of the proposed project without the need for complex methodologies.

The following colour-coded scale is one way of indicating how the proposed change might affect individual attributes or groups of attributes. An additional column can be added to values and attributes table, as suggested in section 3.5, so that these colour-coded scores can be linked to specific attributes and therefore to the values they convey. After all attributes have been considered, the total number of positive and negative impacts can be counted and summarized as an indication of the opportunities and risks the proposed project might bring.

The impact of a proposed project will need to be assessed specifically for the attributes which embody the Outstanding Universal Value of a World Heritage property in order to meet the requirements of the World Heritage Committee. However, values and attributes that are recognized at national and local levels should also be assessed with a similar and comparable methodology, even if the results are set out separately. Aligning these scoring processes can help overcome the challenge of early World Heritage inscriptions with Retrospective Statements of Outstanding Universal Value. It can also help address those

14 Overviews of the range of techniques can be found in publications such as *Methods of Environmental and Social Impact Assessment* (2017).
aspects of the heritage which are of importance to stakeholders and which also require appropriate consideration in regard to proposed change but which are not always included within Outstanding Universal Value. In addition, it is very often those values and attributes that are recognized locally which support sustainable development aspirations and which need to be protected and enhanced in that context too. Furthermore, it is often necessary to carry out further analysis of values and attributes that lie in the buffer zone – and even beyond – of a World Heritage property due to the complex interdependencies that heritage often has with its setting.
Establishing Heritage Impact Assessment (HIA) in Nepal

Sidebar: a) example of an attributes table with colour-coded impacts [to be inserted] and b) summary of impacts from Galle HIA of proposed project before mitigation and enhancement actions [placeholder: to be upgraded]

<table>
<thead>
<tr>
<th></th>
<th>Very large positive impact</th>
<th>Large positive impact</th>
<th>Moderate positive impact</th>
<th>Slight positive impact</th>
<th>Neutral</th>
<th>Slight negative impact</th>
<th>Moderate negative impact</th>
<th>Large negative impact</th>
<th>Very large negative impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPACTS ON OUV:</td>
<td>0</td>
<td>3</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>IMPACTS ON OTHER VALUES:</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Sidebar: buffer zone / setting [to be completed]

It should be recognized that a degree of uncertainty is unavoidable whenever predicting the future. However, the aim of using an impact assessment methodology provides as solid and transparent a basis as possible on which to make decisions. Where professional judgement is required, this is stated clearly so that each step of the assessment can be studied by others and refined if necessary. While some practitioners fear that the assessment of impacts is too subjective, this approach narrows down the range of possible grading of impacts to a minimum and allows conclusions to be defended.

The following table provides some examples that can help assess the magnitude of impact on different heritage typologies.

**Table: magnitude of impact [to be completed]**

Sidebar: Forexample: [placeholder - examples to be improved with case studies]

Total demolition of a key building which is the main expression of Outstanding Universal Value for a World Heritage property to make way for a new road would be a major adverse effect or overall major adverse impact.

Removal of a later road from the immediate vicinity of a key building which conveys Outstanding Universal Value and which is not directly related to its Outstanding Universal Value attributes may have a major beneficial effect or overall impact.

### 3.10 Should the proposed project proceed?

The team carrying out the impact assessment, in broad consultation with relevant stakeholders and rights holders, needs to come to a conclusion on whether the impact on Outstanding Universal Value of a World Heritage property by proposed project would be so great as to mean that the project should not proceed. If this is the case, then the impact assessment report needs to state that clearly and recommend that the project should not go forward.

In some cases, such as a proposed new mine within a natural World Heritage property, there may be no circumstances under which the ‘no project’ option will change. However, there are also projects that could be revised in light of the understanding gained during the impact assessment process and new alternatives proposed where negative impacts on Outstanding
Universal Value are removed from the project proposal, e.g. in terms of location, scale, design elements, processes, equipment, etc. These would again require a revised impact assessment to take place in order to verify that they are genuinely compatible with World Heritage.

3.11 Mitigation, adaptation and enhancement

Mitigation involves ‘measures envisaged avoiding, preventing, reducing, or, if possible, offsetting any identified significant adverse effects on the environment’. In an impact assessment report, mitigation measures should be identified, which requires first avoiding potential negative impacts and secondly reducing unavoidable residual impacts through mitigation measures.

The impact assessment report should include proposed principles and, where possible, proposed methods to mitigate or offset the effects of a development proposal or other agent of change. This should include consideration of other options for the development including site selection/location, timing, duration and design. The impact assessment should indicate fully how the mitigation is acceptable in the context of sustaining Outstanding Universal Value, including the authenticity and integrity of the World Heritage property. Available guidance in the Operational Guidelines on periodic reporting should be consulted to help this process.

The impact assessment should outline how any minor residual negative impacts on Outstanding Universal Value that cannot be avoided by changing project design or through the ‘no project’ option will be mitigated and monitored through a budgeted management plan, indicating how the mitigation measures will be implemented, who will implement them within what timeframe, and what resources are secured for their implementation. Where appropriate, biodiversity enhancements and activities, such as interpreting and transmitting cultural values, should also be incorporated into plan, programme, and project development as a matter of course in order to enhance Outstanding Universal Value.

Figure: diagram of mitigation/adaptation/enhancement options [to be completed]

Sidebar: case study examples of mitigation strategies for potential impacts [to be completed]

In addition to mitigating negative impacts, it is also important to consider positive impacts and how these might be enhanced to maximise their effect. A new project can also be an opportunity to provide benefits to both the heritage and to society and this should be seized when possible.

In recent years Community Benefits Agreements have become more common in association with large development projects. They involve the developer providing a range of benefits to the community which hosts a new development, often when there are indigenous communities. As these agreements can cover a range of contributions to the community (including improved facilities, social investment funding, infrastructure, capacity building,

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community projects, etc.), they are an area where a proactive approach at an early stage of project planning might obtain additional positive impacts for both heritage and society.

**Sidebar: examples of enhancement of potential positive impacts [to be completed]**

Impact assessment is an iterative process. Results of data collection and evaluation should be fed back into the design process for the development, or proposals for change or for archaeological investigation. This step of finding proactive ways to remove/reduce the negative impacts and enhance positive impacts that have been identified is important. Assessments which fail to do so often also fail to be useful in decision-making, with project proposals becoming blocked or moving ahead with inappropriate solutions incorporated. It is often appropriate to undertake further consultation at this stage before finalising the impact assessment so that wide ranging opinions and specialist input can be brought to bear on finding mitigation solutions and build consensus.

Management of heritage places inevitably includes taking decisions regarding both continuity and change at that place. Every reasonable effort must be made to avoid, eliminate or minimise adverse impacts on attributes that convey Outstanding Universal Value and other significant values and in no case is it acceptable to lose Outstanding Universal Value. However, there may be cases where significant public benefit might be gained from a proposed change and inspired problem solving may be required at World Heritage properties to ensure a balance between heritage and society.

### 3.12 Reporting

**Sidebar: indicative contents list of a final impact assessment report [to be completed]**

The final report that outlines the whole impact assessment process and draws conclusions from the evidence that it presents is of great importance for informing decision-making. The findings should be laid out clearly so that all readers can follow the analysis and understand why the assessment makes certain recommendations. When this step is not done well, the report may be ignored by decision-makers and the whole process has been wasted. What is needed is an evaluation that is helpful to States Parties and their decision-making agencies, the Advisory Bodies and the World Heritage Committee, and relevant to the World Heritage context in general and specific properties in particular. The impact assessment report should provide the evidence on which decisions can be made in a clear, transparent and practicable way. The level of detail needed will depend on the property and proposed changes. The Statement of Outstanding Universal Value will be central to the evaluation of the impacts and risk to the property.

The World Heritage impact assessment might be a stand-alone report or it might be a separate chapter within an Environmental Impact Assessment. In both cases the content should be the same but in the case of the later, the final conclusions regarding World Heritage should be reflected in the executive summary of the overall Environmental Impact Assessment. If an Environmental Impact Assessment report does not include a dedicated chapter on World Heritage impacts as relates to Outstanding Universal Value, when it is reviewed by the Advisory Bodies, the review will state that the assessment is not adequate and recommend that it is amended to include such a chapter before it is re-submitted to the World Heritage Centre.
The World Heritage impact assessment report might usefully include:

- A summary of the methodology used for the impact assessment, including identification of authors, and experts and clear statements of how stakeholder views were taken into account.
- A comprehensive description of the World Heritage property and its Outstanding Universal Value, authenticity and integrity, condition, context (including other heritage attributes) and inter-relationships. This should be accompanied by appropriate mapping to aid the reader. All heritage elements should be included, but the components contributing to the World Heritage property’s Outstanding Universal Value are particularly relevant and may merit a further detailed section.
- A non-technical overview of the project proposal and its relationship to the World Heritage property and its wider context, considering all phases of the project lifecycle.
- An understanding of the range of impacts arising from the development or other proposal for change.
- Clear conclusions on the likely positive and negative impacts of the proposal on a site’s Outstanding Universal Value and other values, including environmental, social and economic impacts among others.
- An assessment of the risk posed to the retention of Outstanding Universal Value and the likelihood that the property may be in potential or actual danger.
- Recommendations, based on the identification and evaluation of all alternatives, of a preferred proposal option, e.g. the least damaging and most sustainable proposal in relation to Outstanding Universal Value or the ‘no project’ option as appropriate.
- If a project option is recommended, outline of any residual negative impacts on Outstanding Universal Value that cannot be avoided will be mitigated.
- A plan for mitigation actions, including responsibilities funding sources and monitoring.
- A statement of heritage benefits which may arise from proposals including better knowledge and understanding and awareness-raising.
- Appendices containing supporting evidence if appropriate. These might take the form of a suitably detailed inventory of attributes of Outstanding Universal Value and other heritage assets, impacts, survey or scientific studies, illustrations and photographs.

Note that a summary of the report must be encapsulated in the non-technical summary of the assessment. This summary should be succinct and must be written without technical language so that all readers can immediately understand the content of the report and its key recommendations. Although the non-technical summary is the first text within the report, it should be the last section to be written so that it reflects the entire content of the assessment.

3.13 Review of the report

The writing of a report is not the end of the impact assessment process, although it is a significant milestone in finding solutions. Draft impact assessment reports should be shared with key stakeholders for comment. This includes representatives of the State Party who need to review the impact assessment report when a final draft is ready to ensure that it is satisfied with the methodology described and the conclusions reached. This is particularly important when the project proponent has prepared the report directly or when external consultants have been commissioned. There should be a discussion with the impact
assessment team so that any reasonable feedback or requests for clarification are incorporated into the draft report.

It is possible to commission an independent review of an impact assessment through the Advisory Bodies’ networks of specialists, and other appropriate and accredited independent advisers. States Parties are encouraged to undertake independent reviews of developments that may impact World Heritage properties. This can be particularly valuable where impact assessments have been carried out by developers, to ensure that an independent view of the quality of the assessment has been provided.17

The State Party should submit a final draft of the impact assessment report as early as possible to the World Heritage Centre. These are then forwarded to the relevant Advisory Body18 for review, as part of their role in monitoring the state of conservation of World Heritage properties. This allows the impact assessment team the opportunity to upgrade the report on the basis of recommendations given by the Advisory Bodies before its final delivery, thereby ensuring greater effectiveness.

During their review, the Advisory Bodies will evaluate whether the impact assessment process meets the World Heritage Impact Assessment Principles outlined impart 2 above. They may also consult their networks of specialists, for example members of the World Commission on Protected Areas, the Species Survival Commission, IUCN Regional World Heritage Focal Points, ICOMOS International Scientific Committees and other qualified specialists. Once the review is complete, the Advisory Bodies provide brief technical comments to States Parties to support their decision-making processes. This review is also incorporated into State of Conservation Reports, which constitute the World Heritage Centre’s advice to the World Heritage Committee.

The final revised report should be shared with all relevant stakeholders and made public so that the final recommendations are understood by all. The report is not an end in itself but is important for supporting evidence-based decision-making that balances good outcomes for World Heritage with benefits for society.

3.14 Post-impact assessment monitoring and auditing

After the report has been reviewed and finalized, the recommendations of the final impact assessment report need acting on.

If the impact assessment recommended that the proposed project can proceed a management plan should be drawn up; for example, Environmental Impact Assessments often lead to an Environmental Management Plan. In the case of World Heritage properties, this should not be confused with the management plan required for ongoing management of the specific property, although it is useful to ensure that both plans are well coordinated. The management plan that results from an impact assessment should detail operating, monitoring and restoration conditions relating to the World Heritage property’s Outstanding

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17 If States Parties wish to commission an independent review of an impact assessment for a natural World Heritage property, IUCN may be able to facilitate this advice by recommending consultants or advisers who can be commissioned by the State Party (please write to whconservation@iucn.org). However, States Parties are advised that the outcomes of such a review do not constitute IUCN’s official position, but the views and advice of the expert involved. [EDIT TEXT TO INCLUDE ICOMOS TOO]
18IUCN for natural World Heritage and ICOMOS for cultural World Heritage.
Universal Value throughout the life cycle of the proposal. The management plan should ensure that the measures necessary to assess and monitor residual adverse effects are in place and that remedial action is taken immediately when impacts are worse than predicted. The information gathered during the impact assessment can be used as a baseline for monitoring.

The management plan and any monitoring reports should be published and publicly available. Finally, as the proposed project goes ahead and the management plan is then implemented, the plan should be independently audited at regular intervals.

It is the responsibility of the developer to set aside funds from the outset to cover any additional costs that are required for the implementation of the management plan, as well as for the independent third-party auditing of the implementation of the management plan. This budget should be specified in the management plan and verified by regulators.
PART 4: CONNECTING IMPACT ASSESSMENT WITH WORLD HERITAGE MANAGEMENT

This part of the Guidance provides a summary discussion of heritage management and where it is related to impact assessment. It explains that if management of World Heritage is integrated with an impact assessment perspective, it might be more effective and many emergency situations that negatively impact on heritage might be avoided. An impact assessment approach can be integrated into both ongoing regular management processes, as well as contributing a strategic vision for the future of the heritage place.

4.1 Integrating an impact assessment approach into management planning processes

Sidebar: OG on management

108. Each nominated property should have an appropriate management plan or other documented management system which must specify how the Outstanding Universal Value of a property should be preserved, preferably through participatory means.

109. The purpose of a management system is to ensure the effective protection of the nominated property for present and future generations.

110. An effective management system depends on the type, characteristics and needs of the nominated property and its cultural and natural context. Management systems may vary according to different cultural perspectives, the resources available and other factors. They may incorporate traditional practices, existing urban or regional planning instruments, and other planning control mechanisms, both formal and informal. Impact assessments for proposed interventions are essential for all World Heritage properties.

The Outstanding Universal Value of World Heritage is supported by effective protection and management actions. The Operational Guidelines therefore state that each property needs a management plan or other documented management system for the ongoing protection of World Heritage. They also consider impact assessments to be an essential tool for those management systems to evaluate proposed changes and ensure successful management outcomes. If the management plan is sufficiently robust and has undergone a thorough consultation process in its development, it should be possible to implement cooperative approaches to potential problems within the framework of the plan.

Sidebar: Management systems and management planning [to be completed]

In many ways a robust management system provides a strong foundation for impact assessment. It should be well anchored in protection and planning arrangements at national, regional and local levels. While it will be embedded in national systems of protection in different ways, a management plan could include mechanisms for assessing potential change. If good management aims at preserving the significance of the heritage place and ensuring that it contributes to society, then the management team should fully analyse...
Outstanding Universal Value and other values, linking them to tangible and intangible attributes at the property. This values assessment would then be available for a range of management activities, including planning, disaster risk preparedness, site presentation, World Heritage nomination, impact assessment and beyond.

Good management practice also foresees the definition of property boundaries, a buffer zone and a larger area of influence. These zones should be based on a thorough understanding of the property’s values and attributes and then in turn can help quickly detect when proposed changes need assessing for their impacts on World Heritage. Potential and opportunities threats can be anticipated when the management system is property-specific and conservation policies embedded in the management system may also be used as a measure to assess potential beneficial and adverse impacts.

Another example of a solid management system that support impact assessment is when such a system already includes the participation of all key stakeholders (e.g. in defining the heritage and other values, protecting and managing them and sharing benefits). If these stakeholders are already engaged by a management system, then the consultation required at all stages of impact assessment is more efficient and effective. Both daily management and impact assessment will be grounded in the social environment which forms the context for World Heritage and from which it cannot be isolated. Healthy participatory mechanisms will also aid discussion of project proposals and their alternatives at an early stage in the decision-making process.

Unfortunately, it does need to be recognized that many World Heritage properties do not have a well-functioning management system, even where there is a management plan. This is an underlying issue for many properties selected for State of Conservation reporting. In addition, both management planning and impact assessments are sometimes situated in land-use planning systems that present characteristics which complicate the effective integration of World Heritage into impact assessments and decision-making. For example, many land-use planning systems have limited resources and staff capacity; there are barriers to communication across government agencies (e.g. all those with responsibilities for urban areas; the mining agency and the agency responsible for World Heritage); processes for issuing development permits may be unclear; stakeholder consultation processes may be limited or non-existent; and there is often a lack of information available on World Heritage procedures (e.g. the requirement to inform the World Heritage Committee of development proposals affecting, or likely to affect, World Heritage properties). These are areas where improvements need to be made.

However, on a more positive note, there are examples where impact assessments have proved to provide a positive contribution to ongoing management. For example, by collating baseline information at a given point in time that can be used for other management purposes, by acting as a catalyst for stakeholders to come together for the first time and improve participation in governance mechanisms, or by clarifying what type of development is appropriate in relation to the World Heritage property.

Sidebar: WH Resource Manuals [to be completed]

4.2 Strategic environmental assessments

Strategic Environmental Assessments area undertaken with a similar approach to other impact assessments but apply to policies, plans and programmes (i.e. multiple or very large
Establishing Heritage Impact Assessment (HIA) in Nepal

projects or pre-development strategic planning). As impact assessments are generally applied to individual projects, they are often not well suited to assess the cumulative impacts of multiple projects (existing and planned) at a landscape scale or to identify ‘strategic’ alternatives. Instead Strategic Environmental Assessments have the advantage of assessing impacts at a precinct, landscape or regional scale before individual projects are decided upon. Strategic Environmental Assessments can also help to identify economically viable alternatives, for example, different routes for roads, so as to avoid impacts on a World Heritage Site.

In addition – and perhaps most importantly – whereas most impact assessments are reactive, i.e. they are developed in response to a specific project proposal, Strategic Environmental Assessments have the potential to be carried out proactively and therefore help support better evidence-based decision-making before any action has been taken.

The indicative relationship between Strategic Environmental Assessments and impact assessments for individual projects is shown in Figure 1. More strategic levels of assessment should inform subsequent ones. For example, a Strategic Environmental Assessment for a regional or national road network can support the preparation of impact assessments for individual roads by identifying preferred road options and through the collection of data. However, the Strategic Environmental Assessments will not remove the need to undertake impact assessments for the individual roads. Rather, it will provide decision-makers with a strategic overview of economically feasible road options and their different environmental and social impacts.

Figure: [placeholder - to be upgraded]
The Advisory Bodies to the World Heritage Convention strongly recommend that Strategic Environmental Assessments are undertaken for large-scale proposals, proposals comprised of multiple projects or urban precinct, regional or landscape-scale land use proposals (e.g. up-zoning of urban areas, major subdivision, large dams, multiple road development proposals, and large-scale commercial agriculture). The cumulative impacts of these types of proposals may have a serious negative effect on a World Heritage property’s Outstanding Universal Value and are best assessed as early as possible through a process that is designed to consider high-level strategic alternatives. For example, multiple proposals for the development of a regional road network are best assessed through a single comprehensive Strategic Environmental Assessments rather than through several project-specific impact assessments, which are unlikely to consider the cumulative effects of the proposals as a whole, or alternative routes for the road network.

The earlier a Strategic Environmental Assessment is undertaken in the planning process, the more its findings can influence the policy, plan or programme in consideration. For this reason, some heritage places, including World Heritage properties, are taking a more proactive stance and beginning to carry out Strategic Environmental Assessments of their own in order to bring together all relevant stakeholders to establish a shared strategic vision for the future. This has the potential to avoid conflict with development proposals by steering projects in advance towards areas that are robust enough and compatible with them. In some countries Strategic Environmental Assessments is being integrated with sustainability appraisal in order to ensure that recommendations are based on environmental, social and economic evaluations.
Acknowledgements

This Guidance was based on the 2011 Guidance on Heritage Impact Assessments for Cultural World Heritage Properties that was published by ICOMOS following an international workshop organised by ICOMOS in Paris in September 2009. It has been integrated with the IUCN World Heritage Advice Note on Environmental Assessment & World Heritage published in 2013.

This revised edition was updated and expanded in the context of the World Heritage Leadership programme with contributions from ICOMOS, ICCROM and IUCN as Advisory Bodies to the World Heritage Convention, in partnership with the UNESCO World Heritage Centre and the International Association of Impact Assessment.

The authorship group was made up of XXXX, and drafts were reviewed by XXXX.

Sidebar: short summaries on partners as found at front of other WHC publications [to be completed]
ANNEX B- ICOMOS GUIDELINES 2011
ICOMOS guidelines 2011

Guidance on Heritage Impact Assessments for Cultural World Heritage Properties
A publication of the International Council on Monuments and Sites
January 2011
ICOMOS, 49-51 rue de la Fédération 75015 Paris, France
In collaboration with the World Heritage Centre

Guidance on Heritage Impact Assessments for Cultural World Heritage Properties

Purpose

To offer guidance on the process of commissioning HERITAGE IMPACT ASSESSMENTS (HIAs) for World Heritage (WH) properties in order to evaluate effectively the impact of potential development on the Outstanding Universal Value (OUV) of properties.

The guidance is addressed at managers, developers, consultants and decision-makers and is also intended to be relevant to the World Heritage Committee and States Parties.

The concept of OUV underpins the whole World Heritage Convention and all activities associated with properties inscribed on the List. The World Heritage Convention, for the protection of World’s Cultural & Natural Heritage, which came into being in 1972, recognises properties of ‘Outstanding Universal Value’ which are part of the “world heritage of mankind as a whole” and deserve “protection and transmission to future generations”. Such properties are recognised through inscription on the World Heritage list by the World Heritage Committee, which consists of representatives from 21 States Parties.

Their OUV is fixed by the World Heritage Committee at the time of inscription and since 2007 has been encapsulated in a Statement of OUV. **OUV thus defines the thinking at the time of inscription and is non-negotiable.**

The World Heritage Convention is ratified by States Parties, who agree to conserve properties on their territories that are seen to be of OUV, and thus contribute towards protecting the shared heritage of humanity. This means that OUV needs to be sustained over time through the protection of attributes that are seen to convey OUV.

World Heritage sites are thus single heritage assets with an international value that has been clearly articulated. Not everything within them contributes to OUV, but those attributes that do must be appropriately protected.

This guidance sets out a methodology to allow HIAs to respond to the needs of World Heritage sites, through considering them as discrete entities and evaluating impact on the attributes of OUV in a systematic and coherent way.

The Guidance was developed following an international workshop organised by ICOMOS in Paris in September 2009.
1 Background

In recent years the UNESCO World Heritage Committee has addressed considerable numbers of State of Conservation Reports related to threats to World Heritage properties from various forms of large-scale development. These developments include roads, bridges, tall buildings, “box” buildings (e.g. malls), inappropriate, a contextual or insensitive developments, renewals, demolitions and new infrastructure typologies like wind farms, as well as land-use policy changes and large scale urban frameworks. The Committee has also examined threats from excessive or inappropriate tourism. Many of these projects have had the potential to impact adversely on the appearance, skyline, key views and other different attributes that contribute to Outstanding Universal Value (OUV).
In order for the ICOMOS and the Committee to evaluate satisfactorily these potential threats, there is a need to be specific about the impacts of proposed changes on OUV. While heritage impact assessment exists in many countries, these seem less reliably used in the World Heritage context.

Where formal evaluations are undertaken, many of these make use of procedures for environmental impact assessment (EIA). Whilst there is merit at looking at the experience of EIA, this is not likely to be immediately useful without some adaptation. EIA frequently disaggregates all the possible cultural heritage attributes and assesses impact on them separately, through discrete receptors such as protected buildings, archaeological sites, and specified view-points with their view cones, without applying the lens of OUV to the overall ensemble of attributes. A more global approach to the site is required, one directly linked to the expression of the site’s OUV.

EIA therefore often produces disappointing results when applied to cultural World Heritage properties as the assessment of impacts is not clearly and directly tied to the attributes of OUV. Cumulative impacts and incremental changes (adverse) may also more easily pass undetected. The recent work done to assess the impacts of the proposed bridge on the World Heritage site of the Middle Rhine Valley is an example of this problem.

Currently, there are limited formal tools for identifying receptors and for assessing impact and few examples of excellence for Heritage Impact Assessment (HIA) undertaken for cultural WH properties. However, progress in 3D virtual representations and digital tools open new means to operate HIA.

a) World Heritage context within which HIA are undertaken

World Heritage properties need to be seen as single entities that manifest OUV. Their OUV is reflected in a range of attributes, and in order to sustain OUV it is those attributes that need to be protected. Thus the HIA process needs to consider the impact of any proposed project or change on those attributes, both individually and collectively, rather than on a standard range of receptors.

The development of Statements of OUV (SoOUV) for all World Heritage properties, a requirement set out in the Operational Guidelines for the implementation of the World Heritage Convention (UNESCO, 2008) paragraph 154-5, should assist through setting out clearly the attributes that reflect OUV and the links between them. The examination of integrity and authenticity is also a useful starting point.

In terms of assessing the effect of any impact on OUV, concepts such as ‘limits of acceptable change’ and ‘absorption capacity’ are being discussed, although there is no consensus yet on the usefulness of these concepts, or on how to operationalise them. There is also no consensus on how to revive heritage value that has been eroded.

Numerous visual assessment tools have been adapted to the assessment of impacts of proposed developments on the OUV of various World Heritage properties, especially those located within dynamic urban contexts, but so far these have rarely been linked to a more in-depth assessment of impact on all the attributes of OUV. There are also new tools on recording and mapping intangible heritage and multiple layers of attributes that have not been exploited for use in WH properties.
World Heritage properties are very diverse, as are the potential impacts. Although development of new tools is potentially useful, for the foreseeable future, impact assessment processes need to be able to access a variety of existing tools, without relying entirely on any one of them.

The 2nd cycle of the World Heritage Periodic Reporting should provide ICOMOS with a new data set relevant to this issue. The goal to have SoOUVs for all World Heritage properties by 2012 will also be an important underpinning of the guidance provided by ICOMOS.

b) The diverse regulatory, planning and management contexts

Neither EIA nor HIA are mandated in many countries and there is often no national regulatory framework within which they can operate.

The capacity of heritage authorities varies globally and some are not strong within the national government structures. In some countries there are strong environmental systems that provide a basis for EIA, but the heritage elements (including World Heritage) are underdeveloped or non-existent. In others, HIA are undertaken but the identified “triggers” for their use are often basic (usually in the form of lists of activities) or age.

This guidance aims to support the use and influence of HIAs, even where there are few legal structures that support the EIA/HIA processes.

Industry codes of practice should be influential in ensuring that HIA processes occur, and that the methods employed meet internationally-recognised standards of practice.

However, in many countries specific sectors considered to be of national interest are permitted to override EIA or HIA requirements.

Management plans for WH properties are potentially very important. They should be well anchored in planning arrangements at national, regional and local levels, and although embedded in national systems of protection in different ways, could be utilised more to define how change will be assessed. The sustainable development of WH properties is extremely important, including the protection of OUV elements. If the management plan is sufficiently robust and has undergone a thorough consultation process in its development, it should be possible to implement cooperative approaches to potential problems within the framework of the plan.

Potential threats should be anticipated in the management system in a property specific way – not “one size fits all”. Conservation policies embedded in the management system may also be used as a measure to assess potential adverse impacts.

A large number of World Heritage properties do not have a well-functioning management system (for some even where there is a management plan). This is an underlying issue for many properties selected for State of Conservation reporting.

c) Tools, resources and capacities needed to undertake a HIA

State of the art techniques are possible in many countries, but in many others, the levels of skills, knowledge and resources are quite basic. This guidance attempts to be applicable to all situations.
The skills required to do a HIA, using modern IT based and highly technical tools are only held by a limited number of people. These can be very helpful, particularly in complex situations, but HIA should not depend on them. On the other hand, diffusion of new HIA tools should be encouraged when their efficiency is proven.

In some cases, the level of analysis undertaken is very deep and expensive to produce but the outcome is difficult to understand and to operationalise. A key issue is identifying the optimum resources to get the job done, and not requiring more than is necessary.

Training of managers and staff at World Heritage properties and in the approvals agencies of all levels of government within a country will be important in order to ensure that the commissioning process for HIA is appropriate and that full and effective use is made of the output.

The backgrounds and professional skills of those who conduct HIA are diverse, but training and capacity-building will often be needed. Single professionals cannot always do a total HIA – there is most often a need to bring together an HIA team with the specific analytical skills needed for a particular project or site. A number of professional environmental management institutions provide archiving and other tools. In some circumstance opportunities for partnerships could be explored.

Although proposals for WH nominations should make sure adequate data and documentation are in place, and that realistic and relevant monitoring arrangements are in use, there is often a lack of baseline documentation.

Good documentation does not require a Geographic Information System (GIS), although this has been a powerful and useful tool where it is available. All approaches need to be systematic and follow rational guidelines.

2 Suggested procedures for Heritage Impact Assessment

2-1 Introduction

2-1-1 This section is intended to help to States Parties, heritage managers and decision-makers or others in managing their WH properties in circumstances where some form of change may affect the Outstanding Universal Value (OUV) of those sites. Change may be adverse or beneficial, but both need to be assessed as objectively as possible, against the stated OUV as reference point.

2-1-2 The guidance is a tool to encourage managers and decision-makers to think about key aspects of heritage management and to make decisions based on evidence within the framework of the 1972 World Heritage Convention. It is also designed to encourage potential developers or other agents of change to consider key factors at an appropriate time and at an appropriate level of detail. Heritage Impact Assessments (HIAs) may also be useful in the general management of cultural WH properties by collating information at a given point in time.

2-1-3 There are many ways of assessing impact on heritage assets, some formalised in law, some very technical and sophisticated, others less so. This guidance sets down some
principles and options. But whatever route is chosen, the assessment must be “fit-for-purpose” – suitable for the WH property and for the changes proposed, and suitable to the local environment. It must provide the evidence on which decisions can be made in a clear, transparent and practicable way.

2-1-4 In any proposal for change there will be many factors to be considered. Balanced and justifiable decisions about change depend upon understanding who values a place and why they do so. This leads to a clear statement of a place’s significance and with it the ability to understand the impact of the proposed change on that significance.

2-1-5 In the case of WH properties, their international significance is established at the time of inscription and defined as their Outstanding Universal Value (OUV). States Parties undertake to retain and guard this OUV through protecting and conserving the attributes that convey OUV. The Statement of Outstanding Universal Value (SoOUV) which sets out why a property is deemed to have OUV and what the attributes are that convey OUV will be central to the HIA. Every reasonable effort should be made to eliminate or minimise adverse impacts on significant places. Ultimately, however, it may be necessary to balance the public benefit of the proposed change against the harm to the place. It is therefore also important to know who benefits from the proposed change and for what reasons. In such cases the weight given to heritage values should be proportionate to the significance of the place and the impact of the change upon it. WH properties de facto are seen to have global value and thus logically have a higher significance that national or local heritage value.

2-1-6 Where change may affect the OUV of a WH property, consideration of the cultural [and/or natural] heritage attributes should be central to planning any proposal and should be presented early on in any general assessment (such as an Environmental Impact Assessment - EIA). Managers and decision makers should consider whether the heritage conservation needs should be given greater weight than competing uses and developments. A key consideration is the threat or risk to the WH status and this should be clearly addressed in the HIA report.

2-1-7 Where statutory environmental impact assessments apply, the cultural heritage sections must take account of this ICOMOS guidance where the EIA relates to a WH property. An HIA undertaken as part of an EIA in these circumstances is not additional to normal EIA requirements, but uses a different methodology which clearly focuses on OUV and attributes that convey that OUV. The HIA should be summarised early on in the Environmental Statement, and the full technical HIA report should be included as a technical appendix. The requirements should be made clear at the planning or scoping stage. ICOMOS and the World Heritage Centre will encourage States Parties to ensure that HIAs in line with this guidance are undertaken in line with best practice. Where cultural heritage sections of EIAs clearly do not focus on the attributes of OUV, they would not meet desired standards in managing change at WH properties.

2-2 Understanding what needs to be undertaken before starting an HIA

2-2-1 The assessment process is in essence very simple:

. What is the heritage at risk and why is it important – how does it contribute to OUV?

. How will change or a development proposal impact on OUV?

. How can these effects be avoided, reduced, rehabilitated or compensated?
2-2-2 The overall process is summarised in Appendix 1, but key elements include early and continued consultation with all relevant parties and agreement on the scope and expectations of the HIA before work commences. It is also important to identify possible negative impacts very early on in the process, in order to inform both the development design and the planning process in a pro-active rather than reactive manner.

2-2-3 The basis for management and decision making is a good understanding of the WH property, its significance and OUV, its attributes and its context. The Management Plan will often be the important first step in building an ability to have clear and effective impact assessments. Establishment of baseline data about the WH property and its condition is critical.

2-2-4 The starting point for any heritage assessment, once an initial development proposal or change of use is identified, should be to set out the scope of work necessary for an HIA which will provide the evidence for decision making. Early consultation with relevant parties, including any affected community, is important. The HIA may also be useful in collating information about WH properties not otherwise easily accessible. HIA is a useful cooperative tool for all stakeholders.

2-2-5 A Scoping Report (or HIA brief) should be agreed with all relevant parties – the State Party, regional or local government, heritage advisors or managers, local communities or others as necessary. The scoping report should make it clear what is to be done, why and how, when and what are the expected outputs. It is important to include an agreed calendar between all stakeholders and the development programme (Appendix 2).

2-2-6 The Scoping Report should provide an outline description of the WH property and set out its OUV. It should have an outline of the proposed change or development including the need for change or development, a summary of the conditions present on the site and its environs, details of any alternative development being considered, an outline methodology and terms of reference for the HIA. The methodology should include organisations or people to be consulted, determining, for example, who are stakeholders and who is part of a heritage community related to the site, details of the baseline information to be collected including methods and appropriate study areas, likely sensitive heritage receptors and proposed survey and assessment methodology. It is also important at this stage to identify whether the proposed development is within a WH property or within a buffer zone or within the setting of the property but outside both. A Scoping Report should be used to flag large or critical impacts – the full HIA Report can then assess any positive reaction in terms of the altered development.

2-2-7 The Scoping Report should also give (as far as is practicable) a clear indication of what knowledge exists about the site and where lacunae exist – how good is the information base and what level of confidence may be placed on the assessment. This should be followed through in the actual assessment itself.

2-2-8 It is not only big developments that need an assessment of impact. WH properties may also be vulnerable to changes of policy which could have significant consequences – for example changes in land use and urban planning policies. Tourism infrastructure and increased visits may have unintended consequences. Major archaeological excavations could also adversely affect the OUV of properties, though possibly compensating by the gaining of knowledge.
It is also important at this stage to ensure that organisations or individuals undertaking the HIA are suitably qualified and experienced, and that their expertise matches the demands of the site, its material and intangible content, its OUV and the nature and extent of the proposed changes. Single professionals can rarely do a total HIA, and the composition of the HIA team - heritage professionals and all other necessary competences - is crucial: the team will need specific analytical skills for a particular project or site. Opportunities for partnerships could be explored. This may also bring benefits in terms of developing capacity for HIA, and in developing and sharing best practice.

3 Data and documentation

3-1 There are no agreed minimum standards for inventories, data review or condition surveys, though it may in due course be useful to define these. Such matters need to be proportionate to the property and its management needs. It is desirable that the HIA documentation stage is as comprehensive as possible, including developing an archive.

3-2 For WH properties the core documentation is the Statement of OUV and the identification of attributes that convey OUV. Hence this guidance concentrates on identifying impact on attributes that convey that OUV. However, the HIA should collect and collate information on all aspects and attributes of the cultural heritage within the agreed study area, so that the historical development of the property, its context, setting and where appropriate other values (for example national and local) can be fully understood.

3-3 It is useful, if not essential, to document and manage the collection of data. Assessment processes can be very lengthy and data sources may require periodic “refreshment”. When data sources are in a state of flux or the timetable for assessment is lengthy, it may be necessary to agree a “data freeze” so that the HIA team can compare like with like information.

3-4 Inventories should be included in the HIA reports, as tables or gazetteers in appendices to the main text. Underpinning archives of material and information collected should be retained for future use and properly referenced, including location and accessibility. Good documentation does not require sophisticated techniques such as GIS or complex databases; it needs a common sense, systematic and consistent approach which is suitable to the needs of the property.

3-5 In more complex cases, more sophisticated approaches could be considered. However, the use of databases and GIS, or 3D-modelling, changes the way in which HIAs are undertaken. The systems allow assessment to be a far more iterative process, and as a result HIA can be more effectively fed back into the design processes. But this also allows for more “what if” scenarios to be requested of the HIA team. The scoping report would need to set down the principles for this iteration so that the HIA team can work effectively.
4 Methods and approaches appropriate to the property - optimising available tools, techniques and resources

4-1 The collection of information during HIA should consider all potential sources of data. Techniques will include desk study or historical research, and site visits to check condition, authenticity and integrity, sensitive viewpoints and so on. They may include terrain modelling, or inter-visibility modelling to predict impacts on heritage assets. It is necessary to capture and explain in clear text evidence of both tangible and intangible heritage attributes, and wherever possible to relate the latter to the physical features which embody them.

4-2 Field studies are also generally essential to ensure that the HIA is robust. Techniques should be linked to the development proposal and could include nonintrusive evaluation or field testing by topographic survey, geophysical survey, virtual 3D scale models or more intrusive methods such as artefact collection, scientific survey, test pitting or trial trenching. In some circumstances the collection of oral histories or evidence may also be valid and useful.

4-3 The data collection must enable the heritage attributes to be quantified and characterised, and allow their vulnerability to proposed changes to be established. It is also necessary to look at the interrelationship/s between discrete heritage resources, in order to understand the whole. There is often a relationship between a material aspect and an intangible aspect which must be brought to the fore.

4-4 Collection of information during the HIA is an iterative process which can often lead to the emergence of alternatives and options for the development proposal.

4-5 Understanding the full meaning of the OUV of a WH property (and other values of heritage) is a crucial part of the HIA process. The evaluation of the overall significance of the effect (overall impact) is a function of the heritage value and assessment of scale of changes and impact.

4-6 When describing WH properties, it is essential to start by describing the attributes of OUV. This is the “baseline data” against which impacts must be measured, and includes both tangible and intangible aspects. A statement of condition may be useful for each key attribute of OUV.

4-7 However, while the SoOUV is an essential starting point, sometimes they are not detailed enough in terms of attributes to be directly useful to impact assessment work. Each property will need to be assessed and where necessary, the attributes may need to be more specifically defined during the HIA process.

4-8 Such definition of attributes should not seek to re-define the SoOUV, but to describe the attributes in a way which assists decision-making on the proposed change. It should be noted that OUV is defined at the time a WH property is inscribed on the WH List and cannot be changed without a re-nomination which goes through a full evaluation process.

4-9 The production of location or themed maps or plan views is almost always needed to demonstrate the findings and issues raised. Spatial rendering is useful to show the disposition of attributes, the relationships between the attributes (which may be processes), and the associations attributes have such as visual, historical, religious, communal, aesthetic or evidential. It is necessary to link the attributes back to the components of the SoOUV in a clear and readable manner, which does not oversimplify but retains cultural or other
complexities in synoptic statements or diagrams. HIA teams should, however, be wary of too much reliance on maps, as our human experience of places is in 3D – ground-truthing is always required to check spatial relationships.

4-10 One option for assessing value is set out in Appendix 3A. In this system the value of heritage attributes is assessed in relation to statutory designations, international or national, and priorities or recommendations set out in national research agendas, and ascribed values. Professional judgement is then used to determine the importance of the resource. Whilst this method should be used as objectively as possible, qualitative assessment using professional judgement is inevitably involved. The value of the asset may be defined using the following grading scale: Very High. High. Medium. Low. Negligible. Unknown.

4-11 In the HIA Report there should be a clear and comprehensive text description of individual and/or groups of heritage attributes, which sets out their individual and/or collective condition, importance, inter-relationships and sensitivity, and possibly also an indication of capacity for change. This should be accompanied by appropriate mapping to aid the reader. All heritage elements should be included, but the components contributing to the WH property’s OUV will be particularly relevant and may merit a further detailed section. A detailed inventory should be included in supporting appendices or reports so that the reader may check the assessment of each element. An example is included in Appendix 3C.

5 A defendable system for assessing/evaluating impact

5-1 Effects on cultural heritage attributes from development or other changes may be adverse or beneficial. It is necessary to identify all changes on all attributes, especially those attributes which give the property its OUV, on which this guidance concentrates. It is also important to identify the scale or severity of a specific change or impact on a specific attribute – as this combination is what defines the significance of the impact, otherwise called “significance of effect”.

5-2 There is sometimes a tendency to see impacts as primarily visual. While visual impacts are often very sensitive, a broad approach is needed as outlined in the ICOMOS Xi’an Declaration. Impacts take many forms – they may be direct and indirect; cumulative, temporary and permanent, reversible or irreversible, visual, physical, social and cultural, even economic. Impacts may arise as a consequence of construction or operation of the proposed development. Each needs to be considered for its relevance to the HIA.

5-3 Direct impacts are those that arise as a primary consequence of the proposed development or change of use. Direct impacts can result in the physical loss of part or all of an attribute, and/or changes to its setting - the surroundings in which a place is experienced, its local context, embracing present and past relationships to the adjacent landscape. In the process of identifying direct impacts care must be taken of the development technique of gaining approvals by just avoiding direct impact - impacts which just “miss” physical resources can be just as negative to a single resource, a pattern, ensemble, setting, spirit of place etc.

5-4 Direct impacts resulting in physical loss are usually permanent and irreversible; they normally occur as a consequence of construction and are usually confined within the
development footprint. The scale or magnitude of these impacts will depend on the proportion of the attribute affected, and whether its key characteristics or relation to OUV would be affected.

5-5 Direct impacts that affect the setting of an attribute may occur as a consequence of construction or operation of the development scheme and may have an effect Guidance on some distance from the development. Assessment of impacts on setting refers to perceptible visual and aural (noise) effects that can be appreciated at a given time. Such impacts may be temporary or permanent, reversible or irreversible depending on the extent to which the cause of the impact can be removed. Impacts may also be transient where occurrence is sporadic or of limited duration, for example, related to hours of operation or the frequency of passage of vehicles.

5-6 Indirect impacts occur as a secondary consequence of construction or operation of the development, and can result in physical loss or changes to the setting of an asset beyond the development footprint. For example, construction of related infrastructure such as roads or powerlines that are required to support the development. Facilitated impacts should also be considered which may be further actions (including by third parties) which are made possible or facilitated by the development.

5-7 Scale or severity of impacts or changes can be judged taking into account their direct and indirect effects and whether they are temporary or permanent, reversible or irreversible. The cumulative effect of separate impacts should also be considered. The scale or severity of impact can be ranked without regard to the value of the asset as: No change. Negligible change. Minor change. Moderate change. Major change.

5-8 The significance of the effect of change – i.e. the overall impact - on an attribute is a function of the importance of the attribute and the scale of change. This can be summarized for each attribute described using the following descriptors. As change or impacts may be adverse or beneficial, there is a nine-point scale with “neutral” as its centre point: Major beneficial. Moderate beneficial. Minor beneficial. Negligible beneficial. Neutral. Negligible adverse. Minor adverse. Moderate adverse. Major adverse.

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<tr>
<th>VALUE OF HERITAGE ASSET</th>
<th>SCALE &amp; SEVERITY OF CHANGE/IMPACT</th>
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<tr>
<td>For WH properties Very High – attributes which convey OUV</td>
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<td>No Change</td>
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<tr>
<th>SIGNIFICANCE OF EFFECT OR OVERALL IMPACT (EITHER ADVERSE OR BENEFICIAL)</th>
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<td>Neutral</td>
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5-9 For example:
- Total demolition of a key building which is the main conveyance of OUV for a WH property to make way for a new road would be a major adverse effect or overall major adverse impact.
- Removal of a later road from the immediate vicinity of a key building which conveys OUV and which is not directly related to its OUV attributes would be a major beneficial effect or overall impact.

5-10 The table above is a summary to aid assessment of impact. The HIA Report will need to show the assessment for each OUV attribute – for example in a simple table - and demonstrate how the results for each individual or collective heritage attribute have been obtained. This should include qualitative as well as quantitative evaluation.

5-11 Proposals should be tested against existing policy frameworks and the management plan for the property and surrounding area. The compatibility of the scale, pattern, use, etc. should be tested according to the attributes of the property that convey OUV and other assets. Issues such as sight lines, architectural type, volumes and surface appearances, settlement form, functional uses and persistence through time etc. might be relevant. In all this, it is necessary to match the attributes of the development to the attributes of the site, so that development is complementary and even enhancing to the property.

5-12 Changes arising from developments must also be assessed for their impact on integrity and authenticity. The property should have baseline statements regarding integrity and authenticity at the time of inscription, or at the time the retrospective SoOUV was undertaken [paragraphs 79-88 in Operational Guidelines]. The relationship between attributes of OUV, authenticity and integrity needs to be understood and needs to be shown to be understood in the HIA report. Authenticity relates to the way attributes convey OUV and integrity relates to whether all the attributes that convey OUV are extant within the property and not eroded or under threat.
5-13 Benefits and dis-benefits – or adverse effects - must be very carefully considered. There are a range of benefits and dis-benefits, and the question of who receives the benefits (or misses out through the benefits) is important. Often the property itself and the associated communities do not receive the benefits flowing from development. Financial consequences of the assessment are also important and often directly influence decisions. The analysis must reveal rather than disguise these complexities. The conservation of the property should be counted within the benefits of a project, so that projects that are supportive of conservation can be weighted more than those that do not.

6 Can impacts be avoided, reduced, rehabilitated or compensated – mitigation?

6-1 Impact assessment is an iterative process. Results of data collection and evaluation should be fed back into the design process for the development, or proposals for change or for archaeological investigation.

6-2 Conservation is about managing sustainable change. Every reasonable effort should be made to avoid, eliminate or minimise adverse impacts on attributes that convey OUV and other significant places. Ultimately, however, it may be necessary to balance the public benefit of the proposed change against the harm to the place. In the case of WH properties this balance is crucial.

6-3 HIA should include proposed principles and where possible proposed methods to mitigate or offset the effects of a development proposal or other agent of change. This should include consideration of other options for the development including site selection/location, timing, duration and design. The HIA should indicate fully how the mitigation is acceptable in the context of sustaining OUV, including the authenticity and integrity of the WH property. Available guidance in the Operational Guidelines on periodic reporting should be consulted to help this process.

6-4 It may be appropriate to undertake further consultation at this stage before finalising the HIA.

7 Deliver an evaluation that is helpful to States Parties, the Advisory Bodies and the World Heritage Committee, and relevant to the World Heritage context in general and specific properties in particular

7-1 Appendix 4 sets out a guide to the contents of an HIA report. It is a matter of expert judgement, following suitable consultation and scoping to define exact requirements.

7-2 The HIA report should provide the evidence on which decisions can be made in a clear, transparent and practicable way. The level of detail needed will depend on the site and proposed changes. The Statement of OUV will be central to the evaluation of the impacts and risk to the property.

7-3 The HIA report will need to show
A comprehensive understanding of the WH property and its OUV, authenticity and integrity, condition, context (including other heritage attributes) and interrelationships;
. An understanding of the range of impacts arising from the development or other proposal for change;
. An objective evaluation of those impacts (beneficial and adverse) on the heritage elements and in particular on the site’s OUV, integrity and authenticity;
. An assessment of the risk posed to the retention of OUV and the likelihood that the property may be in potential or actual danger;
. A statement of heritage benefits which may arise from proposals including better knowledge and understanding and awareness-raising;
. Clear guidelines as to how impact can be mitigated or avoided;
. Supporting evidence in the form of a suitably detailed inventory of attributes of OUV and other heritage assets, impacts, survey or scientific studies, illustrations and photographs.

7-4 The HIA Report will need to have a non-technical summary clearly setting out all relevant matters, a detailed text description and analysis and a text summary of the results of the evaluation of impact accompanied by tables to assist the reader.

Appendix 1: Heritage Impact Assessment Process

<table>
<thead>
<tr>
<th>Stages of HIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial development and design</td>
</tr>
<tr>
<td>Early consultation</td>
</tr>
<tr>
<td>Identify and recruit suitable organisations to undertake works</td>
</tr>
<tr>
<td>Establish study area</td>
</tr>
<tr>
<td>Establish scope of work</td>
</tr>
<tr>
<td>Collect data</td>
</tr>
<tr>
<td>Collate data</td>
</tr>
<tr>
<td>Characterise the heritage resource, especially in identifying attributes that convey OUV</td>
</tr>
<tr>
<td>Model and assess impacts, direct and indirect</td>
</tr>
<tr>
<td>Draft mitigation – avoid, reduce, rehabilitate or compensate</td>
</tr>
<tr>
<td>Draft report</td>
</tr>
<tr>
<td>Consultation</td>
</tr>
<tr>
<td>Moderate the assessment results and mitigation</td>
</tr>
<tr>
<td>Final reporting and illustration – to inform decisions</td>
</tr>
<tr>
<td>Mitigation</td>
</tr>
<tr>
<td>Dissemination of results and knowledge gained</td>
</tr>
</tbody>
</table>

Appendix 2: Scoping Report Contents

At the outset of any proposed impact assessment it is desirable to agree the scope of the work needed so that the work is ‘fit-for-purpose’ and will enable decision to be made. Early consultation is essential.

The scope should be agreed with all relevant parties, including the State Party, regional or local government or its agencies, any statutory consultees and local community
representatives and the public. In some cases it may be also desirable to consult with the WHC or its advisors, ICOMOS or IUCN.

The “developer” is responsible for producing the scoping report. Its contents should include

- An outline description of the proposed change or development, providing as much detail as is available at the time of writing;
- A summary of the conditions present on the site and its environs, based on information collated to that point in time;
- The Statement of Outstanding Universal Value. Details of how alternatives to changes are being considered;
- Outline methodology and terms of reference for the HIA as a whole;
- The organisations/people consulted and to be consulted further;
- A topic by topic assessment of the key impacts of the development; this should include:
  - details (as known) of the baseline conditions;
  - consideration of the potential effects of the development where overall impacts or effects are not considered to be significant, a justification of why they should be “scoped out” of the HIA;
  - where overall impacts are considered to be potentially significant, details of the baseline information to be collected (including methods and appropriate study areas), likely sensitive heritage receptors in particular those related to attributes of OUV and proposed survey and assessment methodology.
- A negotiated calendar covering the whole process, including deadlines for reporting and consultation.

Appendix 3A: Example Guide for Assessing Value of Heritage Assets

HIAs for WH properties will need to consider their international heritage value and also other local or national values, and priorities or recommendations set out in national research agendas. They may also need to consider other international values which are reflected in, for example, international natural heritage designations.

Professional judgement is used to determine the importance of the resource. The value of the asset may be defined using the following grading scale: Very High. High. Medium. Low. Negligible. Unknown potential. The following table is not intended to be exhaustive.

Appendix 3A: Example Guide for Assessing Value of Heritage Assets

HIAs for WH properties will need to consider their international heritage value and also other local or national values, and priorities or recommendations set out in national research agendas. They may also need to consider other international values which are reflected in, for example, international natural heritage designations.

Professional judgement is used to determine the importance of the resource. The value of the asset may be defined using the following grading scale:

- Very High,
- High,
- Medium,
- Low,
- Negligible,
- Unknown potential.

The following table is not intended to be exhaustive.
<table>
<thead>
<tr>
<th>Grading</th>
<th>Archaeology</th>
<th>Built heritage or Historic Urban Landscape</th>
<th>Historic Landscape</th>
<th>Intangible Cultural Heritage or Associations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>Sites of acknowledged international importance inscribed as WH property. Individual attributes that convey OUV of the WH property. Assets that can contribute significantly to acknowledged international research objectives.</td>
<td>Sites or structures of acknowledged international importance inscribed as of universal importance as WH property. Individual attributes that convey OUV of the WH property. Other buildings or urban landscapes of recognised international importance.</td>
<td>Landscapes of acknowledged international importance inscribed as WH property. Individual attributes that convey OUV of the WH property. Historic landscapes of international value, whether designated or not. Extremely well-preserved historic landscapes with exceptional coherence, time-depth, or other critical factors.</td>
<td>Areas associated with Intangible Cultural heritage activities as evidenced by the national register. Associations with particular innovations, technical or scientific developments or movements of global significance. Associations with particular individuals of global importance.</td>
</tr>
<tr>
<td>High</td>
<td>Nationally-designated Archaeological Monuments protected by the State Party’s laws. Undesignated sites of the quality and importance to be designated. Assets that can contribute significantly to acknowledged national research objectives.</td>
<td>Nationally-designated structures with standing remains. Other buildings that can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the listing grade. Conservation Areas containing very important buildings. Undesignated structures of clear national importance.</td>
<td>Nationally-designated historic landscape of outstanding interest. Undesignated landscapes of outstanding interest. Undesignated landscapes of high quality and importance, and of demonstrable national value. Well preserved historic landscapes, exhibiting considerable coherence, time-depth or other critical factors.</td>
<td>Nationally-designated areas or activities associated with globally-important Intangible Cultural Heritage activities. Associations with particular innovations, technical or scientific developments or movements of national significance. Associations with particular individuals of national importance.</td>
</tr>
</tbody>
</table>
### Establishing Heritage Impact Assessment (HIA) in Nepal

<table>
<thead>
<tr>
<th>Medium</th>
<th>Designated or undesignated assets that can contribute significantly to regional research objectives.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Designated buildings. Historic (unlisted) buildings that can be shown to have exceptional qualities or historical associations.</td>
</tr>
<tr>
<td></td>
<td>Conservation Areas containing buildings that contribute significantly to its historic character.</td>
</tr>
<tr>
<td></td>
<td>Historic townscapes or built-up areas with important historic integrity in their buildings, or built</td>
</tr>
<tr>
<td></td>
<td>Averages well preserved historic landscapes with reasonable coherence, time-</td>
</tr>
<tr>
<td></td>
<td>Areas associated with Intangible Cultural heritage activities as evidenced by local registers.</td>
</tr>
<tr>
<td></td>
<td>Associations with particular innovations or developments of regional or local significance.</td>
</tr>
<tr>
<td></td>
<td>Associations with particular individuals of regional importance.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Low</th>
<th>Designated or undesignated assets of local importance.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“Locally Listed” buildings.</td>
</tr>
<tr>
<td></td>
<td>Historic (unlisted) buildings of modest quality in their fabric or historical associations.</td>
</tr>
<tr>
<td></td>
<td>Historic Townscapes or built-up areas of limited historic integrity in their buildings, or built</td>
</tr>
<tr>
<td></td>
<td>Robust undesignated historic landscapes.</td>
</tr>
<tr>
<td></td>
<td>Historic landscapes with importance to local interest groups.</td>
</tr>
<tr>
<td></td>
<td>Historic landscapes whose value is limited by poor preservation and/or poor survival of contextual associations.</td>
</tr>
<tr>
<td></td>
<td>Intangible Cultural heritage activities of local significance</td>
</tr>
<tr>
<td></td>
<td>Associations with particular individuals of local importance</td>
</tr>
<tr>
<td></td>
<td>Poor survival of physical areas in which activities occur or are associated with them.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Negligible</th>
<th>Assets with little or no surviving archaeological interest.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Buildings or urban landscapes of no architectural or historical merit, buildings of an intrusive character.</td>
</tr>
<tr>
<td></td>
<td>Landscapes little or no significant historical interest.</td>
</tr>
<tr>
<td></td>
<td>Few associations or ICH vestiges surviving.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unknown potential</th>
<th>The importance of the asset has not been ascertained.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Buildings with some hidden (i.e., inaccessible) potential for historic significance.</td>
</tr>
<tr>
<td></td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Little is known or recorded about ICH of the area.</td>
</tr>
</tbody>
</table>
Establishing Heritage Impact Assessment (HIA) in Nepal

Appendix 3B: Example Guide for assessing magnitude of impact

<table>
<thead>
<tr>
<th>Impact Grading</th>
<th>Archaeological attributes</th>
<th>Built heritage or Historic Urban Landscape attributes</th>
<th>Historic landscape attributes</th>
<th>Intangible Cultural Heritage attributes or Associations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major</strong></td>
<td>Changes to attributes that convey OUV of WH properties</td>
<td>Change to key historic building elements that contribute to OUV, such that the resource is totally altered. Comprehensive changes to the setting.</td>
<td>Change to most or all key historic landscape elements; parcels or components; extreme visual effects; gross change of noise or change to sound quality; fundamental changes to use or access; resulting in total change to historic landscape character unit and loss of OUV.</td>
<td>Major changes to area that affect the ICH activities or associations or visual links and cultural appreciation.</td>
</tr>
<tr>
<td><strong>Moderate</strong></td>
<td>Changes to many key archaeological materials, such that the resource is clearly modified. Considerable changes to setting that affect the character of the asset.</td>
<td>Changes to many key historic building elements, such that the resource is significantly modified. Changes to the setting of an historic building, such that it is significantly modified.</td>
<td>Change to many key historic landscape elements; parcels or components; visual change to many key aspects of the historic landscape; noticeable differences in noise or sound quality; considerable changes to use or access, resulting in moderate changes to historic landscape character.</td>
<td>Considerable changes to area that affect the ICH activities or associations or visual links and cultural appreciation.</td>
</tr>
<tr>
<td><strong>Minor</strong></td>
<td>Changes to key archaeological materials, such that the resource is slightly altered. Slight changes to setting.</td>
<td>Change to key historic building elements, such that the asset is slightly different. Change to setting of an historic building, such that it is noticeably changed.</td>
<td>Change to few key historic landscape elements; parcels or components; slight visual changes to few key aspects of historic landscape; limited changes to noise levels or sound quality; slight changes to use or access; resulting in limited change to historic landscape character.</td>
<td>Changes to area that affect the ICH activities or associations or visual links and cultural appreciation.</td>
</tr>
<tr>
<td><strong>Negligible</strong></td>
<td>Very minor changes to key archaeological materials, or setting.</td>
<td>Slight changes to historic building elements or setting that hardly affect it.</td>
<td>Very minor changes to key historic landscape elements; parcels or components; virtually unchanged visual effects; very slight changes in noise levels or sound quality; very slight changes to use or access; resulting in a very small change to historic landscape character.</td>
<td>Very minor changes to area that affect the ICH activities or associations or visual links and cultural appreciation.</td>
</tr>
<tr>
<td><strong>No change</strong></td>
<td>No change.</td>
<td>No change to fabric or setting.</td>
<td>No change to elements; parcels or components; no visual or audible changes; no changes in amenity or community factors.</td>
<td>No change</td>
</tr>
</tbody>
</table>
Appendix 3C: Example Inventory Entry

The following list gives a suggested set of data fields which could be used in supporting tables or inventories which collate information on an individual or group of heritage assets.

- Unique Identity number
- Asset name
- Location (map reference)
- Type of asset (burial mound, church, fort, landscape, ICH etc.)
- Date
- Statutory designation (e.g. on national or local register, WHS)
- Brief description
- Condition
- Authenticity
- Integrity
- Inter-relationships (list)
- Sensitivity
- Importance (Very high, high, moderate, low)
- Development magnitude of impact – construction (Major, Moderate, Minor, Negligible, No change)
- Development significance of effect – construction (Major beneficial, Moderate beneficial, Minor beneficial, Negligible beneficial; No Change, Negligible adverse, Minor adverse, Moderate adverse, Major adverse)
- Operational magnitude of impact (as above)
- Operational significance of effect

Appendix 4: Heritage Impact Report Contents

The HIA Report should provide the evidence on which decisions can be made in a clear, transparent and practicable way. The level of detail needed will depend on the site and proposed changes. The Statement of OUV will be central to the evaluation of the impacts and risk to the site.

The report should include:
- the proper name of the WH property,
- its geographical coordinates,
- the date of inscription,
- the date of the HIA report,
- the name of the organization or entities responsible for preparing the HIA report,
- for whom it was prepared, and
- a statement on whether the report has been externally assessed or peer-reviewed.

Outline report contents
1. Non-technical summary – must contain all key points and be useable alone.
2. Contents
3. Introduction
4. Methodology
   - Data sources
   - Published works
   - Unpublished reports
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- Databases
- Field Surveys
- Impact Assessment Methodology
- Scope of Assessment
- Evaluation of Heritage Resource
- Assessment of Scale of Specific Impact and Change
- Evaluation of Overall Impact
- Definition of the Assessment Area

5 Site history and description –
Key in this section will be the Statement of OUV, and a description of the attributes which convey OUV and which contribute to the Statements of authenticity and integrity. This section should also include any nationally or locally designated sites, monuments or structures as well as non-designated sites. It should set out the historical development of the study area, and describe its character, such as the historic landscape, including field patterns, boundaries and extant historic elements of the landscape and cultural heritage. It should describe the condition of the whole and of individual attributes and components, physical characteristics, sensitive viewpoints and intangible associations which may relate to attributes. This should focus on areas affected in particular but must include a description of the whole.

6 Description of changes or developments proposed

7 Assessment and evaluation of overall impact of the proposed changes
This part should set out an assessment of specific changes and impacts on the attributes of OUV and other heritage assets. It should include a description and assessment of the direct or indirect impacts, including physical impacts, visual, or noise, on individual heritage attributes, assets or elements and associations, and on the whole. Impact on OUV should be evaluated through assessment of impact on the attributes which convey the OUV of the site. It should consider all impacts on all attributes; professional judgement is required in presenting the information in an appropriate form to assist decision-making.

It should also include an evaluation of the overall significance of effect – overall impact - of the proposals for development or change on individual attributes and the whole WH property. This may also need to include an assessment of how the changes may impact on the perception of the site locally, nationally and internationally.

8 Measures to avoid, to reduce or to compensate for impacts - Mitigation Measures Such measures include both general and site or asset-specific measures and cover
- those needed before the development or change proceeds (such as archaeological excavation),
- those needed during construction or change (such as a watching brief or physical protection of assets) and
- any post-construction measures during the operation of any proposed change or development (such as interpretation or access measures, awareness-building, education, reconstruction proposals),
- proposals to disseminate information, knowledge or understanding gained by the HIA and any detailed desk, field or scientific studies.

9 Summary and Conclusions, including
- A clear statement on effects on the Outstanding Universal Value of the WHS, its integrity and authenticity,
- The risk to the Inscription of the site as a WH property,
Any beneficial effects, including better knowledge and understanding and awareness-raising.

10 Bibliography
11 Glossary of terms used
12 Acknowledgements and authorship
13 Illustrations and photographs showing for example
   - Location and extent of sites, including buffer zones
   - Any study area defined
   - Development or proposals for change
   - Visual or inter-visibility analyses
   - Mitigation measures
   - Key sites and views
14 Appendices with detailed data, for example
   - Tables of individual sites or elements, summary description and summary of impacts
   - Desk studies
   - Field study reports (such as geophysical survey, trial evaluation, excavation)
   - Scientific studies
   - List of consultees and consultation responses
   - The scoping statement or project brief.
ANNEX C- Discussion on formats and guidelines for HIA on 26th April 2021

<table>
<thead>
<tr>
<th>Name</th>
<th>Designation</th>
<th>Organization</th>
<th>Email</th>
<th>Mobile</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dawa Don Bahadur Rai</td>
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<tr>
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26th April 2021