



National Society for Earthquake  
Technology-Nepal (NSET)

# 3rd Huangshan Dialogue on UNESCO Designated Sites and Sustainable Development

## Disaster Risk Assessment and Mitigation for WHS & Heritage Settlements in Nepal

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# World Heritage Sites in Nepal

- The Kathmandu Valley World Heritage site (KVWH) was included on the prestigious World Heritage List in 1979.
- Besides Kathmandu Valley, there are three other Nepalese sites Inscribed on the list;
- Lumbini, the Birthplace of Lord Buddha, and two natural parks: Sagarmatha and Royal Chitwan.



# World Heritage Sites in Nepal

The Kathmandu Valley World Heritage site (KVWH) consists of

- the three town centres of the erstwhile royal cities of Kathmandu, Patan and Bhaktapur;
- Buddhist monument sites of Swoyambhu, Boudha,
- and two major Hindu sites of Pashupatinath and Changu



# Heritage Settlements and Cultural sites

- There are approximately 1052 heritage settlements and cultural sites in Nepal that are classified as being of national, regional and local importance. ( source : DoA, GoN)
- In Nepal, tangible cultural heritage is inextricably associated with a living culture of daily worship and ancient festivals.
- Cultural sites are where people come to pray daily, interact socially, celebrate, and find solace.



# Heritage Settlements (Districts) in Kathmandu Valley

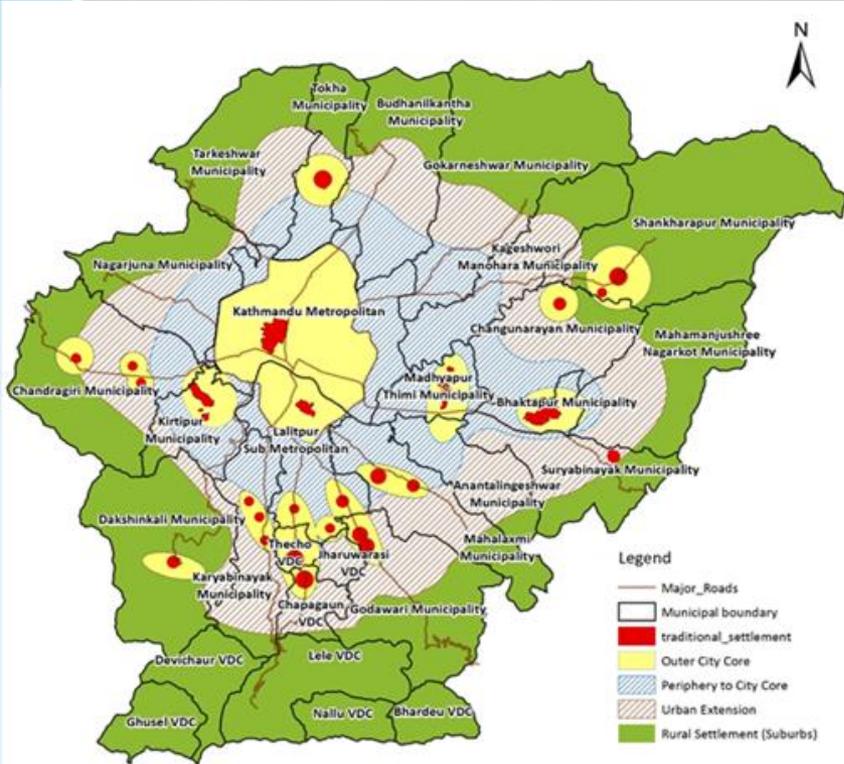
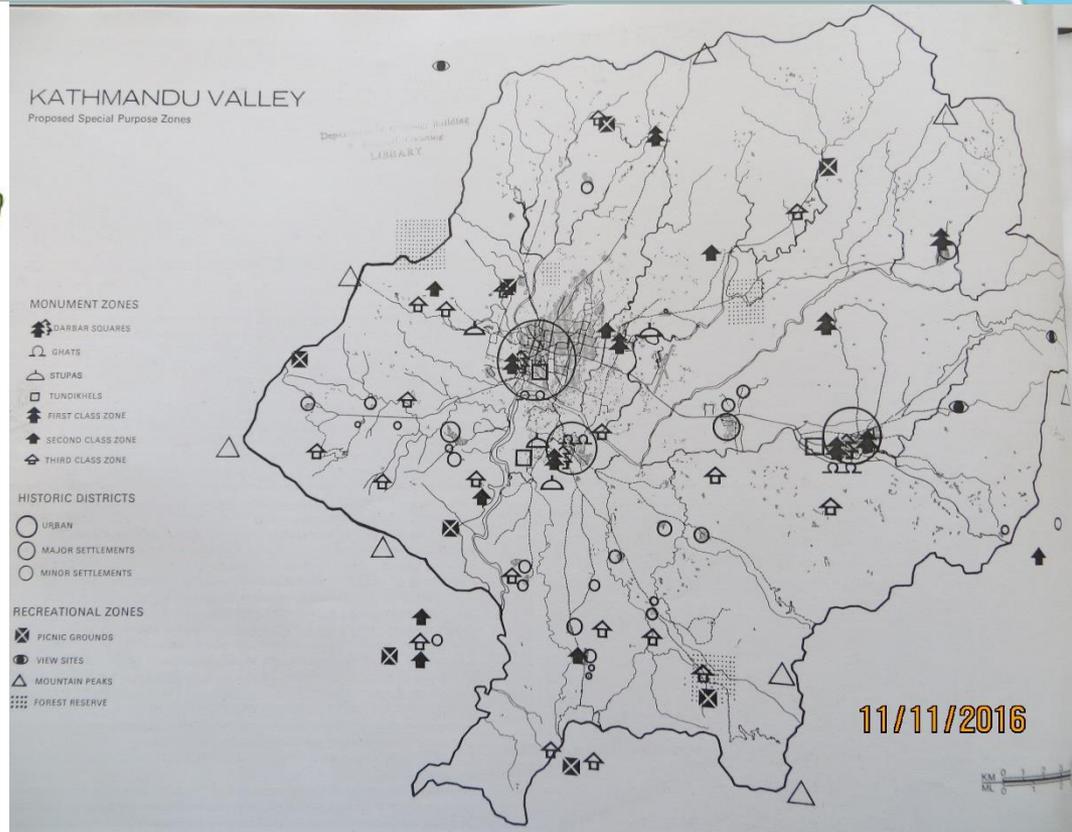


Figure 1 Schematic diagram of development zones in KV



11/2/2018



# Nepal is considered to be

- one of the most disaster-prone countries in the South Asian region.
- 11th most at Earthquake risk country in the world. (Source: UNDP/BCPR)
- One of the global hotspots for natural disasters. (Source:WB Report 2005)
- Approximately every 75 years, Kathmandu has been hit by an earthquake of magnitude 8.0. (Source:WB Report 2005)



# In the aftermath of the 2015 earthquake,

- Nepal was hit by M7.8 Gorkha Earthquake on 25th April 2015.
- Centuries-old buildings listed in UNESCO World heritage sites and many more archeologically important sites were destroyed.
- The earthquake affected about 2,900 structures with a cultural and religious heritage value.(source:PDNA 2015)



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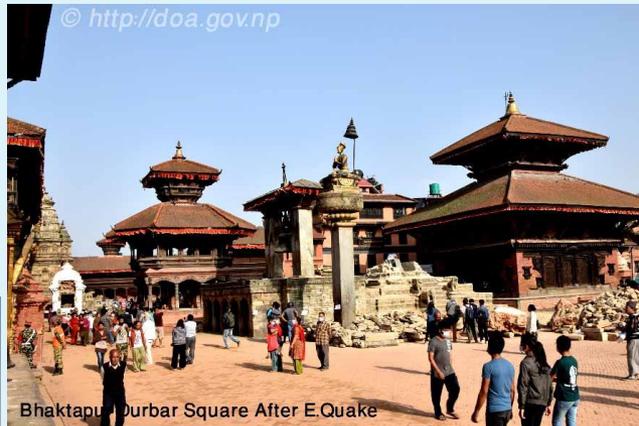
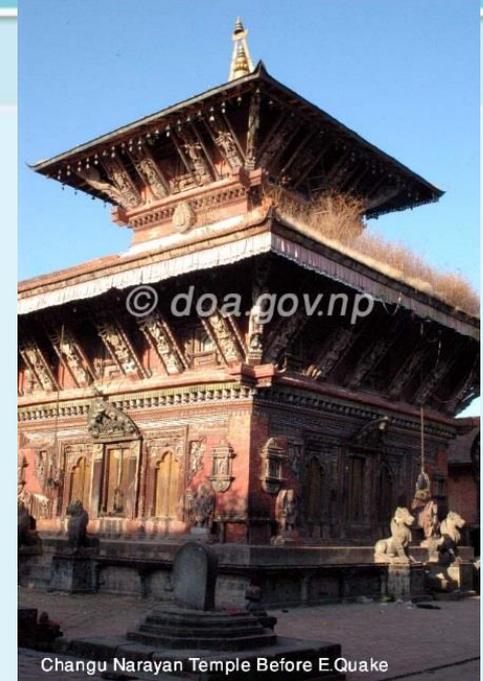
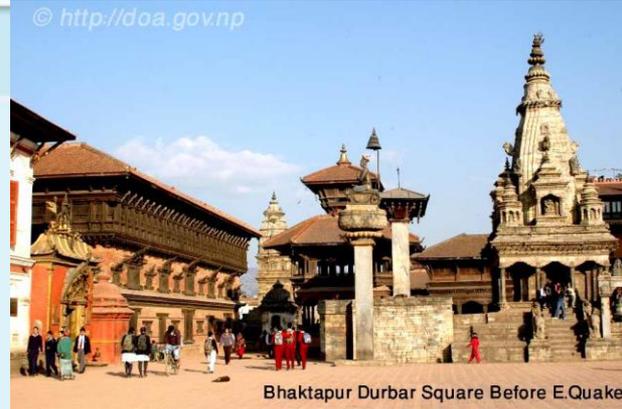
# In the aftermath of the 2015 earthquake,



Nautale Durbar After E.Quake



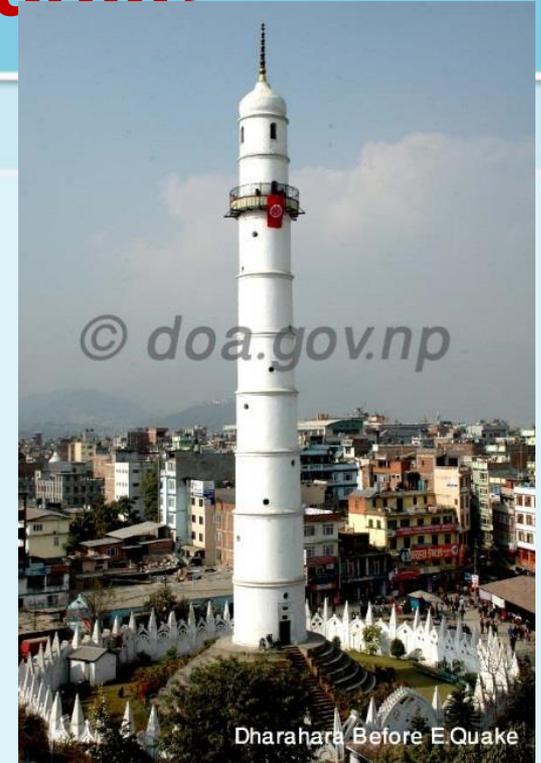
# In the aftermath of the 2015 earthquake,





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# In the aftermath of the 2015 earthquake





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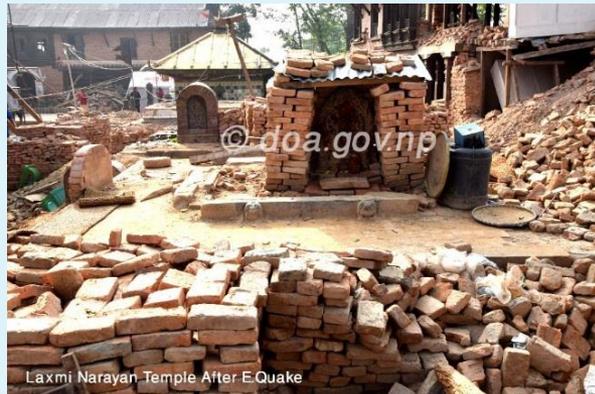
Hari Shankar Temple Before E.Quake



Laxmi Narayan Temple Before E.Quake



Kasthamandap Before E.Quake



Laxmi Narayan Temple After E.Quake



Kasthamandap After E.Quake





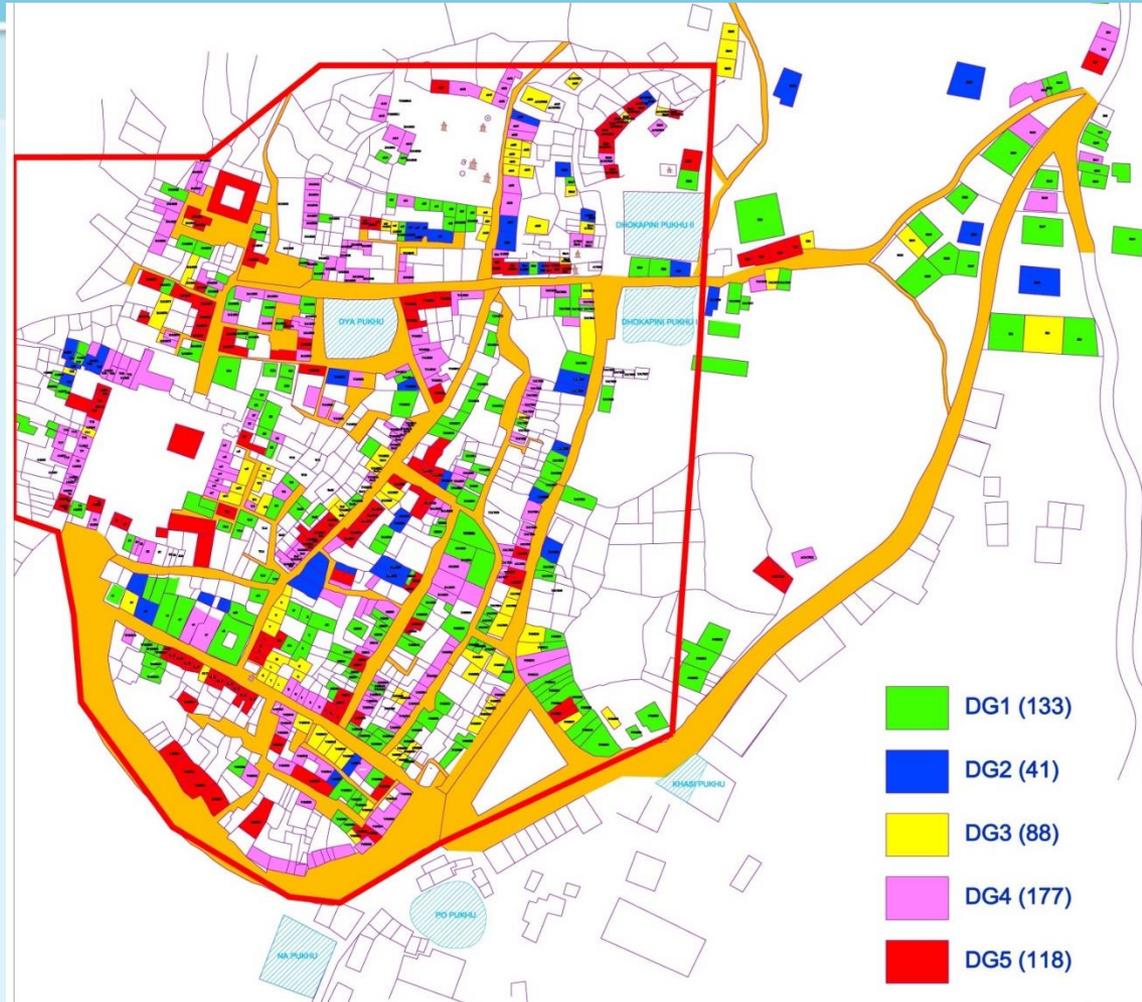
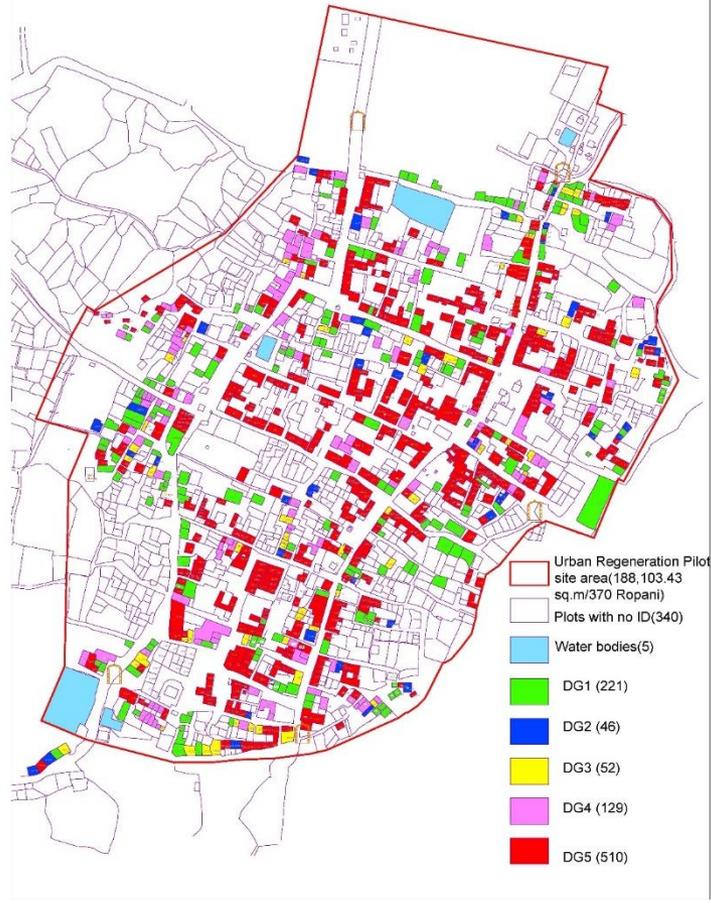
# In the aftermath of the 2015 earthquake,

- Nepal suffered its worst loss of heritage since the earthquake of 1934.
- Major monuments in Kathmandu's seven World Heritage Monument Zones were severely damaged and many collapsed completely.
- Across the earthquake affected 94 municipalities 63 heritage settlements are also badly damaged.



# Heritage settlements badly affected by 2015 EQ

DAMAGE GRADE MAP OF SANKHU  
AUGUST 2015



Sankhu (4th centuries A.D )

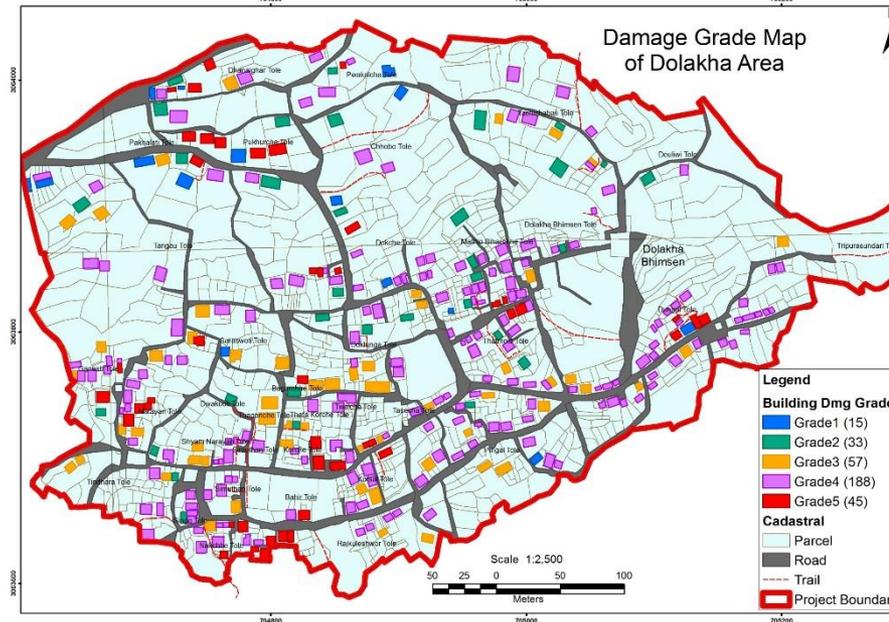
Bungamati (644 -680 A.D.),



# Heritage settlements badly affected by 2015 EQ

Dolakha (*Kirati and  
Lichhavi* period,  
4th centuries A.D  
&Before)

Khokana (1513.A.D)





# In the aftermath of the 2015 earthquake,

- In addition, in >20 districts, thousands of private residences built on traditional style, historic public buildings, ancient and recently built temples and monasteries, were affected by the disaster, 25 percent of which were destroyed completely.
- The total estimated damages to tangible heritage is NPR 16.9 billion (US\$ 169 million).



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# Post Disaster Reconstruction Framework



# Strategic Objective of the Post Disaster Reconstruction Framework

Strategic Objectives outlines plans for restoring monuments and urban heritage settlements, unsafe neighborhoods, and affected market towns, including:

- Improving access to planning and building skills
- Engaging small and medium sized businesses and cooperatives to increase investment in revival of urban areas



# Post Disaster Reconstruction Framework

- Strengthening effectiveness of municipalities and other stakeholders to plan and enforce safe and resilient rebuilding and expansion of settlements
- Advocating for comprehensive risk reduction and enforcing the safeguarding of public and open spaces for evacuation



# Post Disaster Reconstruction Framework; Sector Plan

- **Regeneration of heritage settlements**  
(including 52 in the Kathmandu Valley) :–  
recovery in heritage settlements needs specific support and cannot take an approach focused on individual houses. Settlement planning is required accompanied by technical support for reconstruction that protects / promotes heritage building styles.
- **Community grants for local infrastructure**
- **Rental housing for urban poor**



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# NRA Progress as of September 2018

Reconstruction Target 753 monuments

Reconstruction Completed 190 monuments

Under Reconstruction 329



Kilesware Mahadev Temple



Narayan Temple, BDS



# Reconstruction of Heritage Buildings

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Shidhi Laxmi Temple , Bhaktapur Durbar Square(BDS)  
Under reconstruction



Badrinarayan Temple (BDS)



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# Heritage Buildings Restored



Reconstructed Gaddi Baithak  
Hanuman Dhoka Palace area



Anantapur, Swoyambhu



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# Heritage Buildings Restored



Boudha Stupa



Pratappur, Swoyambhu



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# Thank you